

Brick

Permit Without a Jacket

Permit Number 12104

LDS BR 10312958

Construction Permit # 12104

.....8/11, 19...87.....

Owner . . G. & B. Ltd., Partners One

Location . . . 1743 Rt. 88 W.

Block . 852 Lot . 1, 2

Contractor . same

Fee \$. 380.00 Use . Plumbing (9 stores)

BUILDING SUB-CODE INSPECTIONS

VIOLATIONS

Footing Trench

Foundation

Slab

Sheathing

Framing

Insulation

Sheet Rock

Plumbing

Fire Inspection

Final

C.O. Issued

PLUMBING SUB-CODE INSPECTIONS

Slab

Rough

Septic/Sewer

Water

Final

Electrical Final

12/7/87 RM

Use reverse side for additional remarks

Check

SUB CONTRACTORS

NAME	TRADE	ADDRESS	ZIP CODE	PHONE #
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				

PERSON TO BE IN CHARGE OF CONSTRUCTION

NAME

ADDRESS

IV. IDENTIFICATION — To be completed by all applicants

Name	Mailing address — Number, street, city, and State	ZIP code	Tel. No.
1. Owner Agent G+B Ltd Partners one	63 W main St. Freehold		
2. Contractor Apollo Mechanical & Electrical HVAC	Hickson Gas Agency Inc		
3. Architects Daniel Brook	Main St Freehold N.J.		

The owner of this building and the undersigned agree to conform to all applicable laws of Township of Erick and that all required state, county and local prior approvals have been given.

Signature of applicant

Address

Application date

DO NOT WRITE IN THIS SPACE — FOR OFFICE USE ONLY

Approved by

Date permit issued

Permit Number

I agree to construct said building in conformity with the plans and specifications filed with the Construction Official and in compliance with the provisions of the Building Code whether shown on plans or not.

TOWNSHIP OF BRICK



PERMIT NO. 172104
 DATE ISSUED 11-1-87
 REVISION DATE 11-1-87
 Block 852 Lot 1
 Subdivision _____

A. IDENTIFICATION

APPLICANT - Complete unshaded areas only

When changing contractors, notify this office

Owner Eastwicks One Contractor Apello Bros. Const. & Heating
 Address 1743 St. Be Le Address 25 Bensdale Drive
63 West Main Street Malboro N.J. 07746
 Tel. (201) 780-7740 Tel. (201) 780-4662
 Work Site Address 1743 St. Be Le Lic. No./Bus. Permit 1858
Brick, N.J. Federal Emp. No. 22 2162 741

CERTIFICATION IN LIEU OF OATH:
 (Complete for Minor Work and Small Job Only)
 I hereby certify that the proposed work is authorized by the owner of record and I have been authorized by the owner to make this application as his agent.
[Signature]
 AGENT SIGNATURE

B. TECHNICAL SITE DATA

List all fixtures

TYPE OF WORK:

No.	Fixture	Fee	No.	Fixture	Fee	Fee
	Water Closet/Bidet/Urinal	\$		Garbage Disposal	\$	COLUMN 1
	Bathtub		8	Air Conditioner Unit	120.-	COLUMN 2
	Lavatory/Sink			Indirect Connection		SUBTOTAL \$
	Shower/Floor Drain			Sewer Ejector		Minimum Plumbing Fee
	Washing Machine			Grease Trap		(If applicable)
	Dishwasher			Interceptor		Total Plumbing Fee
	Commercial Dishwasher			Backflow Device		(Greater of Minimum
8	Water Heater			Backflow Device		or Subtotal)
	Domestic Boiler/Furnace	120.-		Vent Stack		\$ 360.-
	Steam Boiler			Solar System		
	Water Util. Connection			Other	945 Pl. 9/26	
	Sewer Util. Connection			Other	120.-	
	Hose Bibb			Other		
	Water Cooler			Other		
COLUMN 1		\$ 120.-	COLUMN 2		\$ 240.-	

C. PLUMBING CHARACTERISTICS

USE GROUP: _____ Present _____ Proposed _____
 Drainage - Material _____ Size _____
 Building Sewer - Material _____ Size _____
 Water Service - Material _____ Size _____
 Venting - Material _____ Size _____
 Estimated Cost of Plumbing Work: \$ _____

D. COMMENTS

2 - 4 40n units
 4 - 3 40n units
 2 - 2 40n units
 8 total
 Partial Releases ☐
 Prototype Processing ☐
 Work pre attached specification

UNIFORM BUILDING CODE

PERMIT NO. 12104
DATE ISSUED 1-11-87
REVISION DATE _____
Block 822 Lot 1
Subdivision _____

When changing contractors, notify this office:

Owner ATMERSHIP ONE
Address 1743 E 88th
63 West Main Street
Ann Arbor, MI 48106
Tel. 301, 760-7740
Work Site Address 1743 E 88th
Ann Arbor, MI

Contractor APOLLO Fire Contr. & Plumbing
Address 25 Kensington Drive
Ann Arbor, MI 48106
Tel. 301, 760-4662
Lic./No./Bus. Permit 1858
Federal Emp. No. 22 2162 741

(Complete for Minor Work and Small Job Only)

AGENT SIGNATURE

TYPE OF WORK:

[illegible]

Proposed

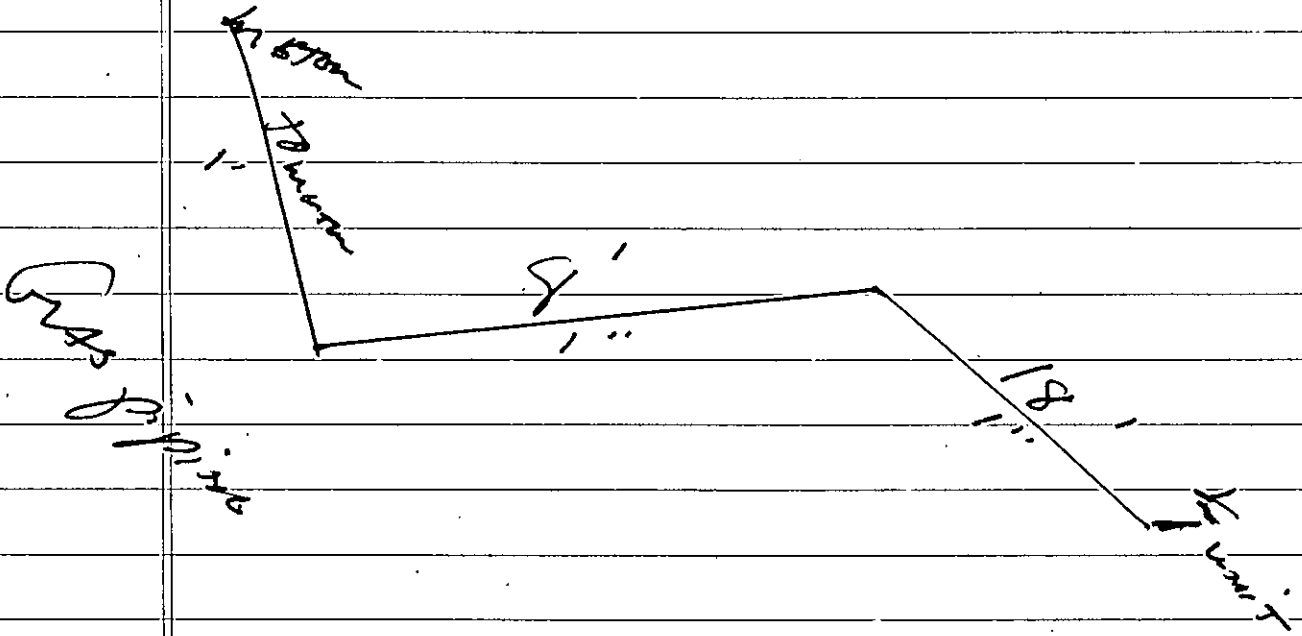
Drainage	Material	Size
Building Sewer	Material	Size
Water Service	Material	Size
Venting	Material	Size
Estimated Cost of Plumbing Work: \$		

☐ Partial Releases

☐ Prototype Processing

2 - 4	ton	units	Work piece
4 - 3	ton	units	Work piece
2 - 2	ton	units	Work piece
8	total		Work piece

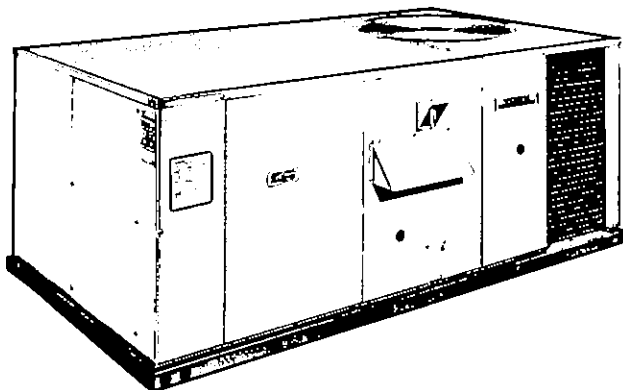
8. Units
 80m
 80m
 80m



26
 26
 26

26
 26
 26

YORK®



SUNLINE 2000™

SINGLE PACKAGE AIR-COOLED AIR CONDITIONERS

D1CE / D1CG 036, 048 & 060
3, 4 AND 5 NOMINAL TONS

DESCRIPTION

YORK Sunline 2000 units are the industry's first line of convertible single package units with a minimum 9.00 SEER, common cabinet and common roof curb for the 3, 4 and 5 ton sizes. The units were designed for residential and light commercial applications. They can easily be installed on a roof curb, slab, roof jack or frame.

All units are self-contained and assembled on rigid full perimeter base rails allowing for 3-way fork lift access and overhead rigging. Every unit is completely charged, wired, piped and tested at the factory to provide for a quick and easy field installation.

The units are available in the following configurations: cooling only, cooling with electric heat and cooling with gas heat. Electric heaters are available as factory installed options and field-installed accessories.

Both down and side discharge airflows are available without having to swap panels. The installer simply removes the duct covers for the desired configuration. Economizers may be used on either side or down discharge applications with no modifications required.

All models include a 1-year limited warranty on the complete unit. Compressors, gas-fired heat exchangers and electric heater elements each carry an additional 4-year warranty. An optional 6th thru 10th year heat exchanger protection plan may also be purchased.

FEATURES

COMMON FOOTPRINT / COMMON CABINET — The cooling only, cooling with electric heat and gas / electric 3, 4 and 5 ton units all share the exact same cabinet — and therefore the same roof curb. You now have the flexibility of setting one curb and, after the internal load has been determined, placing the proper tonnage unit on that curb. You can even decide between gas or electric heat after the curb has been set.

HIGH EFFICIENCY — All unit have a minimum SEER of 9.00. Gas / electric units have a minimum steady state efficiency of 80%. These efficiencies exceed all legislated minimum levels and provide low operating costs.

CONVERTIBLE AIRFLOW DESIGN — Both the side and bottom duct openings are covered when they leave the factory. If a side supply / side return is desired you simply remove the two side duct covers from the outside of the unit and discard them. If a bottom supply / return is desired you simply remove the two bottom duct covers and discard them. No panel cutting or swapping is required! Convertible airflow design allows maximum field flexibility and minimum inventory.

FACTORY INSTALLED OPTIONS — Economizers and electric heaters can be installed at the factory. The economizers are shipped installed and wired. The outdoor air hood needs only to be field assembled and installed. Electric heaters come standard with single point power connections. Field labor dollars can be saved by having the components arrive already installed.

FIELD INSTALLED ACCESSORIES — Accessories were designed for quick and easy installation. The motorized damper and economizers simply slide in and electrical connections are made by modular plugs. Electric heaters mount easily and knockouts are provided in the internal partitions to connect the elements to the control box single point kit.

The 14" high roof curb is shipped knocked down. A roof curb deck is not required because the bottom of the unit is insulated.

A propane conversion kit and low Nox kit are also available to cover all gas heating applications.

WIDE RANGE OF INDOOR AIRFLOWS — All models operate from 300 to 500 cfm / ton. All units can produce 0.80" ESP at nominal cfm with the standard fan motor. All indoor fan motors are 3-speed direct-drive type providing maximum flexibility to handle most airflow requirements.

FULL PERIMETER BASE RAILS — The permanently attached base rails provide a solid foundation for the entire unit and protect the unit during shipment. The rails provide fork lift access from 3 sides and rigging holes are also provided so that an overhead crane can be used to place the units on a roof.

Cont'd.

FEATURES – CONT'D.

UTILITY CONNECTIONS MADE EASY – Gas and electric utility knockouts are provided in the unit underside as well as the side of the unit. A clearly identified location is provided to mount a field supplied electrical disconnect switch. Utility connections can be made quickly and with a minimum amount of field labor.

SIMPLE CONTROL CIRCUIT – A low voltage printed circuit board contains a compressor lockout indicator light and low voltage terminal strip. An additional set of pin connectors is also provided so that field interface of external controls will be simplified. A suction line freeze-stat is supplied on all units to protect against loss of charge and coil frosting due to low economizer outdoor air temperature while the compressor is running. Mate-n-lock plug connectors are used where line and low voltage wires pass

thru internal bulkheads. This allows for easier troubleshooting and component replacement. The electrical control box is not located in the compressor compartment so the access cover can be removed for troubleshooting without affecting the normal system operating pressures.

AIR FILTERS – Units come standard with 1" throwaway filters. The unit filter tracks can accommodate 1" or 2" filters without any modifications.

SYSTEM PROTECTION – Crankcase heaters and internal compressor protection are standard on all compressors. Every unit has a liquid line filter-drier and suction line freeze-stat to protect all system components. The units will operate down to 45°F without any additional low ambient controls.

YORK® SUNLINE 2000™

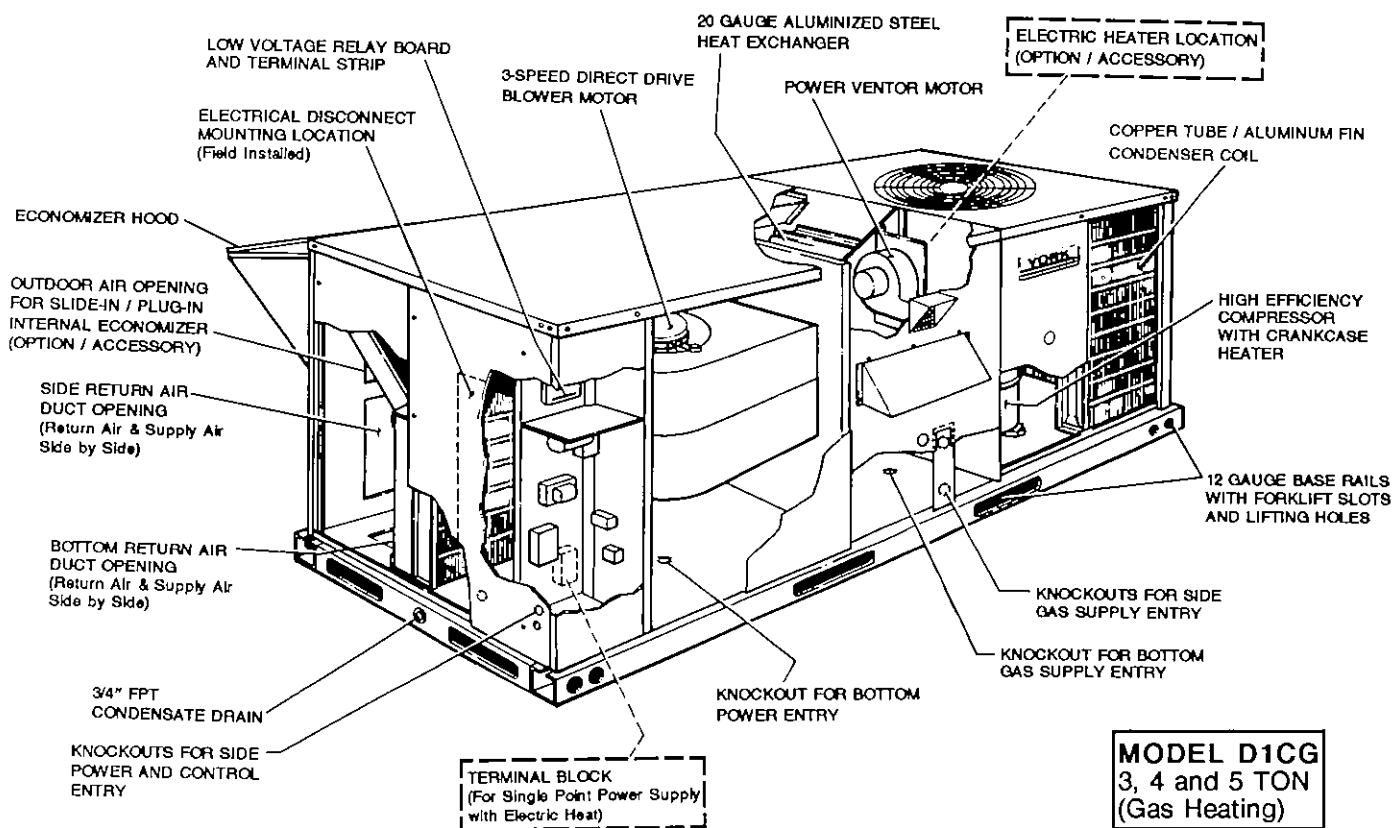


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ARI RATINGS

CAPACITY RATINGS* – Cooling / Electric Heating

MODEL	COOLING CAPACITY 80 / 67-95°F			ELECTRIC HEAT NOM. CAPACITY KW
	MBH	SEER	EER	
D1CE036	40	9.15	8.65	5, 10, 15, 20
D1CE048	48	9.10	8.80	5, 10, 15, 20
D1CE060	59	9.15	8.80	5, 10, 15, 20, 30



ELECTRIC HEATERS MAY NOT BE FIELD-INSTALLED
IN CANADA – THEY MUST BE INSTALLED AT AN
AUTHORIZED FACTORY.

CAPACITY RATINGS* – Cooling / Gas Heating

MODEL	COOLING CAPACITY 80 / 67-95°F			GAS HEAT CAPACITY								
				INPUT (MBH)	OUTPUT (MBH)		AFUE (%)	S.S.E. (%)		S.E. (%)	TEMP. RISE (°F)	GAS LINE SIZE (in. OD)
	MBH	SEER	EER		1Ø	3Ø		1Ø	3Ø			
D1CG036N041	40	9.05	8.65	50	41	42	80.0	82.0	83.8	72.1	15 – 45	1/2
D1CG036N082	40	9.05	8.65	100	82	81	75.0	82.0	80.6	71.2	40 – 70	1/2
D1CG048N062	48	9.00	8.70	75	62	62	77.7	82.0	82.2	71.9	25 – 55	1/2
D1CG048N103	48	9.00	8.70	125	103	101	74.1	82.0	80.6	71.2	45 – 75	1/2
D1CG060N082	58	9.00	8.65	100	82	82	76.1	82.0	82.2	71.7	25 – 55	1/2
D1CG060N103	58	9.00	8.65	125	103	101	74.9	82.0	81.1	71.4	35 – 65	1/2

- * Ratings are in accordance with ARI Standard 210.
- SEER = Seasonal Energy Efficiency Ratio – the total cooling output in BTU's during a normal annual usage period for cooling divided by the total electric power input in watt-hours during the same period.
- EER = Energy Efficiency Ratio – the cooling capacity in Btu's per hour (Btuh) divided by the power input in watts at any given set of rating conditions, expressed in Btuh per watt (Btuh/watt).
- AFUE = Annual Fuel Utilization Efficiency – determined in accordance with DOE test procedure.
- S.S.E. = Steady State Efficiency, (Percent Output)
- S.E. = California Seasonal Efficiency – determined in accordance with test procedures as specified by the State of California Energy Commission. Furnaces are available with a low NOx accessory.



PHYSICAL DATA

BASIC UNITS

MODELS		DCE and DCG		
		036	048	060
EVAPORATOR BLOWER	CENTRIFUGAL BLOWER (Dia. x Wd. in.)	11 x 9	11 x 9	11 x 9
	FAN MOTOR HP	1/2	3/4	1
	MAX. EXT. SP @ NOM. CFM	0.90	0.80	0.80
EVAPORATOR COIL	ROWS DEEP	4	4	4
	FINS PER INCH	15	15	14
	FACE AREA (Sq. Ft.)	3.6	4.3	5.1
CONDENSER FAN	PROPELLER DIA. (in.)	24	24	24
	FAN MOTOR HP	1/2	1/2	1/2
	NOM. CFM TOTAL	4500	4200	4500
CONDENSER COIL	ROWS DEEP	1	2	2
	FINS PER INCH	16	16	16
	FACE AREA (Sq. Ft.)	17.3	13.6	15.9
	TOTAL SURFACE (Sq. Ft.)	17.3	26.9	31.2
AIR FILTERS (SEE NOTE)	QUANTITY PER UNIT (14" X 20" X 1")	2	2	2
	QUANTITY PER UNIT (14" X 25" X 1")	1	1	1
	TOTAL FACE AREA (sq. ft.)	6.3	6.3	6.3
CHARGE	REFRIGERANT 22 (lbs./oz.)	6/4	8/4	9/10

NOTE: Filter racks are adapted for 1" or 2" thick filters.

COOLING CAPACITIES – 3 TON (DCE / DCG036)

Air On		Temperature of Air on Condenser Coil																			
Evaporator		85°F										95°F									
Coil		Total Cap. ¹ MBH	Power Input ² KW	Sensible Capacity ¹ , MBH								Total Cap. ¹ MBH	Power Input ² KW	Sensible Capacity ¹ , MBH							
CFM	WB °F			Entering Dry Bulb, °F										Entering Dry Bulb, °F							
				86	83	80	77	74	71	68	86			83	80	77	74	71	68		
900	72	41	3.6	24	21	19	16	—	—	—	39	3.9	24	21	19	16	—	—	—		
	67	39	3.6	30	27	25	23	20	18	—	36	3.9	29	26	24	21	19	17	—		
	62	36	3.5	35	33	30	28	25	23	20	33	3.8	32	32	29	27	24	22	19		
	57	36	3.5	36	34	32	29	27	24	22	32	3.7	32	32	30	27	25	23	20		
1050	72	43	3.7	26	23	20	18	—	—	—	41	4.0	26	23	20	17	—	—	—		
	67	40	3.6	33	30	27	24	21	19	—	38	3.9	31	29	26	23	20	17	—		
	62	37	3.6	37	36	33	30	27	24	21	35	3.8	34	34	32	29	26	23	20		
	57	37	3.5	37	37	34	32	29	26	23	34	3.8	34	34	32	29	27	24	21		
1200	72	45	3.7	29	25	22	19	—	—	—	43	4.1	28	25	22	19	—	—	—		
	67	42	3.7	36	32	29	26	23	20	—	40	4.0	34	31	28	24	21	18	—		
	62	39	3.6	39	39	35	32	29	26	22	36	3.9	36	36	34	31	27	24	21		
	57	39	3.6	39	39	37	34	31	27	24	36	3.9	36	36	35	32	28	25	22		
1400	72	47	3.8	32	28	24	21	—	—	—	46	4.1	31	27	24	20	—	—	—		
	67	44	3.7	39	36	32	28	25	21	—	43	4.0	37	34	30	27	23	19	—		
	62	41	3.6	41	41	39	35	31	28	24	39	3.9	38	38	37	33	30	26	22		
	57	41	3.6	41	41	41	37	33	30	26	38	3.9	38	38	38	34	31	27	23		
1500	72	48	3.8	33	29	25	21	—	—	—	46	4.1	32	29	25	21	—	—	—		
	67	45	3.8	41	37	33	29	25	21	—	43	4.0	39	35	31	27	23	20	—		
	62	41	3.7	41	41	40	36	32	28	24	39	4.0	39	39	38	34	30	26	22		
	57	41	3.6	41	41	41	37	33	29	26	39	3.9	39	39	39	35	31	27	23		
1750	72	49	3.9	36	31	27	22	—	—	—	48	4.2	35	31	27	22	—	—	—		
	67	47	3.8	43	40	35	31	27	22	—	45	4.1	39	38	34	30	25	21	—		
	62	44	3.7	43	43	42	38	34	30	25	41	4.1	40	40	39	36	32	27	23		
	57	43	3.7	43	43	43	38	34	30	25	40	4.0	40	40	40	36	32	27	23		

Air On Evaporator		Temperature of Air on Condenser Coil																			
Coil		105°F										115°F									
CFM	WB °F	Total Cap. ¹ MBH	Power Input ² KW	Sensible Capacity ¹ , MBH								Total Cap. ¹ MBH	Power Input ² KW	Sensible Capacity ¹ , MBH							
				Entering Dry Bulb, °F										Entering Dry Bulb, °F							
				86	83	80	77	74	71	68				86	83	80	77	74	71	68	
900	72	37	4.2	22	20	18	15	-	-	-	36	4.5	21	19	16	14	-	-	-		
	67	34	4.2	27	25	23	20	18	15	-	31	4.4	26	24	21	19	16	14	-		
	62	31	4.1	31	29	27	25	22	20	17	29	4.3	29	27	25	22	20	17	15		
	57	31	4.0	31	30	27	25	22	20	17	29	4.3	29	27	25	22	20	17	15		
1050	72	39	4.3	25	22	19	16	-	-	-	37	4.5	24	21	18	15	-	-	-		
	67	35	4.2	30	27	25	22	19	16	-	32	4.4	29	26	23	20	18	15	-		
	62	32	4.1	32	32	29	27	24	21	18	30	4.4	30	30	27	24	22	19	16		
	57	32	4.1	32	32	30	27	24	21	18	30	4.3	30	30	27	24	23	19	16		
1200	72	41	4.4	27	24	21	17	-	-	-	39	4.6	26	23	19	16	-	-	-		
	67	37	4.3	32	30	27	23	20	17	-	33	4.5	30	29	25	22	19	16	-		
	62	34	4.2	33	33	32	29	25	22	19	31	4.5	31	31	30	26	23	20	17		
	57	33	4.2	33	33	32	29	26	22	19	31	4.4	31	31	30	26	23	20	17		
1400	72	43	4.4	30	26	23	19	-	-	-	41	4.6	29	25	22	18	-	-	-		
	67	39	4.3	36	33	29	25	22	18	-	35	4.5	32	32	28	24	21	17	-		
	62	36	4.2	36	35	35	31	27	24	20	33	4.5	33	33	33	29	25	22	18		
	57	36	4.2	36	35	35	32	28	24	20	33	4.4	33	33	33	29	25	22	18		
1500	72	44	4.4	31	27	23	20	-	-	-	41	4.6	30	26	22	18	-	-	-		
	67	39	4.3	35	34	30	26	22	18	-	35	4.5	32	33	29	25	21	17	-		
	62	36	4.3	36	36	36	32	28	24	20	34	4.5	33	33	33	29	25	21	18		
	57	36	4.2	36	36	36	32	28	24	20	33	4.4	33	33	33	29	25	21	19		
1750	72	45	4.5	34	30	26	21	-	-	-	43	4.7	33	29	25	20	-	-	-		
	67	41	4.4	37	37	33	29	24	20	-	37	4.6	34	34	32	28	23	19	-		
	62	38	4.4	38	38	37	33	29	24	20	35	4.6	35	34	34	30	26	21	17		
	57	38	4.3	38	38	37	33	29	24	20	35	4.5	35	34	34	30	26	21	17		

¹These capacities are gross ratings. For net capacity, determine the KW of the supply air blower motor from the Blower Performance Table, multiply this value by 3.415 MBH / KW to determine the motor heat, and deduct this heat from the gross capacity of the unit.

²These ratings include the compressor and the condenser fan motors but not the supply air blower motor. The total condenser fan motor power input is 0.35 KW. Refer to the Blower Performance Table for the KW of the supply air blower motor.

ALL SENSIBLE CAPACITY

COOLING CAPACITIES – 4 TON (DCE / DCG048)*

Air On Evaporator Coil		Temperature of Air on Condenser Coil																			
		85°F										95°F									
		Total Cap. ¹ MBH	Power Input ² KW	Sensible Capacity ¹ , MBH								Total Cap. ¹ MBH	Power Input ² KW	Sensible Capacity ¹ , MBH							
				Entering Dry Bulb, °F										Entering Dry Bulb, °F							
CFM	WB °F			86	83	80	77	74	71	68			86	83	80	77	74	71	68		
1200	72	50	4.1	30	27	24	20	—	—	—	47	4.4	31	28	24	21	—	—	—		
	67	47	4.1	38	34	31	28	24	21	—	45	4.4	38	35	32	28	25	22	—		
	62	44	4.0	44	41	38	34	31	28	24	40	4.3	40	40	39	35	32	29	25		
	57	44	3.9	44	43	40	36	33	30	26	40	4.2	40	40	39	36	33	29	26		
1400	72	52	4.2	34	30	26	22	—	—	—	50	4.5	34	30	26	23	—	—	—		
	67	49	4.1	42	38	35	31	27	23	—	47	4.5	42	38	34	30	27	23	—		
	62	46	4.0	46	46	42	38	34	30	27	43	4.4	42	42	41	38	34	30	26		
	57	46	4.0	46	46	44	40	36	32	29	42	4.3	42	42	41	39	35	31	27		
1600	72	55	4.2	37	33	29	24	—	—	—	53	4.6	37	33	28	24	—	—	—		
	67	52	4.1	47	42	38	34	29	25	—	50	4.5	44	41	37	32	28	24	—		
	62	49	4.0	49	49	46	42	37	33	29	45	4.4	45	45	45	40	36	32	28		
	57	49	4.0	49	49	48	44	40	35	31	45	4.4	45	45	45	41	37	33	28		
1800	72	56	4.3	40	35	30	25	—	—	—	54	4.7	39	35	30	25	—	—	—		
	67	53	4.2	49	45	40	35	30	26	—	51	4.6	47	44	39	34	29	25	—		
	62	49	4.1	49	49	48	44	39	34	29	47	4.6	47	47	46	42	37	32	27		
	57	49	4.1	49	49	49	44	40	35	30	47	4.5	47	47	47	42	37	32	28		
2000	72	57	4.4	42	37	32	26	—	—	—	56	5.5	42	37	32	26	—	—	—		
	67	54	4.2	50	47	42	37	32	26	—	53	5.4	47	46	41	36	31	26	—		
	62	50	4.2	50	50	50	45	40	35	30	49	5.4	48	48	48	43	37	33	27		
	57	50	4.1	50	50	50	45	40	35	29	48	5.3	48	48	48	43	38	32	27		

Air On Evaporator Coil		Temperature of Air on Condenser Coil																			
		105°F										115°F									
		Total Cap. ¹ MBH	Power Input ² KW	Sensible Capacity ¹ , MBH								Total Cap. ¹ MBH	Power Input ² KW	Sensible Capacity ¹ , MBH							
				Entering Dry Bulb, °F										Entering Dry Bulb, °F							
CFM	WB °F			86	83	80	77	74	71	68			86	83	80	77	74	71	68		
1200	72	45	4.6	29	26	23	19	—	—	—	43	5.1	27	24	21	17	—	—	—		
	67	41	4.6	36	33	29	26	23	19	—	37	4.9	34	30	27	24	20	17	—		
	62	38	4.5	37	37	35	31	28	25	21	35	4.8	34	34	31	28	24	21	18		
	57	37	4.4	37	37	35	32	28	25	22	34	4.8	34	34	31	28	24	21	18		
1400	72	48	4.7	33	29	25	21	—	—	—	45	5.2	31	27	24	20	—	—	—		
	67	44	4.7	40	36	32	29	25	21	—	40	5.0	36	34	31	27	23	19	—		
	62	41	4.6	40	40	38	34	31	27	23	37	4.9	36	36	35	31	27	24	20		
	57	40	4.5	40	40	38	35	31	27	23	36	4.9	36	36	35	31	27	24	20		
1600	72	51	4.8	36	32	27	23	—	—	—	48	5.2	35	31	26	22	—	—	—		
	67	46	4.7	41	40	35	31	27	23	—	42	5.0	38	38	34	30	25	21	—		
	62	43	4.6	42	42	42	38	33	29	25	39	5.0	39	39	39	35	30	26	22		
	57	42	4.6	42	42	42	38	34	29	25	39	4.9	39	39	39	35	30	26	22		
1800	72	52	4.9	38	34	29	24	—	—	—	49	5.3	37	33	28	23	—	—	—		
	67	47	4.8	42	42	38	33	28	23	—	43	5.1	38	37	36	32	27	22	—		
	62	43	4.7	43	43	43	38	34	29	24	40	5.1	39	39	39	35	30	26	21		
	57	43	4.7	43	43	43	38	34	29	24	39	5.0	39	39	39	35	30	26	21		
2000	72	53	4.9	41	36	31	26	—	—	—	50	5.3	39	35	30	25	—	—	—		
	67	48	4.8	43	43	40	35	30	24	—	44	5.1	39	39	39	33	28	23	—		
	62	45	4.8	44	44	44	39	34	29	24	41	5.1	40	40	40	35	30	25	20		
	57	44	4.7	44	44	44	39	34	29	24	40	5.0	40	40	40	35	30	25	20		

* TOTAL CAPACITIES (MBH) AS INDICATED REPRESENT VALUES FOR GAS HEATING APPLICATIONS (MODELS DCG).
ADD 0.5 MBH TO THESE VALUES TO OBTAIN TOTAL CAPACITIES FOR COOLING ONLY AND COOLING / ELECTRIC
HEATING APPLICATIONS (MODELS DCE).

¹ These capacities are gross ratings. For net capacity, determine the KW of the supply air blower motor from the Blower Performance Table, multiply this value by 3.415 MBH / KW to determine the motor heat, and deduct this heat from the gross capacity of the unit.

² These ratings include the compressor and the condenser fan motors but not the supply air blower motor. The total condenser fan motor power input is 0.48 KW. Refer to the Blower Performance Table for the KW of the supply air blower motor.

ALL SENSIBLE CAPACITY

COOLING CAPACITIES – 5 TON (DCE / DCG060)*

Air On Evaporator Coil		Temperature of Air on Condenser Coil																			
		85°F										95°F									
CFM	WB °F	Total Cap. ¹ MBH	Power Input ² KW	Sensible Capacity ¹ , MBH								Total Cap. ¹ MBH	Power Input ² KW	Sensible Capacity ¹ , MBH							
				Entering Dry Bulb, °F										Entering Dry Bulb, °F							
				86	83	80	77	74	71	68	86			83	80	77	74	71	68		
1500	72	62	5.0	38	34	30	26	—	—	—	59	5.3	41	36	32	28	—	—	—		
	67	59	5.0	48	44	40	35	31	27	—	56	5.3	51	47	43	38	34	30	—		
	62	55	4.9	54	52	48	44	40	35	31	52	5.2	51	51	50	47	43	39	35		
	57	54	4.8	54	54	50	46	42	37	33	51	5.1	51	51	51	47	43	39	35		
1750	72	64	5.0	42	37	32	27	—	—	—	62	5.4	43	38	33	29	—	—	—		
	67	60	5.0	53	48	43	38	33	28	—	58	5.3	52	49	44	39	35	30	—		
	62	57	4.9	56	56	52	47	42	38	33	54	5.2	53	52	52	49	44	39	34		
	57	56	4.9	56	56	54	50	45	40	35	53	5.2	53	53	52	49	44	39	34		
2000	72	66	5.1	46	40	35	29	—	—	—	64	5.4	46	40	35	29	—	—	—		
	67	62	5.0	57	52	46	41	35	30	—	61	5.4	55	51	46	40	35	30	—		
	62	58	4.9	58	58	56	51	45	40	34	56	5.3	56	54	54	50	45	39	34		
	57	58	4.9	58	58	58	53	48	42	37	56	5.2	56	55	54	50	45	39	34		
2250	72	67	5.1	49	42	36	30	—	—	—	65	5.4	49	43	37	31	—	—	—		
	67	63	5.1	58	55	49	42	36	30	—	62	5.4	55	54	48	42	36	30	—		
	62	60	5.0	59	59	59	53	47	41	34	57	5.3	56	56	54	51	45	39	33		
	57	59	5.0	59	59	59	53	47	41	35	56	5.3	56	56	55	51	45	39	33		
2500	72	68	5.2	51	45	38	32	—	—	—	67	5.5	52	45	38	32	—	—	—		
	67	64	5.1	59	57	51	44	38	31	—	63	5.4	56	56	51	44	38	31	—		
	62	61	5.1	60	60	60	54	48	41	35	59	5.4	57	57	55	52	46	39	32		
	57	60	5.0	60	60	60	54	49	41	35	57	5.3	57	57	56	52	46	39	32		

Air On		Temperature of Air on Condenser Coil																			
Evaporator		105°F										115°F									
Coil		Total Cap. ¹ MBH	Power Input ² KW	Sensible Capacity ¹ , MBH								Total Cap. ¹ MBH	Power Input ² KW	Sensible Capacity ¹ , MBH							
CFM	WB °F			Entering Dry Bulb, °F										Entering Dry Bulb, °F							
				86	83	80	77	74	71	68			86	83	80	77	74	71	68		
1500	72	56	5.7	38	34	30	25	—	—	—	52	6.1	36	31	27	23	—	—	—		
	67	51	5.6	46	43	39	35	30	26	—	47	5.9	41	39	35	31	26	22	18		
	62	48	5.5	47	47	45	41	37	33	29	43	5.8	42	42	39	35	30	26	22		
	57	47	5.4	47	47	45	41	37	33	28	42	5.7	42	42	39	35	31	27	22		
1750	72	59	5.8	41	36	32	27	—	—	—	55	6.2	40	35	30	25	—	—	—		
	67	54	5.7	48	46	42	37	32	27	—	49	6.0	43	43	39	34	29	24	—		
	62	50	5.6	49	49	49	44	39	34	30	45	5.9	44	44	43	38	33	28	24		
	57	49	5.5	49	49	49	44	39	34	30	44	5.8	44	44	43	39	34	29	24		
2000	72	61	5.9	45	39	34	28	—	—	—	58	6.3	44	38	33	27	—	—	—		
	67	56	5.7	50	50	44	39	33	28	—	52	6.0	45	45	42	37	32	26	—		
	62	51	5.6	51	51	50	46	41	36	30	47	5.9	46	46	45	42	36	31	26		
	57	51	5.6	51	51	51	46	41	36	30	46	5.9	46	46	45	42	37	32	26		
2250	72	62	5.9	48	42	36	30	—	—	—	59	6.3	45	41	35	29	—	—	—		
	67	58	5.8	51	51	47	41	35	29	—	54	6.1	46	45	44	39	33	27	—		
	62	52	5.7	52	52	51	46	41	35	28	48	6.0	47	47	45	42	36	30	24		
	57	52	5.6	52	52	52	46	41	35	29	47	5.9	47	47	46	42	36	30	24		
2500	72	63	6.0	50	44	38	31	—	—	—	60	6.4	46	44	37	31	—	—	—		
	67	59	5.8	51	50	50	43	36	30	—	54	6.1	47	45	45	41	35	28	—		
	62	54	5.7	52	52	52	47	40	33	27	48	6.0	48	48	46	42	36	29	23		
	57	52	5.7	52	52	52	47	41	34	27	48	6.0	48	48	47	42	36	29	23		

* TOTAL CAPACITIES (MBH) AS INDICATED REPRESENT VALUES FOR GAS HEATING APPLICATIONS (MODELS DCG).
ADD 1.0 MBH TO THESE VALUES TO OBTAIN TOTAL CAPACITIES FOR COOLING ONLY AND COOLING / ELECTRIC
HEATING APPLICATIONS (MODELS DCE).

¹ These capacities are gross ratings. For net capacity, determine the KW of the supply air blower motor from the Blower Performance Table, multiply this value by 3.415 MBH / KW to determine the motor heat, and deduct this heat from the gross capacity of the unit.

² These ratings include the compressor and the condenser fan motors but not the supply air blower motor. The total condenser fan motor power input is 0.47 KW. Refer to the Blower Performance Table for the KW of the supply air blower motor.

ALL SENSIBLE CAPACITY

BLOWER PERFORMANCE

SUPPLY AIR BLOWER PERFORMANCE – SIDE DUCT APPLICATIONS (208 VOLTS)

MODEL DCE & DCG	MOTOR SPEED	Available External Static Pressure – IWG *																	
		0.20		0.30		0.40		0.50		0.60		0.70		0.80		0.90		1.00	
		CFM	Watts	CFM	Watts	CFM	Watts	CFM	Watts	CFM	Watts	CFM	Watts	CFM	Watts	CFM	Watts	CFM	Watts
036	HI	1495	810	1475	785	1450	760	1410	765	1345	685	1245	625	–	–	–	–	–	–
	MED	1300	685	1275	660	1250	635	1210	605	1155	575	1080	540	–	–	–	–	–	–
	LOW	1130	605	1115	585	1100	565	1070	545	–	–	–	–	–	–	–	–	–	–
048	HI	–	–	–	–	1780	840	1740	815	1690	790	1630	765	1570	740	–	–	–	–
	MED	–	–	–	–	1410	650	1390	635	1350	610	1300	590	1250	570	–	–	–	–
	LOW	–	–	1350	600	1320	585	1280	570	1235	555	1195	540	–	–	–	–	–	–
060	HI	–	–	2470	1260	2395	1205	2315	1155	2230	1110	2130	1060	2020	1005	1890	945	–	–
	MED	–	–	2205	1080	2145	1035	2085	995	2020	955	1940	910	1850	860	1730	805	–	–
	LOW	–	–	–	–	1990	965	1925	915	1860	870	1790	830	1710	785	1620	740	–	–

SUPPLY AIR BLOWER PERFORMANCE – BOTTOM DUCT APPLICATIONS (208 VOLTS)

MODEL DCE & DCG	MOTOR SPEED	Available External Static Pressure – IWG *																	
		0.20		0.30		0.40		0.50		0.60		0.70		0.80		0.90		1.00	
		CFM	Watts	CFM	Watts	CFM	Watts	CFM	Watts	CFM	Watts	CFM	Watts	CFM	Watts	CFM	Watts	CFM	Watts
036	HI	1475	785	1455	760	1400	725	1350	690	1240	630	–	–	–	–	–	–	–	–
	MED	1270	665	1275	640	1220	605	1160	580	1075	540	–	–	–	–	–	–	–	–
	LOW	1110	585	1100	565	1080	550	–	–	–	–	–	–	–	–	–	–	–	–
048	HI	–	–	1790	850	1750	825	1700	795	1630	770	1575	745	–	–	–	–	–	–
	MED	–	–	1400	655	1380	630	1345	610	1310	590	1260	575	–	–	–	–	–	–
	LOW	–	–	1280	560	1240	555	1220	550	1195	540	–	–	–	–	–	–	–	–
060	HI	–	–	2395	1205	2315	1155	2225	1110	2130	1060	2020	1005	1930	950	–	–	–	–
	MED	–	–	2150	1040	2090	1000	2025	960	1950	910	1860	870	1760	825	–	–	–	–
	LOW	–	–	–	–	1925	915	1860	870	1790	830	1710	785	1625	745	–	–	–	–

SUPPLY AIR BLOWER PERFORMANCE – SIDE DUCT APPLICATIONS (230/460 VOLTS)

MODEL DCE & DCG	MOTOR SPEED	Available External Static Pressure – IWG *																	
		0.20		0.30		0.40		0.50		0.60		0.70		0.80		0.90		1.00	
		CFM	Watts	CFM	Watts	CFM	Watts	CFM	Watts	CFM	Watts	CFM	Watts	CFM	Watts	CFM	Watts	CFM	Watts
036	HI	1770	865	1720	825	1665	795	1600	765	1540	735	1490	700	1380	670	1280	630	1170	590
	MED	1590	780	1550	750	1500	720	1450	690	1400	665	1360	650	1270	610	1185	580	1050	535
	LOW	1410	700	1370	675	1330	650	1290	625	1250	610	1220	600	1130	560	1060	555	–	–
048	HI	–	–	2000	1010	1950	975	1905	945	1840	910	1770	875	1660	825	1530	775	–	–
	MED	–	–	1700	825	1665	800	1620	775	1560	740	1480	700	1390	660	1280	620	–	–
	LOW	–	–	1555	740	1540	730	1510	715	1460	690	1400	660	1300	615	–	–	–	–
060	HI	–	–	2500	1400	2420	1350	2340	1300	2260	1250	2160	1190	2060	1135	1925	1065	1750	975
	MED	2300	1255	2245	1210	2190	1165	2130	1120	2065	1075	1990	1030	1900	970	1780	905	1600	810
	LOW	–	–	2145	1170	2090	1110	2030	1070	1960	1020	1890	970	1810	920	1715	860	–	–

SUPPLY AIR BLOWER PERFORMANCE – BOTTOM DUCT APPLICATIONS (230/460 VOLTS)

MODEL DCE & DCG	MOTOR SPEED	Available External Static Pressure – IWG *																	
		0.20		0.30		0.40		0.50		0.60		0.70		0.80		0.90		1.00	
		CFM	Watts	CFM	Watts	CFM	Watts	CFM	Watts	CFM	Watts	CFM	Watts	CFM	Watts	CFM	Watts	CFM	Watts
036	HI	1720	825	1670	795	1610	765	1550	740	1480	705	1400	675	1310	635	1200	600	1050	550
	MED	1550	750	1550	715	1460	690	1410	670	1355	645	1290	620	1210	590	1110	550	–	–
	LOW	1365	675	1335	650	1300	630	1260	615	1210	590	1150	565	1080	540	–	–	–	–
048	HI	–	–	1960	980	1915	955	1850	915	1770	880	1665	830	1525	775	1360	715	–	–
	MED	–	–	1650	790	1610	770	1555	740	1490	705	1400	665	1300	625	–	–	–	–
	LOW	–	–	1480	700	1470	695	1445	685	1400	660	1320	620	1200	575	–	–	–	–
060	HI	2500	1400	2420	1350	2340	1300	2250	1255	2160	1190	2060	1135	1940	1075	1780	990	–	–
	MED	–	–	2200	1170	2135	1125	2070	1080	2000	1030	1910	980	1810	920	1680	850	–	–
	LOW	–	–	2090	1110	2030	1070	1960	1020	1890	970	1810	920	1720	865	1610	810	–	–

*Includes allowances for a wet evaporator coil, 1" filters and the heat exchangers.

NOTE: The BHP for the supply air blower motor is calculated by using the following formula; $BHP = \frac{KW \times Motor Efficiency}{746}$.

INDOOR FAN MOTOR EFFICIENCIES @ RATED LOAD

MODEL DCE & DCG	MOTOR (HP)	EFFICIENCY (%)
036	1/2	58
048	3/4	63
060	1	68

ACCESSORY STATIC RESISTANCES*

EXTERNAL STATIC PRESSURE DROP

MODELS DCE & DCG	DESCRIPTION	RESISTANCE, IWG		
		CFM		
		1400	1600	2000
036 048 060	Pressure Drop thru economizer	0.090	0.110	0.150
	Pressure Drop thru 5 to 16 KW Electric Heaters	0.035	0.041	0.051
	Pressure Drop thru 20 to 30 KW** Electric Heaters	0.056	0.064	0.080

* Deduct the above values from the available external static resistance shown in the Blower Performance Table.

** Electric Heater with 30 KW capacity is applicable to 5 Ton Unit only.

COMPONENT WEIGHTS

COMPONENT			MODELS DCE & DCG		
			3 TON	4 TON	5 TON
Basic Unit	DCE (Cooling only)		549	585	610
	DCG (Gas / Electric)	41 Mbh	605	—	—
		62 Mbh	—	645	—
		82 Mbh	615	—	670
		103 Mbh	—	655	680
Options	Economizer		Refer To Accessories		
	Electric Heat		Refer To Accessories		
Accessories	Economizer		50	50	50
	Motorized Outdoor Air damper		48	48	48
	Electric Heat (Nominal KW)	5-7 KW	18	18	18
		8-10 KW	21	21	21
		11-14 KW	23	23	23
		16-20 KW	25	25	25
		21-30 KW	28	28	28
	Roof Mounting Curb		92	92	92
	Relief / Fixed Air Damper		10	10	10

NOTE: Weights are given in pounds.

ELECTRICAL DATA – Basic Unit

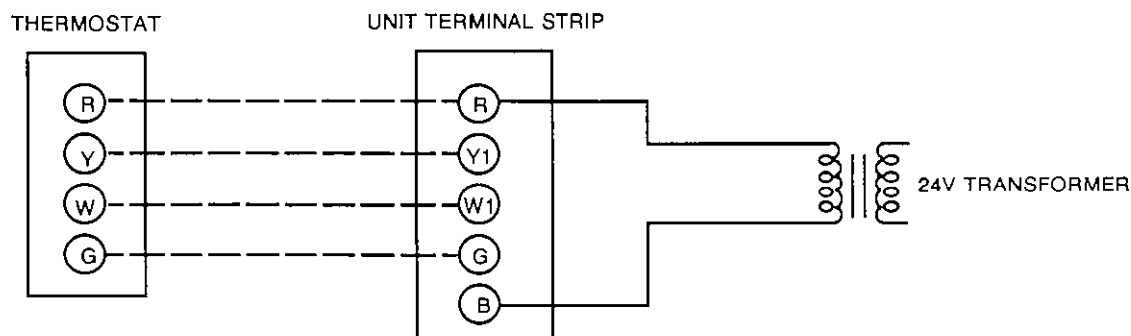
MODEL DCE DCG	POWER SUPPLY	VOLTAGE LIMITATIONS (SEE NOTE 1)		COMPRESSOR		COND. FAN MOTOR, FLA	SUPPLY AIR BLOWER MOTOR, FLA	TOTAL UNIT AMPACITY, AMPS	MAX. FUSE SIZE, (SEE NOTE 2) AMPS	MAX. HACR BREAKER SIZE, AMPS	MIN. WIRE SIZE, AWG (SEE NOTE 3)
		MIN.	MAX.	RLA	LRA						
036	208/230-1-60	187	253	19.7	97.6	2.0	4.4	31.0	40	40	8
	208/230-3-60	187	253	11.6	73.4	2.0	4.4	20.9	25	25	10
	460-3-60	414	504	5.1	37.7	1.4	2.0	9.8	15	—	14
048	208/230-1-60	187	253	23.3	118.0	2.0	5.0	36.1	45	45	8
	208/230-3-60	187	253	15.4	90.0	2.0	5.0	26.3	35	35	10
	460-3-60	414	504	8.3	45.0	1.4	2.2	14.0	20	—	14
	575-3-60	518	600	6.4	36.0	1.4	2.2	11.6	15	—	14
060	208/230-1-60	187	253	28.8	138.0	2.0	6.4	44.4	60	60	6
	208/230-3-60	187	253	17.3	106.0	2.0	6.4	30.2	45	45	10
	460-3-60	414	504	9.0	53.0	1.4	3.3	16.0	20	—	12
	575-3-60	518	600	6.4	43.0	1.4	3.3	12.7	15	—	14

NOTES: 1. Utilization Range "A" in accordance with ARI Standard 110.

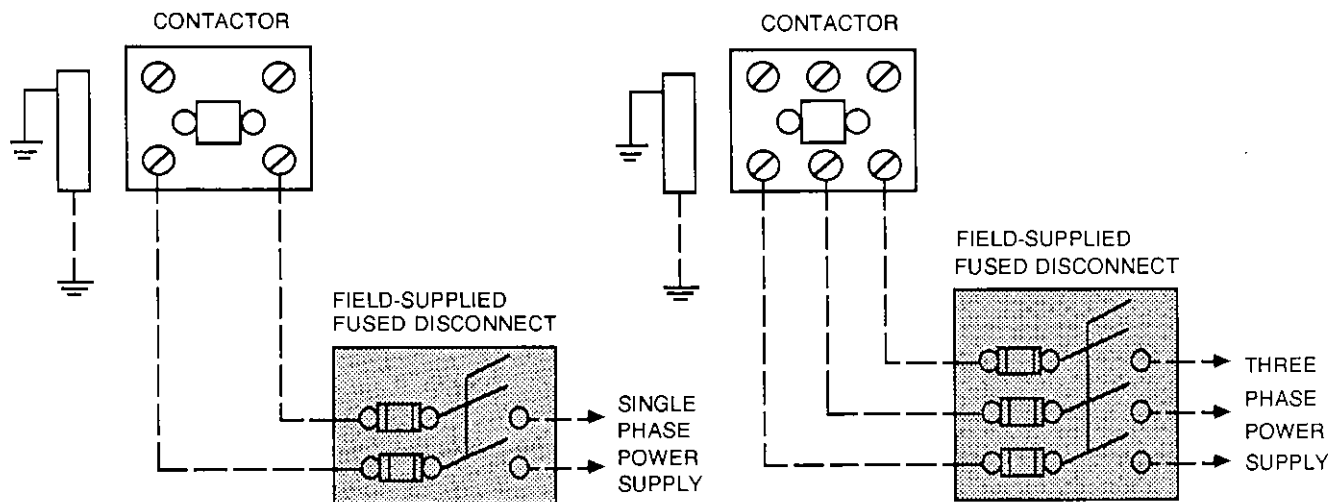
2. Dual element, time delay type.

3. Based on 60°C copper conductors.

FIELD WIRING DIAGRAM



CONTROL WIRING



POWER WIRING

ELECTRICAL DATA — Cooling / Electric Heating

MODEL D1CE	POWER SUPPLY	COMPRESSOR		SUPPLY AIR BLOWER MOTOR FLA	COND. FAN MOTOR FLA	ELECTRIC HEATERS					TOTAL UNIT AMPACITY AMPS	MAX. FUSE SIZE* AMPS	MAX. SIZE HACR** BREAKER AMPS
		RLA	LRA			KW	TOTAL AMPS	AMPS / BRANCH CIRCUIT					
								1	2	3			
036A06	208/230-1-60	19.7	97.6	4.4	2.0	0	—	—	—	—	31.0	40	40
						5.3	22.10	22.10	—	—	33.1	40	40
						7.5	31.25	31.25	—	—	44.6	45	45
						10.6	44.17	44.17	—	—	60.0	60	60
						15.9	66.25	44.17	22.08	—	88.3	90	—
						21.2	88.34	44.17	44.17	—	115.9	125	—
036A25	208/230-3-60	11.6	73.4	4.4	2.0	0	—	—	—	—	20.9	25	25
						5.3	12.75	12.75	—	—	21.4	25	25
						7.5	18.04	18.04	—	—	28.1	30	30
						10.6	25.50	25.50	—	—	37.4	40	40
						15.9	38.25	38.25	—	—	53.3	60	60
						21.2	51.00	25.50	25.50	—	69.2	70	—
036A46	460-3-60	5.1	37.7	2.0	1.4	0	—	—	—	—	9.8	15	—
						6.8	8.18	8.18	—	—	12.7	15	—
						10.1	12.15	12.15	—	—	17.7	20	—
						13.6	16.36	16.36	—	—	22.9	25	—
						19.5	23.45	23.45	—	—	31.8	35	—
						—	—	—	—	—	—	—	—
048A06	208/230-1-60	23.3	118.0	5.0	2.0	0	—	—	—	—	36.1	45	45
						5.3	22.10	22.10	—	—	36.1	45	45
						7.5	31.25	31.25	—	—	45.0	45	45
						10.6	44.17	44.17	—	—	61.5	70	—
						15.9	66.25	44.17	22.08	—	89.1	90	—
						21.2	88.34	44.17	44.17	—	116.7	125	—
048A25	208/230-3-60	15.4	90.0	5.0	2.0	0	—	—	—	—	26.3	35	35
						5.3	12.75	12.75	—	—	26.3	35	35
						7.5	18.04	18.04	—	—	28.8	35	35
						10.6	25.50	25.50	—	—	38.1	40	40
						15.9	38.25	38.25	—	—	54.1	60	60
						21.2	51.00	25.50	25.50	—	70.0	70	—
048A46	460-3-60	8.3	45.0	2.2	1.4	0	—	—	—	—	14.0	20	—
						6.8	8.18	8.18	—	—	14.0	20	—
						10.1	12.15	12.15	—	—	17.9	20	—
						13.6	16.36	16.36	—	—	23.2	25	—
						19.5	23.45	23.45	—	—	32.1	35	—
						—	—	—	—	—	—	—	—
048A58	575-3-60	6.4	36.0	2.2	1.4	0	—	—	—	—	11.6	15	—
						10.6	10.20	10.20	—	—	15.0	20	—
						15.9	15.30	15.30	—	—	21.3	30	—
						21.2	20.40	20.40	—	—	27.7	35	—
						—	—	—	—	—	—	—	—
						—	—	—	—	—	—	—	—
060A06	208/230-1-60	28.8	138.0	6.6	2.0	0	—	—	—	—	44.6	60	60
						5.3	22.10	22.10	—	—	44.6	60	60
						7.5	31.25	31.25	—	—	47.3	60	60
						10.6	44.17	44.17	—	—	63.5	70	—
						15.9	66.25	44.17	22.08	—	91.1	100	—
						21.2	88.34	44.17	44.17	—	118.7	125	—
29.6	123.33	41.11	41.11	41.11	162.4	175	—						
060A25	208/230-3-60	17.3	106.0	6.6	2.0	0	—	—	—	—	30.2	45	45
						5.3	12.75	12.75	—	—	30.2	45	45
						7.5	18.04	18.04	—	—	30.8	45	45
						10.6	25.50	25.50	—	—	40.1	45	45
						15.9	38.25	38.25	—	—	56.1	60	60
						21.2	51.00	25.50	25.50	—	72.0	80	—
29.6	71.20	35.60	35.60	—	97.3	100	—						
060A46	460-3-60	9.0	53.0	3.3	1.4	0	—	—	—	—	16.0	20	—
						6.8	8.18	8.18	—	—	16.0	20	—
						10.1	12.15	12.15	—	—	19.3	20	—
						13.6	16.36	16.36	—	—	24.6	25	—
						19.5	23.45	23.45	—	—	33.4	35	—
						28.8	34.60	34.60	—	—	46.5	50	—
060A58	575-3-60	6.4	43.0	3.3	1.4	0	—	—	—	—	12.7	15	—
						10.6	10.20	10.20	—	—	16.1	20	—
						15.9	15.30	15.30	—	—	22.4	30	—
						21.2	20.40	20.40	—	—	28.8	35	—
						30.4	29.30	29.30	—	—	39.9	45	—
						—	—	—	—	—	—	—	—

* Dual element, time delay type.

** Standard circuit breakers may be used in Canada and on applications over 60 amps where the heaters are separately fused.

FACTORY INSTALLED OPTIONS

ECONOMIZERS: Units equipped with the factory-installed economizer option have dampers that are positioned by a spring return, fully modulating damper actuator. As the outdoor air intake dampers open, the return air dampers close. The changeover from mechanical refrigeration to economizer operation is determined by a single input electronic enthalpy control or by a dual input electronic enthalpy control. Simultaneous compressor and economizer operation is also possible.

The single enthalpy system contains a sensor that monitors the outdoor air which automatically operates the damper actuator allowing the dampers to open or close.

The dual enthalpy system contains a second sensor that monitors the return air in addition to monitoring the outdoor air described above for a single enthalpy system. The logic module compares these two values and modulates the

dampers providing the maximum efficiency of the economizer system.

The economizer is completely wired and installed at the factory. Only the outdoor air hood, including its filters, need be assembled and installed in the field.

ELECTRIC HEATERS: These resistance type heaters have nickel chromium elements, single or two stage heating and utilize single point power connection. Power wiring can enter the unit through the unit underside or through the unit side panel and requires only one field-supplied electrical disconnect switch. The unit arrives completely wired.

Heaters are available with 5 through 21 Nominal KW on all units. A 30 KW heater is available for 5 ton units only. Where required by UL, fuses are supplied as part of the heater option.

FIELD-INSTALLED ACCESSORIES

SINGLE INPUT ELECTRONIC ENTHALPY ECONOMIZER – Includes a slide-in / plug-in damper assembly with fully modulating spring return motor actuator, one outdoor air electronic enthalpy sensor and a rainhood with filters. The rainhood is painted to match the basic unit and must be field-assembled before installation. Economizer dampers are 2% low leakage type.

DUAL INPUT ELECTRONIC ENTHALPY ECONOMIZER – Includes the same damper system and rainhood with filters as described for a single enthalpy economizer above except this accessory contains two enthalpy sensors. It uses a differential enthalpy control that compares the outdoor air versus the return air. The logic module then optimizes the economizer operation for additional savings over the single input economizer.

MOTORIZED AIR DAMPER – Includes slide-in / plug-in damper assembly with 2-position spring-return motor actuator and a rainhood with filters. The outdoor air dampers open when the indoor fan motor is energized. The rainhood is shipped knocked down and must be field assembled.

BAROMETRIC RELIEF / FIXED AIR DAMPER – A dual function device that consists of a rainhood with bird screen and an adjustable 3-position fixed damper baffle and an economizer barometric relief damper. It provides the following: 1) the entry of a fixed amount of outdoor air into the return air stream or 2) it is used to equalize internal building pressure during economizer operation. The rainhood is fully assembled, painted to match the basic unit and ready for installation.

ELECTRIC HEATERS – Include nickel chromium elements, a terminal block, fuses (where required by UL), all the necessary connectors and hardware. All heaters utilize single point power supply hookup. Capacities from 5 KW thru 30 KW heating are available.

FUSED BLOCK KITS – These kits have a fuse box containing fuses and a fuse block and are available on all 3-phase units with 460-volt heaters and on 208/230 volt units with 5 and 8 nominal KW heaters.

OUTDOOR THERMOSTAT – A 24-volt thermostat providing two stages of control for units operating with supplemental electric heaters.

ROOF CURB – This 14" high full perimeter roof curb is knocked down for field assembly and contains duct supports that can easily be shifted for the desired unit duct arrangement. No deck is required because the unit underside is insulated.

START ASSIST KIT – Provides increased starting torque for areas with low voltage conditions. It contains a 12.5 OHM PTCR temperature resistor with a support clip and hardware for mounting.

LOW AMBIENT KIT – Provides operation down to 20°F outdoor air temperature and contains a transformer, a thermostat and a terminal block.

ANTI-RECYCLE TIMER – A timer to prevent the unit compressor from short cycling. It assures 5 minutes off time between compressor cycles.

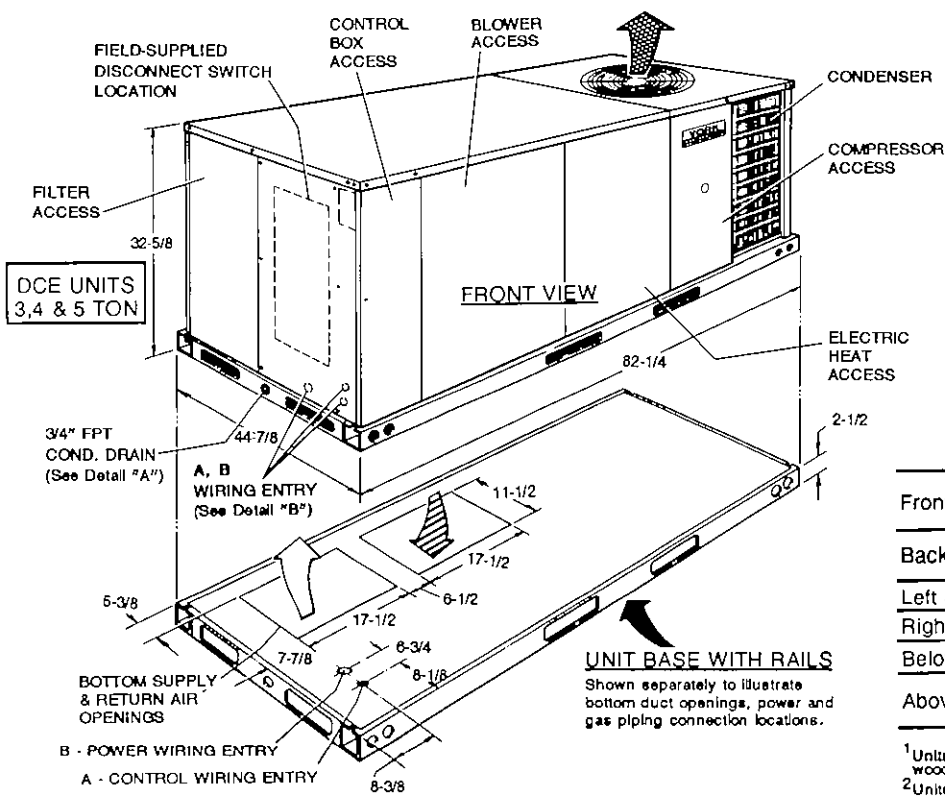
PROPANE CONVERSION KIT – Converts a gas-fired heater from natural gas to propane. It contains main burner and pilot orifices, and a regulator spring.

LOW NOx KIT – Contains ten 1/4" stainless steel rods for mounting onto the gas burners, in natural gas furnaces only, to meet the California low nitrous oxide emission requirements.

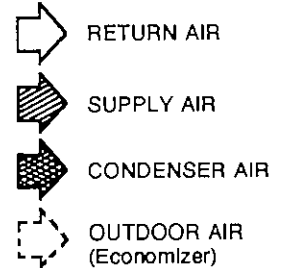
OUTDOOR COIL GUARD – Consists of grille type sections for assembling over the outdoor coil to protect it from damage.

WALL THERMOSTAT – The units are designed to operate with 24-volt electronic and electro-mechanical thermostats. All units can operate with single stage heat / single stage cool thermostats – with or without the economizer. However, to obtain maximum economizer operating savings, a two stage cooling thermostat should be used. To obtain two stage cooling operation a jumper wire must be removed on the low voltage relay board. (See unit wiring diagram.)

UNIT DIMENSIONS (DCE and DCG – 3, 4 & 5 TON)



All dimensions are in inches. They are subject to change without notice. Certified dimensions will be provided upon request.



CLEARANCES

Front	DCE Units	24"
	DCG Units	26"
Back		12" (Less Economizer)
		36" (With Economizer)
Left Side (Filter Access)		30"
Right Side (Cond. Coil)		18"
Below Unit ¹		0"
Above Unit ²		72" (For Condenser Air Discharge)

¹Units may be installed on combustible floors made from wood or class A, B or C roof covering material.

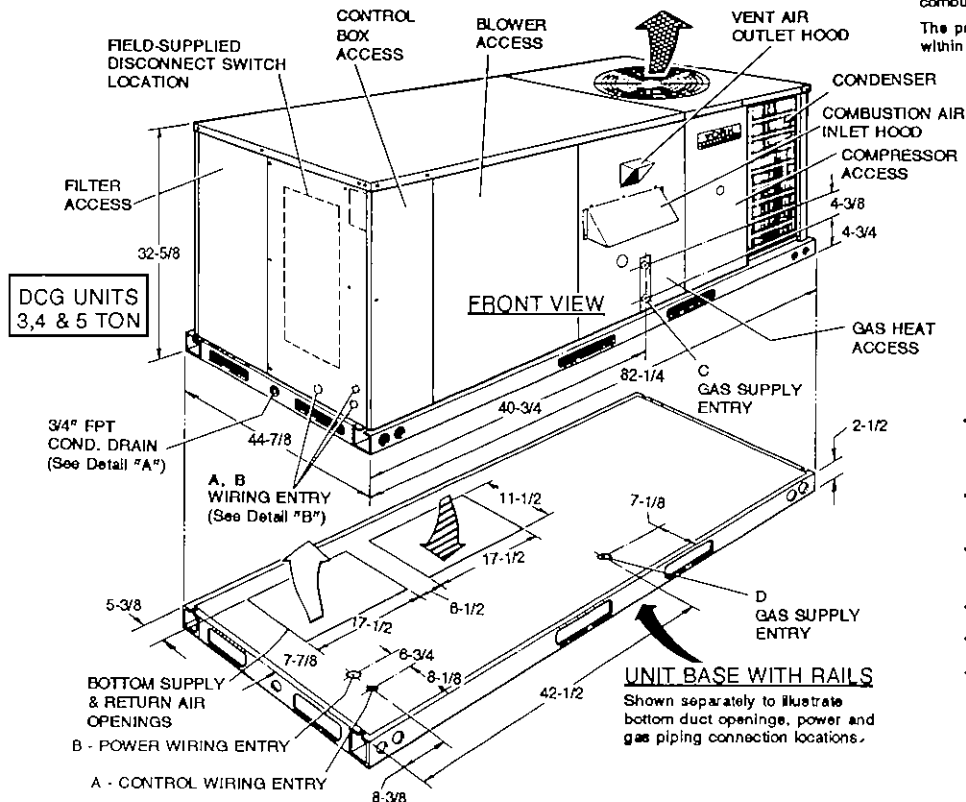
²Units must be installed outdoors. Overhanging structures or shrubs should not obstruct condenser air discharge outlet.

NOTE:

DCE Models: Units and ductwork are approved for zero clearance to combustible materials when equipped with electric heaters.

DCG Models: A 1" clearance must be provided between any combustible material and the supply air ductwork.

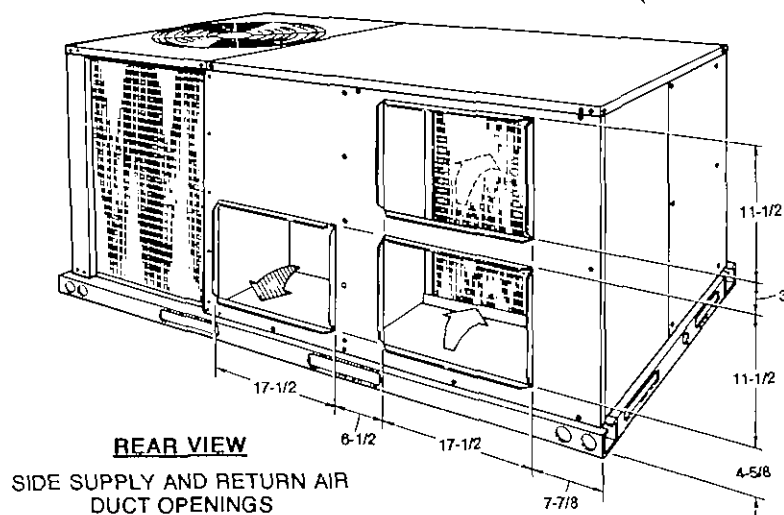
The products of combustion must not be allowed to accumulate within a confined space and recirculate.



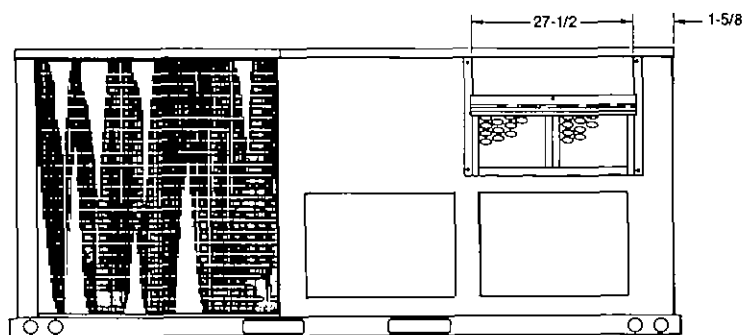
UTILITIES ENTRY DATA

HOLE	KNOCKOUT SIZE (DIA.)	USED FOR
A	7/8"	Control Wiring (Side or Bottom)
B	2"	Power Wiring (Side or Bottom)
C	1-5/8"	Gas Piping (Front)
D	2"	Gas Piping (Bottom)

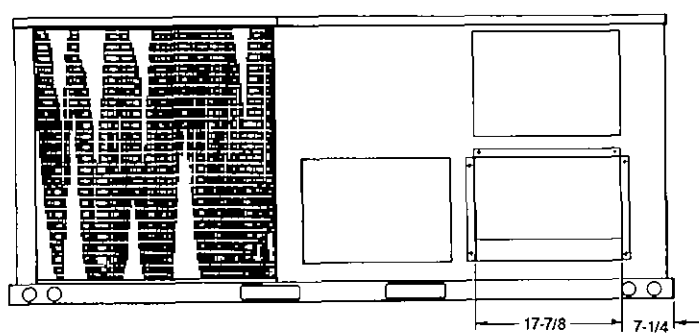
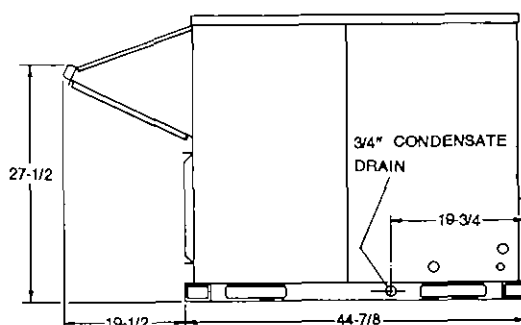
UNIT DIMENSIONS – CONT'D. (DCE and DCG – 3, 4 & 5 TON)



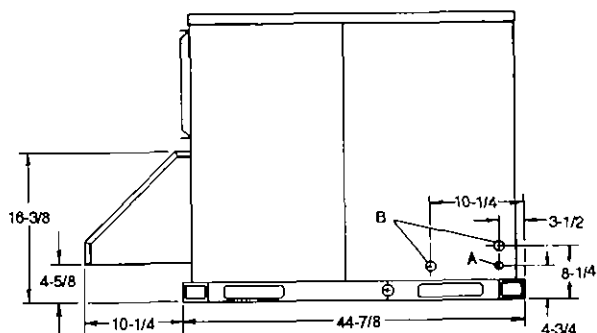
DUCT COVERS – Units are shipped with all air duct openings covered. For side air applications, remove and discard the two side covers – connect ductwork to duct flanges on the unit. For bottom air applications, remove the side supply air duct cover to gain access to the bottom supply air duct cover. Remove and discard the bottom duct cover. Replace the side duct cover. With filter section access panel removed from the unit, remove and discard the bottom return air duct cover. Ductwork may be attached to the roof curb or directly to the unit underside. Replace the filter access panel.



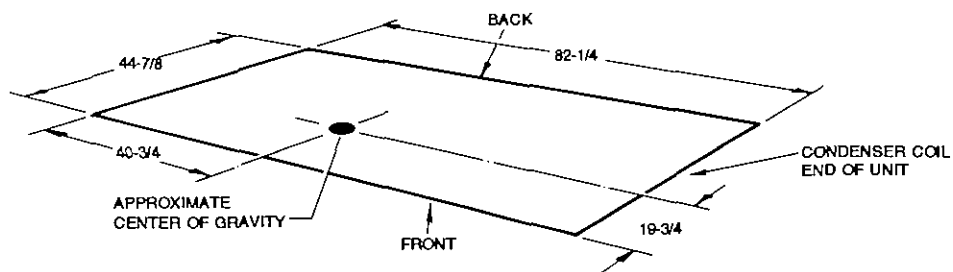
REAR VIEW **DETAIL "A"**
UNIT WITH ECONOMIZER RAIN HOOD



REAR VIEW **DETAIL "B"**
UNIT WITH FIXED OUTDOOR AIR / BAROMETRIC RELIEF RAINHOOD

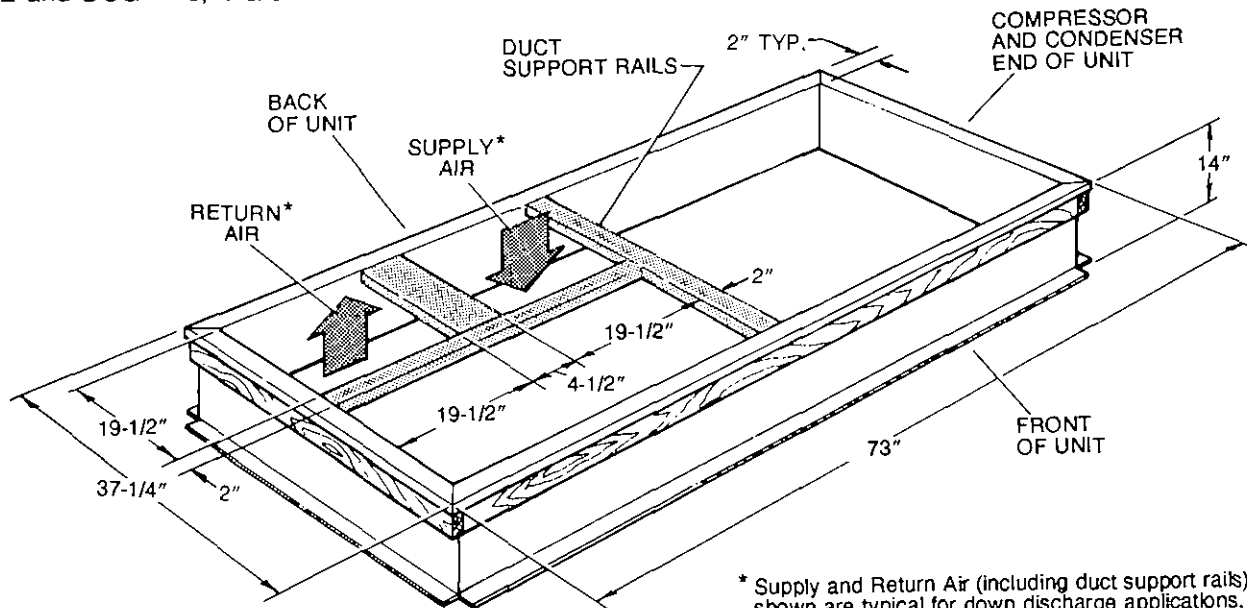


CENTER OF GRAVITY
DCE and DCG
3, 4 & 5 TON



ROOF CURB DIMENSIONS

DCE and DCG - 3, 4 & 5 TON

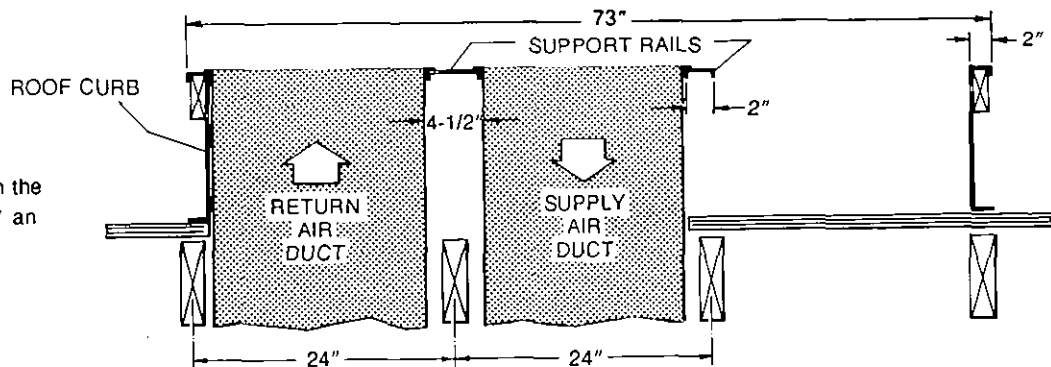


* Supply and Return Air (including duct support rails) shown are typical for down discharge applications.

For location of side discharge applications (on back of unit), refer to Unit Dimension details.

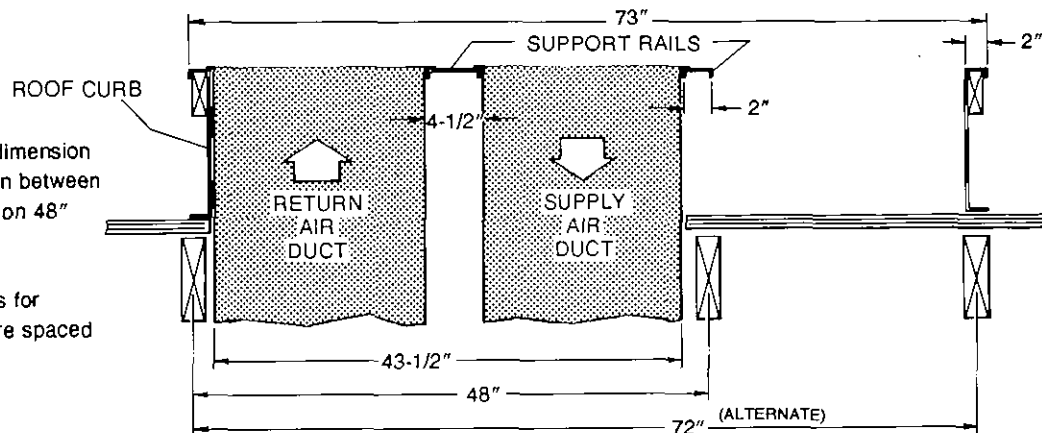
ROOF CURB BENEFITS

FRONT VIEW (3-JOIST SUPPORT)



The 4-1/2" space between the ducts allows for "jumping" an existing roof joist.

FRONT VIEW (2-JOIST SUPPORT)

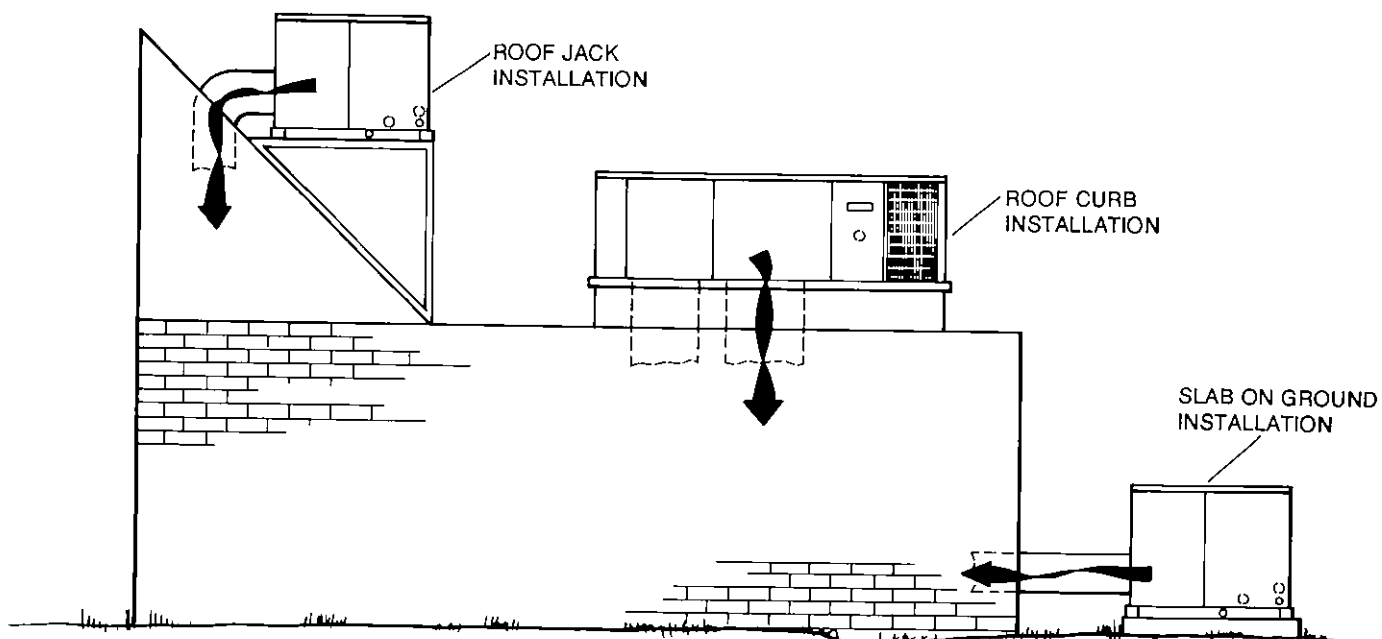


The 43-1/2" overall duct dimension allows ductwork penetration between roof joists that are spaced on 48" centers.

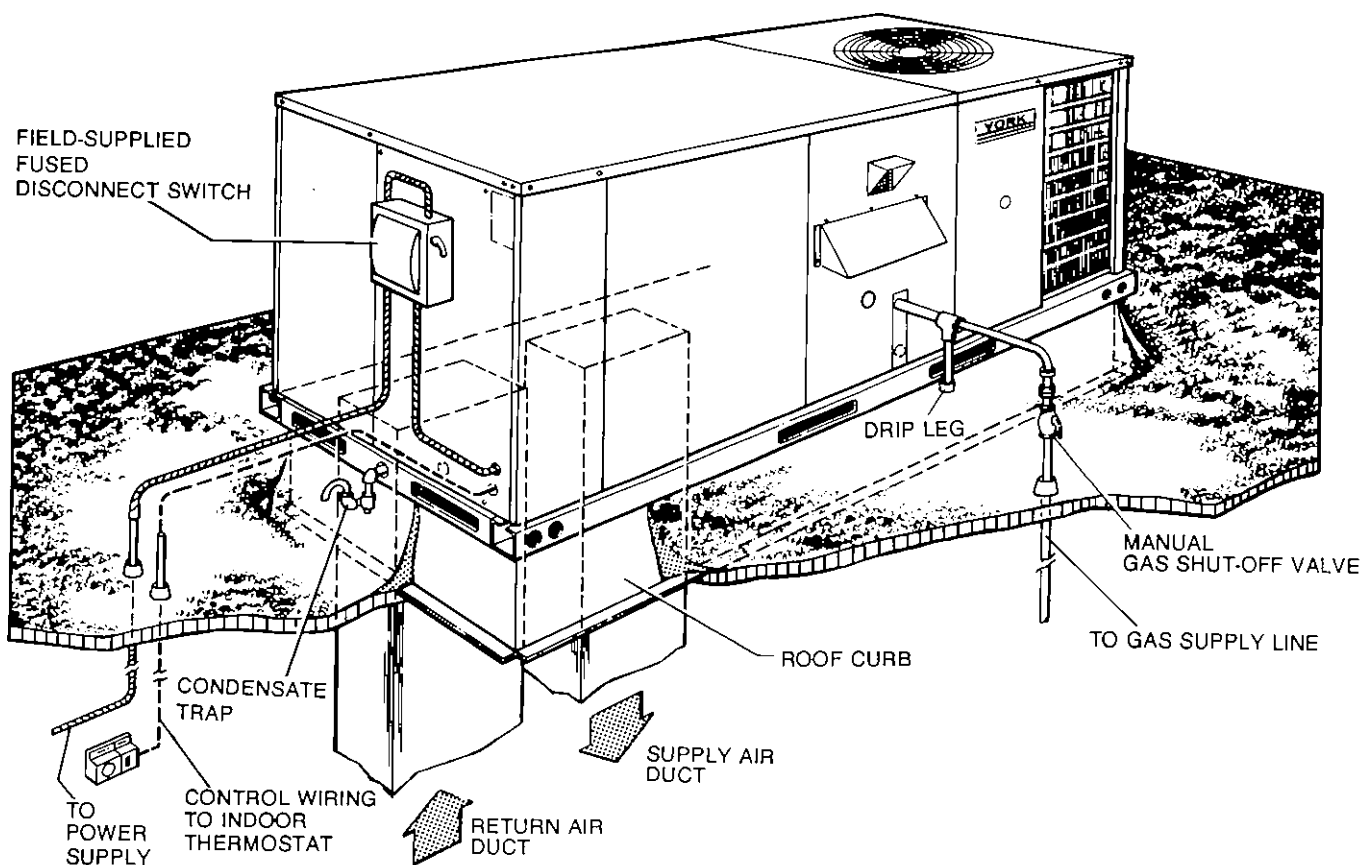
The 73" curb length allows for spanning roof joists that are spaced on 72" centers.

NOTE: Both supply air and return air duct openings are square and are the same size, providing easy duct installation. Ducts can be installed onto the curb from the roof. All electrical wiring and gas line connections can be made inside the curb.

TYPICAL APPLICATIONS



TYPICAL ROOF-TOP INSTALLATION (MODEL DCG SHOWN)



Supersedes: 530.18-AS1Y (1086), 530.18-AS2Y (1086)

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Codes: EBY, EGY

530.18-TG1Y

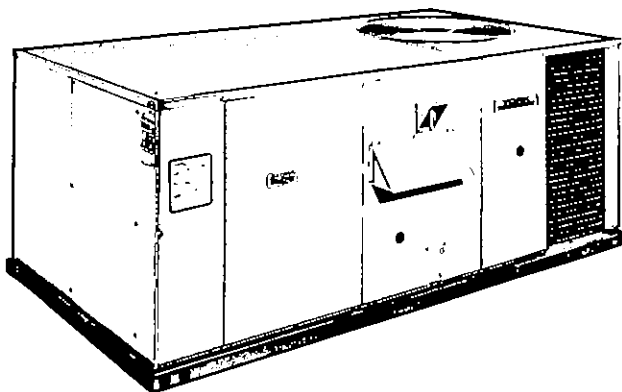
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YORK®
Heating and Air Conditioning

YORK®



SUNLINE 2000™

SINGLE PACKAGE AIR-COOLED AIR CONDITIONERS

D1CE / D1CG 036, 048 & 060
3, 4 AND 5 NOMINAL TONS

DESCRIPTION

YORK Sunline 2000 units are the industry's first line of convertible single package units with a minimum 9.00 SEER, common cabinet and common roof curb for the 3, 4 and 5 ton sizes. The units were designed for residential and light commercial applications. They can easily be installed on a roof curb, slab, roof jack or frame.

All units are self-contained and assembled on rigid full perimeter base rails allowing for 3-way fork lift access and overhead rigging. Every unit is completely charged, wired, piped and tested at the factory to provide for a quick and easy field installation.

The units are available in the following configurations: cooling only, cooling with electric heat and cooling with gas heat. Electric heaters are available as factory installed options and field-installed accessories.

Both down and side discharge airflows are available without having to swap panels. The installer simply removes the duct covers for the desired configuration. Economizers may be used on either side or down discharge applications with no modifications required.

All models include a 1-year limited warranty on the complete unit. Compressors, gas-fired heat exchangers and electric heater elements each carry an additional 4-year warranty. An optional 6th thru 10th year heat exchanger protection plan may also be purchased.

FEATURES

COMMON FOOTPRINT / COMMON CABINET – The cooling only, cooling with electric heat and gas / electric 3, 4 and 5 ton units all share the exact same cabinet – and therefore the same roof curb. You now have the flexibility of setting one curb and, after the internal load has been determined, placing the proper tonnage unit on that curb. You can even decide between gas or electric heat after the curb has been set.

HIGH EFFICIENCY – All unit have a minimum SEER of 9.00. Gas / electric units have a minimum steady state efficiency of 80%. These efficiencies exceed all legislated minimum levels and provide low operating costs.

CONVERTIBLE AIRFLOW DESIGN – Both the side and bottom duct openings are covered when they leave the factory. If a side supply / side return is desired you simply remove the two side duct covers from the outside of the unit and discard them. If a bottom supply / return is desired you simply remove the two bottom duct covers and discard them. No panel cutting or swapping is required! Convertible airflow design allows maximum field flexibility and minimum inventory.

FACTORY INSTALLED OPTIONS – Economizers and electric heaters can be installed at the factory. The economizers are shipped installed and wired. The outdoor air hood needs only to be field assembled and installed. Electric heaters come standard with single point power connections. Field labor dollars can be saved by having the components arrive already installed.

FIELD INSTALLED ACCESSORIES – Accessories were designed for quick and easy installation. The motorized damper and economizers simply slide in and electrical connections are made by modular plugs. Electric heaters mount easily and knockouts are provided in the internal partitions to connect the elements to the control box single point kit.

The 14" high roof curb is shipped knocked down. A roof curb deck is not required because the bottom of the unit is insulated.

A propane conversion kit and low Nox kit are also available to cover all gas heating applications.

WIDE RANGE OF INDOOR AIRFLOWS – All models operate from 300 to 500 cfm / ton. All units can produce 0.80" ESP at nominal cfm with the standard fan motor. All indoor fan motors are 3-speed direct-drive type providing maximum flexibility to handle most airflow requirements.

FULL PERIMETER BASE RAILS – The permanently attached base rails provide a solid foundation for the entire unit and protect the unit during shipment. The rails provide fork lift access from 3 sides and rigging holes are also provided so that an overhead crane can be used to place the units on a roof.

Cont'd.

FEATURES – CONT'D.

UTILITY CONNECTIONS MADE EASY – Gas and electric utility knockouts are provided in the unit underside as well as the side of the unit. A clearly identified location is provided to mount a field supplied electrical disconnect switch. Utility connections can be made quickly and with a minimum amount of field labor.

SIMPLE CONTROL CIRCUIT – A low voltage printed circuit board contains a compressor lockout indicator light and low voltage terminal strip. An additional set of pin connectors is also provided so that field interface of external controls will be simplified. A suction line freezeestat is supplied on all units to protect against loss of charge and coil frosting due to low economizer outdoor air temperature while the compressor is running. Mate-n-lock plug connectors are used where line and low voltage wires pass

thru internal bulkheads. This allows for easier troubleshooting and component replacement. The electrical control box is not located in the compressor compartment so the access cover can be removed for troubleshooting without affecting the normal system operating pressures.

AIR FILTERS – Units come standard with 1" throwaway filters. The unit filter tracks can accommodate 1" or 2" filters without any modifications.

SYSTEM PROTECTION – Crankcase heaters and internal compressor protection are standard on all compressors. Every unit has a liquid line filter-drier and suction line freezeestat to protect all system components. The units will operate down to 45°F without any additional low ambient controls.

YORK® SUNLINE 2000™

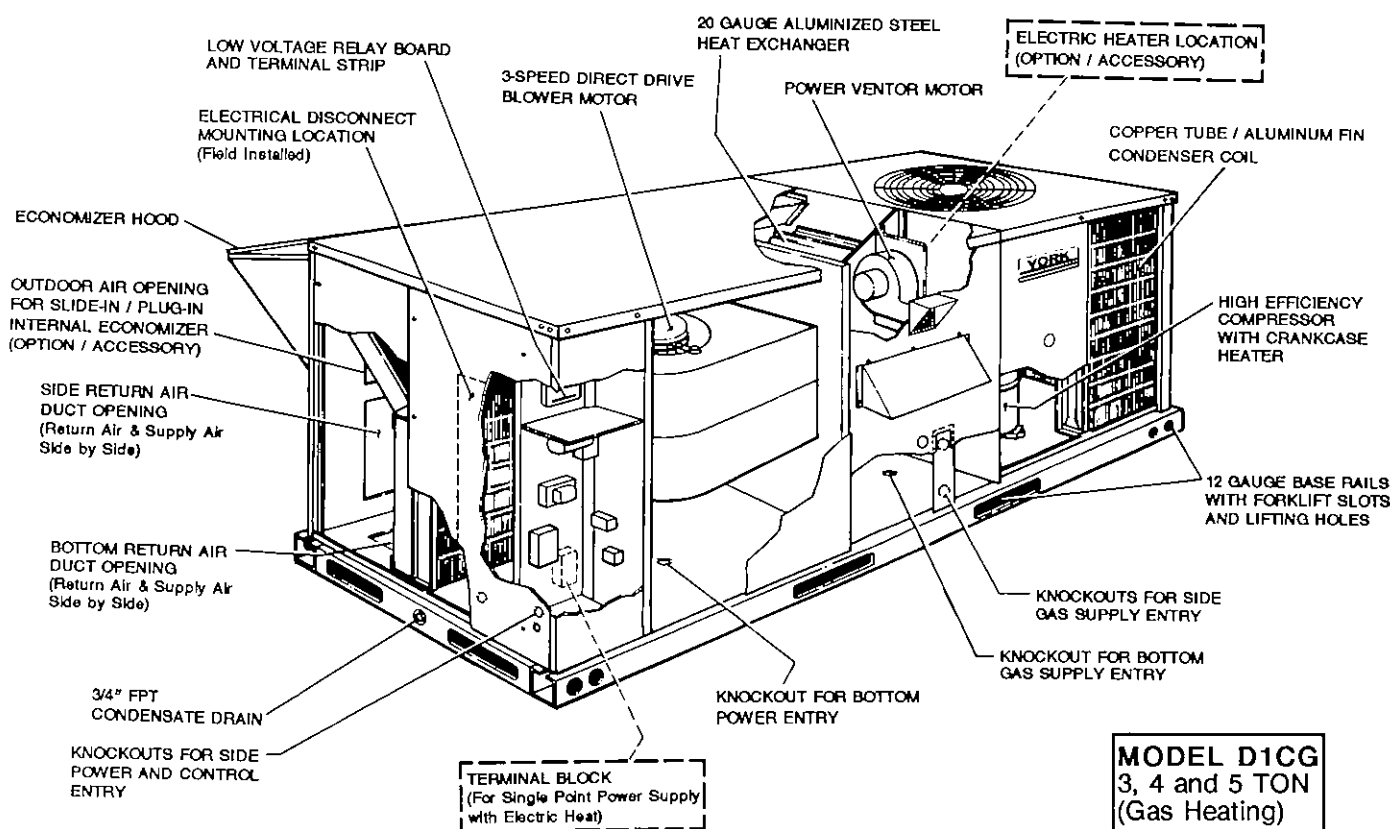


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ARI RATINGS

CAPACITY RATINGS* – Cooling / Electric Heating

MODEL	COOLING CAPACITY 80 / 67-95°F			ELECTRIC HEAT NOM. CAPACITY KW
	MBH	SEER	EER	
D1CE036	40	9.15	8.65	5, 10, 15, 20
D1CE048	48	9.10	8.80	5, 10, 15, 20
D1CE060	59	9.15	8.80	5, 10, 15, 20, 30



ELECTRIC HEATERS MAY NOT BE FIELD-INSTALLED
IN CANADA – THEY MUST BE INSTALLED AT AN
AUTHORIZED FACTORY.

CAPACITY RATINGS* – Cooling / Gas Heating

MODEL	COOLING CAPACITY 80 / 67-95°F			GAS HEAT CAPACITY								
				INPUT (MBH)	OUTPUT (MBH)		AFUE (%)	S.S.E. (%)		S.E. (%)	TEMP. RISE (°F)	GAS LINE SIZE (in. OD)
	MBH	SEER	EER		1Ø	3Ø		1Ø	3Ø			
D1CG036N041	40	9.05	8.65	50	41	42	80.0	82.0	83.8	72.1	15 – 45	1/2
D1CG036N082	40	9.05	8.65	100	82	81	75.0	82.0	80.6	71.2	40 – 70	1/2
D1CG048N062	48	9.00	8.70	75	62	62	77.7	82.0	82.2	71.9	25 – 55	1/2
D1CG048N103	48	9.00	8.70	125	103	101	74.1	82.0	80.6	71.2	45 – 75	1/2
D1CG060N082	58	9.00	8.65	100	82	82	76.1	82.0	82.2	71.7	25 – 55	1/2
D1CG060N103	58	9.00	8.65	125	103	101	74.9	82.0	81.1	71.4	35 – 65	1/2

- * Ratings are in accordance with ARI Standard 210.
- SEER – Seasonal Energy Efficiency Ratio – the total cooling output in BTU's during a normal annual usage period for cooling divided by the total electric power input in watt-hours during the same period.
- EER – Energy Efficiency Ratio – the cooling capacity in Btu's per hour (Btuh) divided by the power input in watts at any given set of rating conditions, expressed in Btuh per watt (Btuh/watt).
- AFUE – Annual Fuel Utilization Efficiency – determined in accordance with DOE test procedure.
- S.S.E. – Steady State Efficiency. (Percent Output)
- S.E. – California Seasonal Efficiency – determined in accordance with test procedures as specified by the State of California Energy Commission. Furnaces are available with a low NOx accessory.



PHYSICAL DATA

BASIC UNITS

MODELS		DCE and DCG		
		036	048	060
EVAPORATOR BLOWER	CENTRIFUGAL BLOWER (Dia. x Wd. in.) FAN MOTOR HP MAX. EXT. SP @ NOM. CFM	11 x 9 1/2 0.90	11 x 9 3/4 0.80	11 x 9 1 0.80
EVAPORATOR COIL	ROWS DEEP FINS PER INCH FACE AREA (Sq. Ft.)	4 15 3.6	4 15 4.3	4 14 5.1
CONDENSER FAN	PROPELLER DIA. (in.) FAN MOTOR HP NOM. CFM TOTAL	24 1/2 4500	24 1/2 4200	24 1/2 4500
CONDENSER COIL	ROWS DEEP FINS PER INCH FACE AREA (Sq. Ft.) TOTAL SURFACE (Sq. Ft.)	1 16 17.3 17.3	2 16 13.6 26.9	2 16 15.9 31.2
AIR FILTERS (SEE NOTE)	QUANTITY PER UNIT (14" X 20" X 1") QUANTITY PER UNIT (14" X 25" X 1") TOTAL FACE AREA (sq. ft.)	2 1 6.3	2 1 6.3	2 1 6.3
CHARGE	REFRIGERANT 22 (lbs./oz.)	6/4	8/4	9/10

NOTE: Filter racks are adapted for 1" or 2" thick filters.

COOLING CAPACITIES – 3 TON (DCE / DCG036)

Air On Evaporator Coil		Temperature of Air on Condenser Coil																	
		85°F										95°F							
		Total Cap. ¹ MBH	Power Input ² KW	Sensible Capacity ¹ , MBH								Total Cap. ¹ MBH	Power Input ² KW	Sensible Capacity ¹ , MBH					
Entering Dry Bulb, °F								Entering Dry Bulb, °F											
CFM	WB °F			86	83	80	77	74	71	68			86	83	80	77	74	71	68
900	72	41	3.6	24	21	19	16	—	—	—	39	3.9	24	21	19	16	—	—	—
	67	39	3.6	30	27	25	23	20	18	—	36	3.9	29	26	24	21	19	17	—
	62	36	3.5	35	33	30	28	25	23	20	33	3.8	32	32	29	27	24	22	19
	57	36	3.5	36	34	32	29	27	24	22	32	3.7	32	32	30	27	25	23	20
1050	72	43	3.7	26	23	20	18	—	—	—	41	4.0	26	23	20	17	—	—	—
	67	40	3.6	33	30	27	24	21	19	—	38	3.9	31	29	26	23	20	17	—
	62	37	3.6	37	36	33	30	27	24	21	35	3.8	34	34	32	29	26	23	20
	57	37	3.5	37	37	34	32	29	26	23	34	3.8	34	34	32	29	27	24	21
1200	72	45	3.7	29	25	22	19	—	—	—	43	4.1	28	25	22	19	—	—	—
	67	42	3.7	36	32	29	26	23	20	—	40	4.0	34	31	28	24	21	18	—
	62	39	3.6	39	39	35	32	29	26	22	36	3.9	36	36	34	31	27	24	21
	57	39	3.6	39	39	37	34	31	27	24	36	3.9	36	36	35	32	28	25	22
1400	72	47	3.8	32	28	24	21	—	—	—	46	4.1	31	27	24	20	—	—	—
	67	44	3.7	39	36	32	28	25	21	—	43	4.0	37	34	30	27	23	19	—
	62	41	3.6	41	41	39	35	31	28	24	39	3.9	38	38	37	33	30	26	22
	57	41	3.6	41	41	41	37	33	30	26	38	3.9	38	38	38	34	31	27	23
1500	72	48	3.8	33	29	25	21	—	—	—	46	4.1	32	29	25	21	—	—	—
	67	45	3.8	41	37	33	29	25	21	—	43	4.0	39	35	31	27	23	20	—
	62	41	3.7	41	41	40	36	32	28	24	39	4.0	39	39	38	34	30	26	22
	57	41	3.6	41	41	41	37	33	29	26	39	3.9	39	39	39	35	31	27	23
1750	72	49	3.9	36	31	27	22	—	—	—	48	4.2	35	31	27	22	—	—	—
	67	47	3.8	43	40	35	31	27	22	—	45	4.1	39	38	34	30	25	21	—
	62	44	3.7	43	43	42	38	34	30	25	41	4.1	40	40	39	36	32	27	23
	57	43	3.7	43	43	43	38	34	30	25	40	4.0	40	40	40	36	32	27	23

Air On Evaporator Coil		Temperature of Air on Condenser Coil																			
		105°F										115°F									
		Total Cap. ¹ MBH	Power Input ² KW	Sensible Capacity ¹ , MBH								Total Cap. ¹ MBH	Power Input ² KW	Sensible Capacity ¹ , MBH							
CFM	WB °F			Entering Dry Bulb, °F										Entering Dry Bulb, °F							
						86	83	80	77	74	71	68			86	83	80	77	74	71	68
900	72	37	4.2	22	20	18	15	—	—	—	36	4.5	21	19	16	14	—	—	—		
	67	34	4.2	27	25	23	20	18	15	—	31	4.4	26	24	21	19	16	14	—		
	62	31	4.1	31	29	27	25	22	20	17	29	4.3	29	27	25	22	20	17	15		
	57	31	4.0	31	30	27	25	22	20	17	29	4.3	29	27	25	22	20	17	15		
1050	72	39	4.3	25	22	19	16	—	—	—	37	4.5	24	21	18	15	—	—	—		
	67	35	4.2	30	27	25	22	19	16	—	32	4.4	29	26	23	20	18	15	—		
	62	32	4.1	32	32	29	27	24	21	18	30	4.4	30	30	27	24	22	19	16		
	57	32	4.1	32	32	30	27	24	21	18	30	4.3	30	30	27	24	23	19	16		
1200	72	41	4.4	27	24	21	17	—	—	—	39	4.6	26	23	19	16	—	—	—		
	67	37	4.3	32	30	27	23	20	17	—	33	4.5	30	29	25	22	19	16	—		
	62	34	4.2	33	33	32	29	25	22	19	31	4.5	31	31	30	26	23	20	17		
	57	33	4.2	33	33	32	29	26	22	19	31	4.4	31	31	30	26	23	20	17		
1400	72	43	4.4	30	26	23	19	—	—	—	41	4.6	29	25	22	18	—	—	—		
	67	39	4.3	36	33	29	25	22	18	—	35	4.5	32	32	28	24	21	17	—		
	62	36	4.2	36	35	35	31	27	24	20	33	4.5	33	33	33	29	25	22	18		
	57	36	4.2	36	35	35	32	28	24	20	33	4.4	33	33	33	29	25	22	18		
1500	72	44	4.4	31	27	23	20	—	—	—	41	4.6	30	26	22	18	—	—	—		
	67	39	4.3	35	34	30	26	22	18	—	35	4.5	32	33	29	25	21	17	—		
	62	36	4.3	36	36	36	32	28	24	20	34	4.5	33	33	33	29	25	21	18		
	57	36	4.2	36	36	36	32	28	24	20	33	4.4	33	33	33	29	25	21	19		
1750	72	45	4.5	34	30	26	21	—	—	—	43	4.7	33	29	25	20	—	—	—		
	67	41	4.4	37	37	33	29	24	20	—	37	4.6	34	34	32	28	23	19	—		
	62	38	4.4	38	38	37	33	29	24	20	35	4.6	35	34	34	30	26	21	17		
	57	38	4.3	38	38	37	33	29	24	20	35	4.5	35	34	34	30	26	21	17		

¹These capacities are gross ratings. For net capacity, determine the KW of the supply air blower motor from the Blower Performance Table, multiply this value by 3.415 MBH / KW to determine the motor heat, and deduct this heat from the gross capacity of the unit.

²These ratings include the compressor and the condenser fan motors but not the supply air blower motor. The total condenser fan motor power input is 0.35 KW. Refer to the Blower Performance Table for the KW of the supply air blower motor.

ALL SENSIBLE CAPACITY

COOLING CAPACITIES – 4 TON (DCE / DCG048)*

Air On Evaporator		Temperature of Air on Condenser Coil																			
Coil		Total Cap. ¹ MBH	Power Input ² KW	85°F								Total Cap. ¹ MBH	Power Input ² KW	95°F							
CFM	WB °F			Sensible Capacity ¹ , MBH										Sensible Capacity ¹ , MBH							
				Entering Dry Bulb, °F										Entering Dry Bulb, °F							
				86	83	80	77	74	71	68			86	83	80	77	74	71	68		
1200	72	50	4.1	30	27	24	20	—	—	—	47	4.4	31	28	24	21	—	—	—		
	67	47	4.1	38	34	31	28	24	21	—	45	4.4	38	35	32	28	25	22	—		
	62	44	4.0	44	41	38	34	31	28	24	40	4.3	40	40	39	35	32	29	25		
	57	44	3.9	44	43	40	36	33	30	26	40	4.2	40	40	39	36	33	29	26		
1400	72	52	4.2	34	30	26	22	—	—	—	50	4.5	34	30	26	23	—	—	—		
	67	49	4.1	42	38	35	31	27	23	—	47	4.5	42	38	34	30	27	23	—		
	62	46	4.0	46	46	42	38	34	30	27	43	4.4	42	42	41	38	34	30	26		
	57	46	4.0	46	46	44	40	36	32	29	42	4.3	42	42	41	39	35	31	27		
1600	72	55	4.2	37	33	29	24	—	—	—	53	4.6	37	33	28	24	—	—	—		
	67	52	4.1	47	42	38	34	29	25	—	50	4.5	44	41	37	32	28	24	—		
	62	49	4.0	49	49	46	42	37	33	29	45	4.4	45	45	45	40	36	32	28		
	57	49	4.0	49	49	48	44	40	35	31	45	4.4	45	45	45	41	37	33	28		
1800	72	56	4.3	40	35	30	25	—	—	—	54	4.7	39	35	30	25	—	—	—		
	67	53	4.2	49	45	40	35	30	26	—	51	4.6	47	44	39	34	29	25	—		
	62	49	4.1	49	49	48	44	39	34	29	47	4.6	47	47	46	42	37	32	27		
	57	49	4.1	49	49	49	44	40	35	30	47	4.5	47	47	47	42	37	32	28		
2000	72	57	4.4	42	37	32	26	—	—	—	56	5.5	42	37	32	26	—	—	—		
	67	54	4.2	50	47	42	37	32	26	—	53	5.4	47	46	41	36	31	26	—		
	62	50	4.2	50	50	50	45	40	35	30	49	5.4	48	48	48	43	37	33	27		
	57	50	4.1	50	50	50	45	40	35	29	48	5.3	48	48	48	43	38	32	27		

Air On		Temperature of Air on Condenser Coil																			
Evaporator		105°F										115°F									
Coil		Total Cap. ¹ MBH	Power Input ² KW	Sensible Capacity ¹ , MBH								Total Cap. ¹ MBH	Power Input ² KW	Sensible Capacity ¹ , MBH							
CFM	WB °F			Entering Dry Bulb, °F										Entering Dry Bulb, °F							
				86	83	80	77	74	71	68	86			83	80	77	74	71	68		
1200	72	45	4.6	29	26	23	19	—	—	—	43	5.1	27	24	21	17	—	—	—		
	67	41	4.6	36	33	29	26	23	19	—	37	4.9	34	30	27	24	20	17	—		
	62	38	4.5	37	37	35	31	28	25	21	35	4.8	34	34	31	28	24	21	18		
	57	37	4.4	37	37	35	32	28	25	22	34	4.8	34	34	31	28	24	21	18		
1400	72	48	4.7	33	29	25	21	—	—	—	45	5.2	31	27	24	20	—	—	—		
	67	44	4.7	40	36	32	29	25	21	—	40	5.0	36	34	31	27	23	19	—		
	62	41	4.6	40	40	38	34	31	27	23	37	4.9	36	36	35	31	27	24	20		
	57	40	4.5	40	40	38	35	31	27	23	36	4.9	36	36	35	31	27	24	20		
1600	72	51	4.8	36	32	27	23	—	—	—	48	5.2	35	31	26	22	—	—	—		
	67	46	4.7	41	40	35	31	27	23	—	42	5.0	38	38	34	30	25	21	—		
	62	43	4.6	42	42	42	38	33	29	25	39	5.0	39	39	39	35	30	26	22		
	57	42	4.6	42	42	42	38	34	29	25	39	4.9	39	39	39	35	30	26	22		
1800	72	52	4.9	38	34	29	24	—	—	—	49	5.3	37	33	28	23	—	—	—		
	67	47	4.8	42	42	38	33	28	23	—	43	5.1	38	37	36	32	27	22	—		
	62	43	4.7	43	43	43	38	34	29	24	40	5.1	39	39	39	35	30	26	21		
	57	43	4.7	43	43	43	38	34	29	24	39	5.0	39	39	39	35	30	26	21		
2000	72	53	4.9	41	36	31	26	—	—	—	50	5.3	39	35	30	25	—	—	—		
	67	48	4.8	43	43	40	35	30	24	—	44	5.1	39	39	39	33	28	23	—		
	62	45	4.8	44	44	44	39	34	29	24	41	5.1	40	40	40	35	30	25	20		
	57	44	4.7	44	44	44	39	34	29	24	40	5.0	40	40	40	35	30	25	20		

* TOTAL CAPACITIES (MBH) AS INDICATED REPRESENT VALUES FOR GAS HEATING APPLICATIONS (MODELS DCG).
ADD 0.5 MBH TO THESE VALUES TO OBTAIN TOTAL CAPACITIES FOR COOLING ONLY AND COOLING / ELECTRIC
HEATING APPLICATIONS (MODELS DCE).

¹ These capacities are gross ratings. For net capacity, determine the KW of the supply air blower motor from the Blower Performance Table, multiply this value by 3.415 MBH / KW to determine the motor heat, and deduct this heat from the gross capacity of the unit.

² These ratings include the compressor and the condenser fan motors but not the supply air blower motor. The total condenser fan motor power input is 0.46 KW. Refer to the Blower Performance Table for the KW of the supply air blower motor.

ALL SENSIBLE CAPACITY

COOLING CAPACITIES – 5 TON (DCE / DCG060)*

Air On Evaporator Coil		Temperature of Air on Condenser Coil																			
		85°F										95°F									
		Total Cap. ¹ MBH	Power Input ² KW	Sensible Capacity ¹ , MBH								Total Cap. ¹ MBH	Power Input ² KW	Sensible Capacity ¹ , MBH							
				Entering Dry Bulb, °F										Entering Dry Bulb, °F							
CFM	WB °F			86	83	80	77	74	71	68			86	83	80	77	74	71	68		
1500	72	62	5.0	38	34	30	26	–	–	–	59	5.3	41	36	32	28	–	–	–		
	67	59	5.0	48	44	40	35	31	27	–	56	5.3	51	47	43	38	34	30	–		
	62	55	4.9	54	52	48	44	40	35	31	52	5.2	51	51	50	47	43	39	35		
	57	54	4.8	54	54	50	46	42	37	33	51	5.1	51	51	51	47	43	39	35		
1750	72	64	5.0	42	37	32	27	–	–	–	62	5.4	43	38	33	29	–	–	–		
	67	60	5.0	53	48	43	38	33	28	–	58	5.3	52	49	44	39	35	30	–		
	62	57	4.9	56	56	52	47	42	38	33	54	5.2	53	52	52	49	44	39	34		
	57	56	4.9	56	56	54	50	45	40	35	53	5.2	53	53	52	49	44	39	34		
2000	72	66	5.1	46	40	35	29	–	–	–	64	5.4	46	40	35	29	–	–	–		
	67	62	5.0	57	52	46	41	35	30	–	61	5.4	55	51	46	40	35	30	–		
	62	58	4.9	58	58	56	51	45	40	34	56	5.3	56	54	54	50	45	39	34		
	57	58	4.9	58	58	58	53	48	42	37	56	5.2	56	55	54	50	45	39	34		
2250	72	67	5.1	49	42	36	30	–	–	–	65	5.4	49	43	37	31	–	–	–		
	67	63	5.1	58	55	49	42	36	30	–	62	5.4	55	54	48	42	36	30	–		
	62	60	5.0	59	59	59	53	47	41	34	57	5.3	56	56	54	51	45	39	33		
	57	59	5.0	59	59	59	53	47	41	35	56	5.3	56	56	55	51	45	39	33		
2500	72	68	5.2	51	45	38	32	–	–	–	67	5.5	52	45	38	32	–	–	–		
	67	64	5.1	59	57	51	44	38	31	–	63	5.4	56	56	51	44	38	31	–		
	62	61	5.1	60	60	60	54	48	41	35	59	5.4	57	57	55	52	46	39	32		
	57	60	5.0	60	60	60	54	49	41	35	57	5.3	57	57	56	52	46	39	32		

Air On Evaporator Coil		Temperature of Air on Condenser Coil																			
		105°F										115°F									
		Total Cap.1** MBH	Power Input 2 KW	Sensible Capacity 1, MBH								Total Cap.1** MBH	Power Input 2 KW	Sensible Capacity 1, MBH							
				Entering Dry Bulb, °F										Entering Dry Bulb, °F							
CFM	WB °F			86	83	80	77	74	71	68			86	83	80	77	74	71	68		
1500	72	56	5.7	38	34	30	25	-	-	-	52	6.1	36	31	27	23	-	-	-		
	67	51	5.6	46	43	39	35	30	26	-	47	5.9	41	39	35	31	26	22	18		
	62	48	5.5	47	47	45	41	37	33	29	43	5.8	42	42	39	35	30	26	22		
	57	47	5.4	47	47	45	41	37	33	28	42	5.7	42	42	39	35	31	27	22		
1750	72	59	5.8	41	36	32	27	-	-	-	55	6.2	40	35	30	25	-	-	-		
	67	54	5.7	48	46	42	37	32	27	-	49	6.0	43	43	39	34	29	24	-		
	62	50	5.6	49	49	49	44	39	34	30	45	5.9	44	44	43	38	33	28	24		
	57	49	5.5	49	49	49	44	39	34	30	44	5.8	44	44	43	39	34	29	24		
2000	72	61	5.9	45	39	34	28	-	-	-	58	6.3	44	38	33	27	-	-	-		
	67	56	5.7	50	50	44	39	33	28	-	52	6.0	45	45	42	37	32	26	-		
	62	51	5.6	51	51	50	46	41	36	30	47	5.9	46	46	45	42	36	31	26		
	57	51	5.6	51	51	51	46	41	36	30	46	5.9	46	46	45	42	37	32	26		
2250	72	62	5.9	48	42	36	30	-	-	-	59	6.3	45	41	35	29	-	-	-		
	67	58	5.8	51	51	47	41	35	29	-	54	6.1	46	45	44	39	33	27	-		
	62	52	5.7	52	52	51	46	41	35	28	48	6.0	47	47	45	42	36	30	24		
	57	52	5.6	52	52	52	46	41	35	29	47	5.9	47	47	46	42	36	30	24		
2500	72	63	6.0	50	44	38	31	-	-	-	60	6.4	46	44	37	31	-	-	-		
	67	59	5.8	51	50	50	43	36	30	-	54	6.1	47	45	45	41	35	28	-		
	62	54	5.7	52	52	52	47	40	33	27	48	6.0	48	48	46	42	36	29	23		
	57	52	5.7	52	52	52	47	41	34	27	48	6.0	48	48	47	42	36	29	23		

* TOTAL CAPACITIES (MBH) AS INDICATED REPRESENT VALUES FOR GAS HEATING APPLICATIONS (MODELS DCG).
ADD 1.0 MBH TO THESE VALUES TO OBTAIN TOTAL CAPACITIES FOR COOLING ONLY AND COOLING / ELECTRIC
HEATING APPLICATIONS (MODELS DCE).

¹ These capacities are gross ratings. For net capacity, determine the KW of the supply air blower motor from the Blower Performance Table, multiply this value by 3.415 MBH / KW to determine the motor heat, and deduct this heat from the gross capacity of the unit.

² These ratings include the compressor and the condenser fan motors but not the supply air blower motor. The total condenser fan motor power input is 0.47 KW. Refer to the Blower Performance Table for the KW of the supply air blower motor.

ALL SENSIBLE CAPACITY

BLOWER PERFORMANCE

SUPPLY AIR BLOWER PERFORMANCE – SIDE DUCT APPLICATIONS (208 VOLTS)

MODEL DCE & DCG	MOTOR SPEED	Available External Static Pressure – IWG *																	
		0.20		0.30		0.40		0.50		0.60		0.70		0.80		0.90		1.00	
		CFM	Watts	CFM	Watts	CFM	Watts	CFM	Watts	CFM	Watts	CFM	Watts	CFM	Watts	CFM	Watts	CFM	Watts
036	HI	1495	810	1475	785	1450	760	1410	765	1345	685	1245	625	–	–	–	–	–	–
	MED	1300	685	1275	660	1250	635	1210	605	1155	575	1080	540	–	–	–	–	–	–
	LOW	1130	605	1115	585	1100	565	1070	545	–	–	–	–	–	–	–	–	–	–
048	HI	–	–	–	–	1780	840	1740	815	1690	790	1630	765	1570	740	–	–	–	–
	MED	–	–	–	–	1410	650	1390	635	1350	610	1300	590	1250	570	–	–	–	–
	LOW	–	–	1350	600	1320	585	1280	570	1235	555	1195	540	–	–	–	–	–	–
060	HI	–	–	2470	1260	2395	1205	2315	1155	2230	1110	2130	1060	2020	1005	1890	945	–	–
	MED	–	–	2205	1080	2145	1035	2085	995	2020	955	1940	910	1850	860	1730	805	–	–
	LOW	–	–	–	–	1990	965	1925	915	1860	870	1790	830	1710	785	1620	740	–	–

SUPPLY AIR BLOWER PERFORMANCE – BOTTOM DUCT APPLICATIONS (208 VOLTS)

MODEL DCE & DCG	MOTOR SPEED	Available External Static Pressure – IWG *																	
		0.20		0.30		0.40		0.50		0.60		0.70		0.80		0.90		1.00	
		CFM	Watts	CFM	Watts	CFM	Watts	CFM	Watts	CFM	Watts	CFM	Watts	CFM	Watts	CFM	Watts	CFM	Watts
036	HI	1475	785	1455	760	1400	725	1350	690	1240	630	–	–	–	–	–	–	–	–
	MED	1270	665	1275	640	1220	605	1160	580	1075	540	–	–	–	–	–	–	–	–
	LOW	1110	585	1100	565	1080	550	–	–	–	–	–	–	–	–	–	–	–	–
048	HI	–	–	1790	850	1750	825	1700	795	1630	770	1575	745	–	–	–	–	–	–
	MED	–	–	1400	655	1380	630	1345	610	1310	590	1260	575	–	–	–	–	–	–
	LOW	–	–	1280	560	1240	555	1220	550	1195	540	–	–	–	–	–	–	–	–
060	HI	–	–	2395	1205	2315	1155	2225	1110	2130	1060	2020	1005	1930	950	–	–	–	–
	MED	–	–	2150	1040	2090	1000	2025	960	1950	910	1860	870	1760	825	–	–	–	–
	LOW	–	–	–	–	1925	915	1860	870	1790	830	1710	785	1625	745	–	–	–	–

SUPPLY AIR BLOWER PERFORMANCE – SIDE DUCT APPLICATIONS (230/460 VOLTS)

MODEL DCE & DCG	MOTOR SPEED	Available External Static Pressure – IWG *																	
		0.20		0.30		0.40		0.50		0.60		0.70		0.80		0.90		1.00	
		CFM	Watts	CFM	Watts	CFM	Watts	CFM	Watts	CFM	Watts	CFM	Watts	CFM	Watts	CFM	Watts	CFM	Watts
036	HI	1770	865	1720	825	1665	795	1600	765	1540	735	1490	700	1380	670	1280	630	1170	590
	MED	1590	780	1550	750	1500	720	1450	690	1400	665	1360	650	1270	610	1185	580	1050	535
	LOW	1410	700	1370	675	1330	650	1290	625	1250	610	1220	600	1130	560	1060	555	–	–
048	HI	–	–	2000	1010	1950	975	1905	945	1840	910	1770	875	1660	825	1530	775	–	–
	MED	–	–	1700	825	1665	800	1620	775	1560	740	1480	700	1390	660	1280	620	–	–
	LOW	–	–	1555	740	1540	730	1510	715	1460	690	1400	660	1300	615	–	–	–	–
060	HI	–	–	2500	1400	2420	1350	2340	1300	2260	1250	2160	1190	2060	1135	1925	1065	1750	975
	MED	2300	1255	2245	1210	2190	1165	2130	1120	2065	1075	1990	1030	1900	970	1780	905	1600	810
	LOW	–	–	2145	1170	2090	1110	2030	1070	1960	1020	1890	970	1810	920	1715	860	–	–

SUPPLY AIR BLOWER PERFORMANCE – BOTTOM DUCT APPLICATIONS (230/460 VOLTS)

MODEL DCE & DCG	MOTOR SPEED	Available External Static Pressure – IWG *																	
		0.20		0.30		0.40		0.50		0.60		0.70		0.80		0.90		1.00	
		CFM	Watts	CFM	Watts	CFM	Watts	CFM	Watts	CFM	Watts	CFM	Watts	CFM	Watts	CFM	Watts	CFM	Watts
036	HI	1720	825	1670	795	1610	765	1550	740	1480	705	1400	675	1310	635	1200	600	1050	550
	MED	1550	750	1550	715	1460	690	1410	670	1355	645	1290	620	1210	590	1110	550	–	–
	LOW	1365	675	1335	650	1300	630	1260	615	1210	590	1150	565	1080	540	–	–	–	–
048	HI	–	–	1960	980	1915	955	1850	915	1770	880	1665	830	1525	775	1360	715	–	–
	MED	–	–	1650	790	1610	770	1555	740	1490	705	1400	665	1300	625	–	–	–	–
	LOW	–	–	1480	700	1470	695	1445	685	1400	660	1320	620	1200	575	–	–	–	–
060	HI	2500	1400	2420	1350	2340	1300	2250	1255	2160	1190	2060	1135	1940	1075	1780	990	–	–
	MED	–	–	2200	1170	2135	1125	2070	1080	2000	1030	1910	980	1810	920	1680	850	–	–
	LOW	–	–	2090	1110	2030	1070	1960	1020	1890	970	1810	920	1720	865	1610	810	–	–

* Includes allowances for a wet evaporator coil, 1" filters and the heat exchangers.

NOTE: The BHP for the supply air blower motor is calculated by using the following formula; $BHP = \frac{KW \times \text{Motor Efficiency}}{.746}$

INDOOR FAN MOTOR EFFICIENCIES @ RATED LOAD

MODEL DCE & DCG	MOTOR (HP)	EFFICIENCY (%)
036	1/2	58
048	3/4	63
060	1	68

ACCESSORY STATIC RESISTANCES*

EXTERNAL STATIC PRESSURE DROP				
MODELS DCE & DCG	DESCRIPTION	RESISTANCE, IWG		
		CFM		
		1400	1600	2000
036 048 060	Pressure Drop thru economizer	0.090	0.110	0.150
	Pressure Drop thru 5 to 16 KW Electric Heaters	0.035	0.041	0.051
	Pressure Drop thru 20 to 30 KW** Electric Heaters	0.056	0.064	0.080

* Deduct the above values from the available external static resistance shown in the Blower Performance Table.

** Electric Heater with 30 KW capacity is applicable to 5 Ton Unit only.

COMPONENT WEIGHTS

COMPONENT			MODELS DCE & DCG		
			3 TON	4 TON	5 TON
Basic Unit	DCE (Cooling only)		549	585	610
	DCG (Gas / Electric)	41 Mbh	605	—	—
		62 Mbh	—	645	—
		82 Mbh	615	—	670
		103 Mbh	—	655	680
Options	Economizer		Refer To Accessories		
	Electric Heat		Refer To Accessories		
Accessories	Economizer		50	50	50
	Motorized Outdoor Air damper		48	48	48
	Electric Heat (Nominal KW)	5-7 KW	18	18	18
		8-10 KW	21	21	21
		11-14 KW	23	23	23
		16-20 KW	25	25	25
		21-30 KW	28	28	28
	Roof Mounting Curb		92	92	92
	Relief / Fixed Air Damper		10	10	10

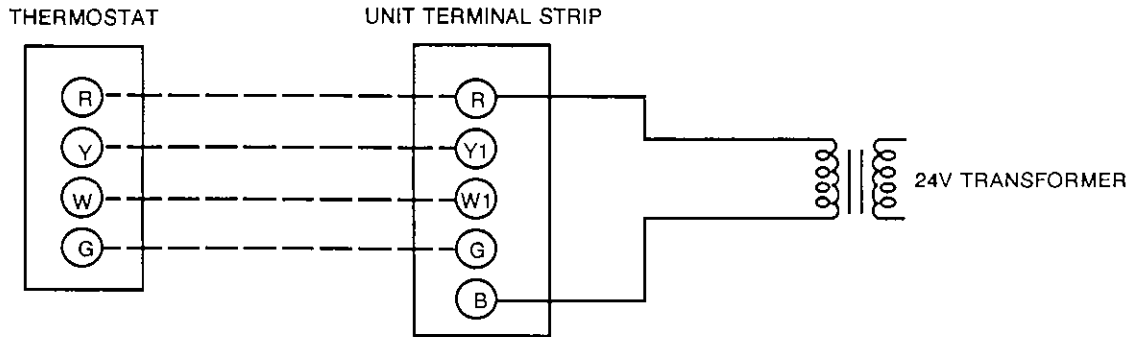
NOTE: Weights are given in pounds.

ELECTRICAL DATA – Basic Unit

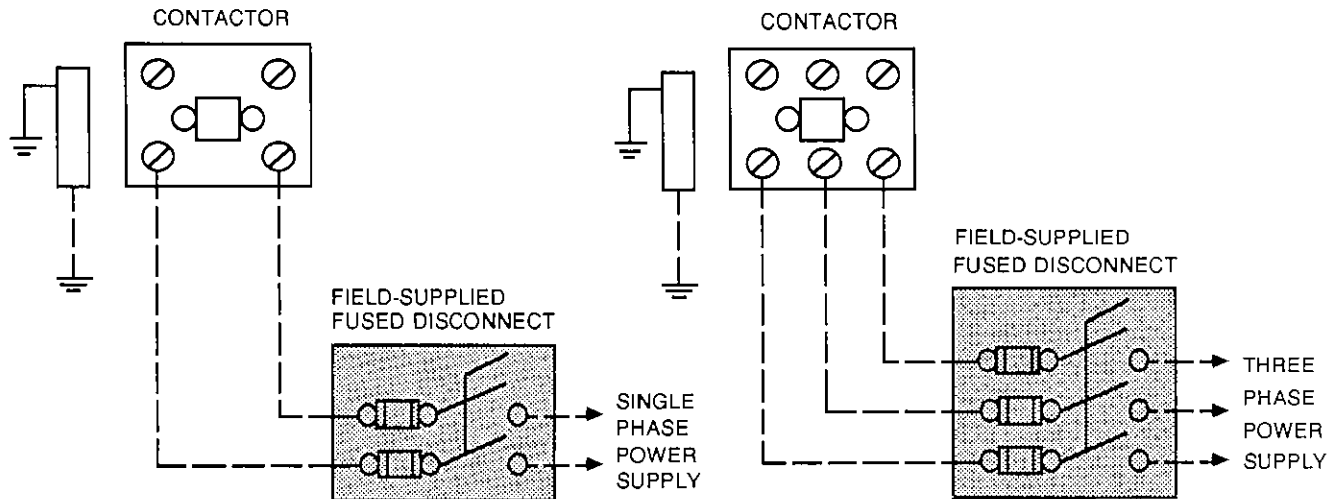
MODEL DCE DCG	POWER SUPPLY	VOLTAGE LIMITATIONS (SEE NOTE 1)		COMPRESSOR		COND. FAN MOTOR, FLA	SUPPLY AIR BLOWER MOTOR, FLA	TOTAL UNIT AMPACITY, AMPS	MAX. FUSE SIZE, (SEE NOTE 2) AMPS	MAX. HACR BREAKER SIZE, AMPS	MIN. WIRE SIZE, AWG (SEE NOTE 3)
		MIN.	MAX.	RLA	LRA						
036	208/230-1-60	187	253	19.7	97.6	2.0	4.4	31.0	40	40	8
	208/230-3-60	187	253	11.6	73.4	2.0	4.4	20.9	25	25	10
	460-3-60	414	504	5.1	37.7	1.4	2.0	9.8	15	–	14
048	208/230-1-60	187	253	23.3	118.0	2.0	5.0	36.1	45	45	8
	208/230-3-60	187	253	15.4	90.0	2.0	5.0	26.3	35	35	10
	460-3-60	414	504	8.3	45.0	1.4	2.2	14.0	20	–	14
	575-3-60	518	600	6.4	36.0	1.4	2.2	11.6	15	–	14
060	208/230-1-60	187	253	28.8	138.0	2.0	6.4	44.4	60	60	6
	208/230-3-60	187	253	17.3	106.0	2.0	6.4	30.2	45	45	10
	460-3-60	414	504	9.0	53.0	1.4	3.3	16.0	20	–	12
	575-3-60	518	600	6.4	43.0	1.4	3.3	12.7	15	–	14

NOTES: 1. Utilization Range "A" in accordance with ARI Standard 110.
 2. Dual element, time delay type.
 3. Based on 80°C copper conductors.

FIELD WIRING DIAGRAM



CONTROL WIRING



POWER WIRING

ELECTRICAL DATA – Cooling / Electric Heating

MODEL D1CE	POWER SUPPLY	COMPRESSOR		SUPPLY AIR BLOWER MOTOR FLA	COND. FAN MOTOR FLA	ELECTRIC HEATERS					TOTAL UNIT AMPACITY AMPS	MAX. FUSE SIZE* AMPS	MAX. SIZE HACR** BREAKER AMPS
		RLA	LRA			KW	TOTAL AMPS	AMPS / BRANCH CIRCUIT					
								1	2	3			
036A06	208/230-1-60	19.7	97.6	4.4	2.0	0	—	—	—	—	31.0	40	40
						5.3	22.10	22.10	—	—	33.1	40	40
						7.5	31.25	31.25	—	—	44.6	45	45
						10.6	44.17	44.17	—	—	60.0	60	60
						15.9	66.25	44.17	22.08	—	88.3	90	—
						21.2	88.34	44.17	44.17	—	115.9	125	—
036A25	208/230-3-60	11.6	73.4	4.4	2.0	0	—	—	—	—	20.9	25	25
						5.3	12.75	12.75	—	—	21.4	25	25
						7.5	18.04	18.04	—	—	28.1	30	30
						10.6	25.50	25.50	—	—	37.4	40	40
						15.9	38.25	38.25	—	—	53.3	60	60
						21.2	51.00	25.50	25.50	—	69.2	70	—
036A46	460-3-60	5.1	37.7	2.0	1.4	0	—	—	—	—	9.8	15	—
						6.8	8.18	8.18	—	—	12.7	15	—
						10.1	12.15	12.15	—	—	17.7	20	—
						13.6	16.36	16.36	—	—	22.9	25	—
						19.5	23.45	23.45	—	—	31.8	35	—
						0	—	—	—	—	36.1	45	45
048A06	208/230-1-60	23.3	118.0	5.0	2.0	5.3	22.10	22.10	—	—	36.1	45	45
						7.5	31.25	31.25	—	—	45.0	45	45
						10.6	44.17	44.17	—	—	61.5	70	—
						15.9	66.25	44.17	22.08	—	89.1	90	—
						21.2	88.34	44.17	44.17	—	116.7	125	—
						0	—	—	—	—	26.3	35	35
048A25	208/230-3-60	15.4	90.0	5.0	2.0	5.3	12.75	12.75	—	—	26.3	35	35
						7.5	18.04	18.04	—	—	28.8	35	35
						10.6	25.50	25.50	—	—	38.1	40	40
						15.9	38.25	38.25	—	—	54.1	60	60
						21.2	51.00	25.50	25.50	—	70.0	70	—
						0	—	—	—	—	14.0	20	—
048A46	460-3-60	8.3	45.0	2.2	1.4	6.8	8.18	8.18	—	—	14.0	20	—
						10.1	12.15	12.15	—	—	17.9	20	—
						13.6	16.36	16.36	—	—	23.2	25	—
						19.5	23.45	23.45	—	—	32.1	35	—
						0	—	—	—	—	11.6	15	—
						10.6	10.20	10.20	—	—	15.0	20	—
048A58	575-3-60	6.4	36.0	2.2	1.4	15.9	15.30	15.30	—	—	21.3	30	—
						21.2	20.40	20.40	—	—	27.7	35	—
						0	—	—	—	—	44.6	60	60
						5.3	22.10	22.10	—	—	44.6	60	60
						7.5	31.25	31.25	—	—	47.3	60	60
						10.6	44.17	44.17	—	—	63.5	70	—
060A06	208/230-1-60	28.8	138.0	6.6	2.0	15.9	66.25	44.17	22.08	—	91.1	100	—
						21.2	88.34	44.17	44.17	—	118.7	125	—
						29.6	123.33	41.11	41.11	41.11	162.4	175	—
						0	—	—	—	—	30.2	45	45
						5.3	12.75	12.75	—	—	30.2	45	45
						7.5	18.04	18.04	—	—	30.8	45	45
060A25	208/230-3-60	17.3	106.0	6.6	2.0	10.6	25.50	25.50	—	—	40.1	45	45
						15.9	38.25	38.25	—	—	56.1	60	60
						21.2	51.00	25.50	25.50	—	72.0	80	—
						29.6	71.20	35.60	35.60	—	97.3	100	—
						0	—	—	—	—	16.0	20	—
						6.8	8.18	8.18	—	—	16.0	20	—
060A46	460-3-60	9.0	53.0	3.3	1.4	10.1	12.15	12.15	—	—	19.3	20	—
						13.6	16.36	16.36	—	—	24.6	25	—
						19.5	23.45	23.45	—	—	33.4	35	—
						28.8	34.60	34.60	—	—	46.5	50	—
						0	—	—	—	—	12.7	15	—
						10.6	10.20	10.20	—	—	16.1	20	—
060A58	575-3-60	6.4	43.0	3.3	1.4	15.9	15.30	15.30	—	—	22.4	30	—
						21.2	20.40	20.40	—	—	28.8	35	—
						30.4	29.30	29.30	—	—	39.9	45	—
						0	—	—	—	—	12.7	15	—
						10.6	10.20	10.20	—	—	16.1	20	—
						15.9	15.30	15.30	—	—	22.4	30	—

* Dual element, time delay type.

** Standard circuit breakers may be used in Canada and on applications over 60 amps where the heaters are separately fused.

FACTORY INSTALLED OPTIONS

ECONOMIZERS: Units equipped with the factory-installed economizer option have dampers that are positioned by a spring return, fully modulating damper actuator. As the outdoor air intake dampers open, the return air dampers close. The changeover from mechanical refrigeration to economizer operation is determined by a single input electronic enthalpy control or by a dual input electronic enthalpy control. Simultaneous compressor and economizer operation is also possible.

The single enthalpy system contains a sensor that monitors the outdoor air which automatically operates the damper actuator allowing the dampers to open or close.

The dual enthalpy system contains a second sensor that monitors the return air in addition to monitoring the outdoor air described above for a single enthalpy system. The logic module compares these two values and modulates the

dampers providing the maximum efficiency of the economizer system.

The economizer is completely wired and installed at the factory. Only the outdoor air hood, including its filters, need be assembled and installed in the field.

ELECTRIC HEATERS: These resistance type heaters have nickel chromium elements, single or two stage heating and utilize single point power connection. Power wiring can enter the unit through the unit underside or through the unit side panel and requires only one field-supplied electrical disconnect switch. The unit arrives completely wired.

Heaters are available with 5 through 21 Nominal KW on all units. A 30 KW heater is available for 5 ton units only. Where required by UL, fuses are supplied as part of the heater option.

FIELD-INSTALLED ACCESSORIES

SINGLE INPUT ELECTRONIC ENTHALPY ECONOMIZER – Includes a slide-in / plug-in damper assembly with fully modulating spring return motor actuator, one outdoor air electronic enthalpy sensor and a rainhood with filters. The rainhood is painted to match the basic unit and must be field-assembled before installation. Economizer dampers are 2% low leakage type.

DUAL INPUT ELECTRONIC ENTHALPY ECONOMIZER – Includes the same damper system and rainhood with filters as described for a single enthalpy economizer above except this accessory contains two enthalpy sensors. It uses a differential enthalpy control that compares the outdoor air versus the return air. The logic module then optimizes the economizer operation for additional savings over the single input economizer.

MOTORIZED AIR DAMPER – Includes slide-in / plug-in damper assembly with 2-position spring-return motor actuator and a rainhood with filters. The outdoor air dampers open when the indoor fan motor is energized. The rainhood is shipped knocked down and must be field assembled.

BAROMETRIC RELIEF / FIXED AIR DAMPER – A dual function device that consists of a rainhood with bird screen and an adjustable 3-position fixed damper baffle and an economizer barometric relief damper. It provides the following: 1) the entry of a fixed amount of outdoor air into the return air stream or 2) it is used to equalize internal building pressure during economizer operation. The rainhood is fully assembled, painted to match the basic unit and ready for installation.

ELECTRIC HEATERS – Include nickel chromium elements, a terminal block, fuses (where required by UL), all the necessary connectors and hardware. All heaters utilize single point power supply hookup. Capacities from 5 KW thru 30 KW heating are available.

FUSED BLOCK KITS – These kits have a fuse box containing fuses and a fuse block and are available on all 3-phase units with 460-volt heaters and on 208/230 volt units with 5 and 8 nominal KW heaters.

OUTDOOR THERMOSTAT – A 24-volt thermostat providing two stages of control for units operating with supplemental electric heaters.

ROOF CURB – This 14" high full perimeter roof curb is knocked down for field assembly and contains duct supports that can easily be shifted for the desired unit duct arrangement. No deck is required because the unit underside is insulated.

START ASSIST KIT – Provides increased starting torque for areas with low voltage conditions. It contains a 12.5 OHM PTCR temperature resistor with a support clip and hardware for mounting.

LOW AMBIENT KIT – Provides operation down to 20°F outdoor air temperature and contains a transformer, a thermostat and a terminal block.

ANTI-RECYCLE TIMER – A timer to prevent the unit compressor from short cycling. It assures 5 minutes off time between compressor cycles.

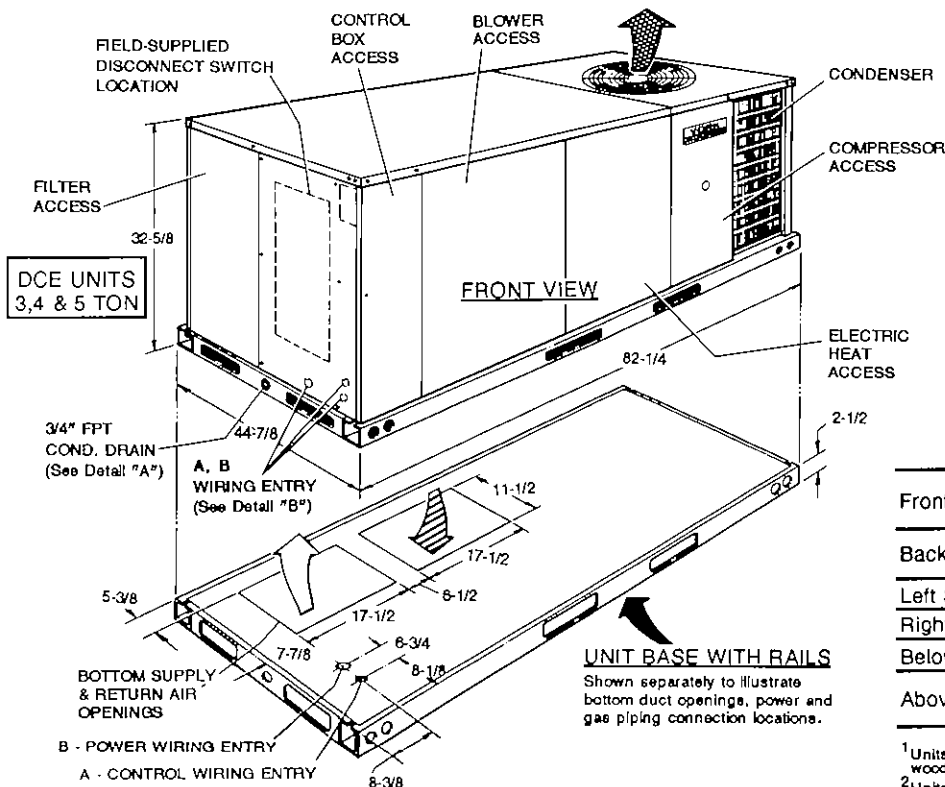
PROPANE CONVERSION KIT – Converts a gas-fired heater from natural gas to propane. It contains main burner and pilot orifices, and a regulator spring.

LOW NOx KIT – Contains ten 1/4" stainless steel rods for mounting onto the gas burners, in natural gas furnaces only, to meet the California low nitrous oxide emission requirements.

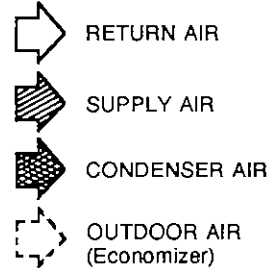
OUTDOOR COIL GUARD – Consists of grille type sections for assembling over the outdoor coil to protect it from damage.

WALL THERMOSTAT – The units are designed to operate with 24-volt electronic and electro-mechanical thermostats. All units can operate with single stage heat / single stage cool thermostats – with or without the economizer. However, to obtain maximum economizer operating savings, a two stage cooling thermostat should be used. To obtain two stage cooling operation a jumper wire must be removed on the low voltage relay board. (See unit wiring diagram.)

UNIT DIMENSIONS (DCE and DCG – 3, 4 & 5 TON)



All dimensions are in inches. They are subject to change without notice. Certified dimensions will be provided upon request.



CLEARANCES

Front	DCE Units	24"
	DCG Units	26"
Back		12" (Less Economizer)
		36" (With Economizer)
Left Side (Filter Access)		30"
Right Side (Cond. Coil)		18"
Below Unit ¹		0"
Above Unit ²		72" (For Condenser Air Discharge)

¹ Units may be installed on combustible floors made from wood or class A, B or C roof covering material.

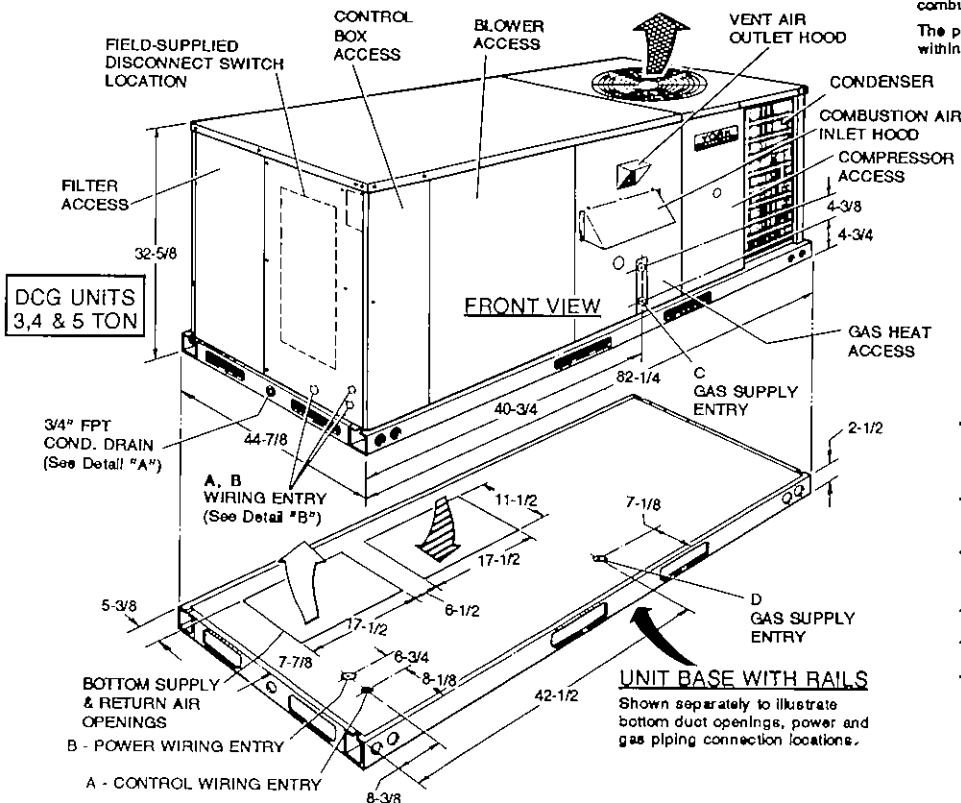
² Units must be installed outdoors. Overhanging structures or shrubs should not obstruct condenser air discharge outlet.

NOTE:

DCE Models: Units and ductwork are approved for zero clearance to combustible materials when equipped with electric heaters.

DCG Models: A 1" clearance must be provided between any combustible material and the supply air ductwork.

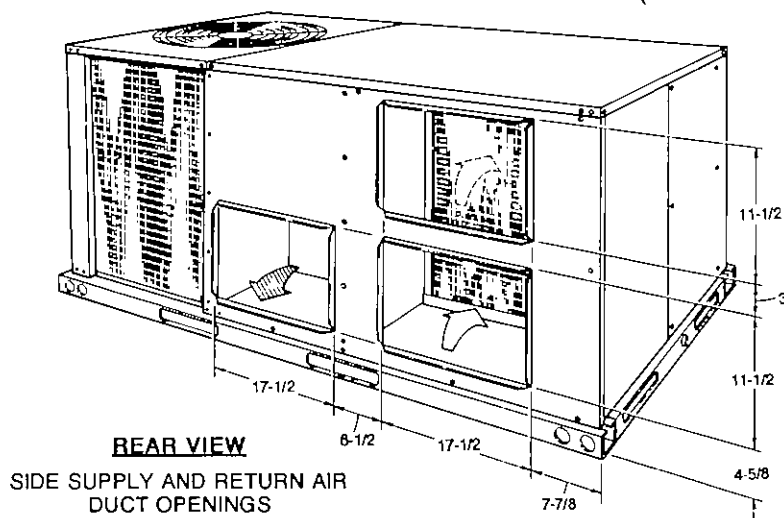
The products of combustion must not be allowed to accumulate within a confined space and recirculate.



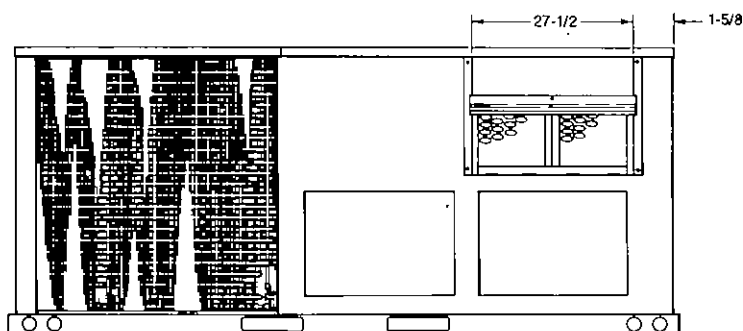
UTILITIES ENTRY DATA

HOLE	KNOCKOUT SIZE (DIA.)	USED FOR
A	7/8"	Control Wiring (Side or Bottom)
B	2"	Power Wiring (Side or Bottom)
C	1-5/8"	Gas Piping (Front)
D	2"	Gas Piping (Bottom)

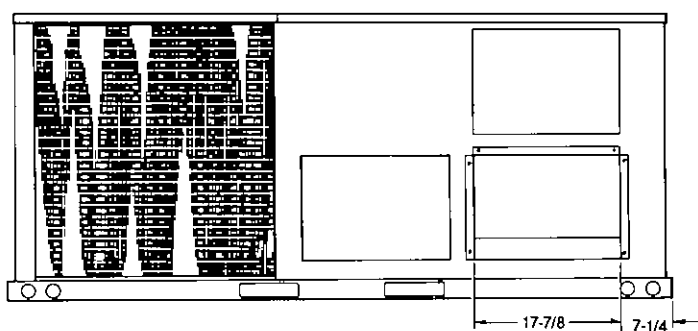
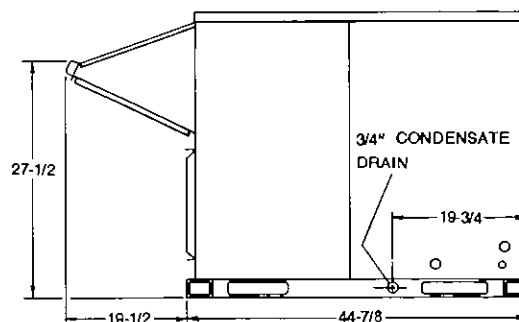
UNIT DIMENSIONS – CONT'D. (DCE and DCG – 3, 4 & 5 TON)



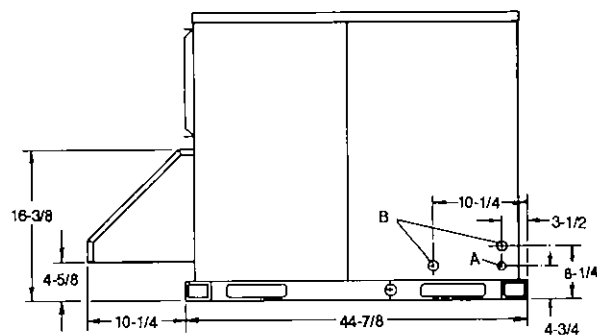
DUCT COVERS – Units are shipped with all air duct openings covered. For side air applications, remove and discard the two side covers – connect ductwork to duct flanges on the unit. For bottom air applications, remove the side supply air duct cover to gain access to the bottom supply air duct cover. Remove and discard the bottom duct cover. Replace the side duct cover. With filter section access panel removed from the unit, remove and discard the bottom return air duct cover. Ductwork may be attached to the roof curb or directly to the unit underside. Replace the filter access panel.



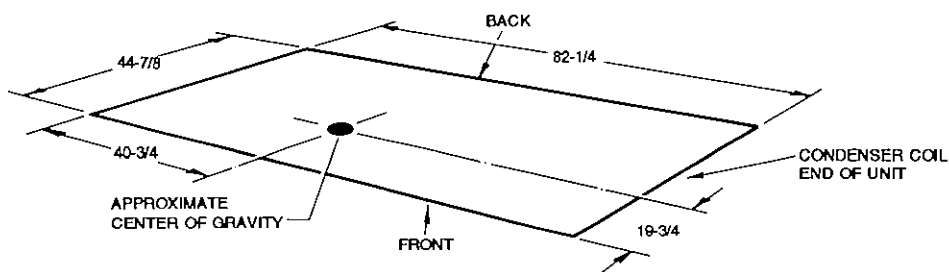
DETAIL "A"
UNIT WITH ECONOMIZER RAIN HOOD



DETAIL "B"
UNIT WITH FIXED OUTDOOR AIR / BAROMETRIC RELIEF RAINHOOD

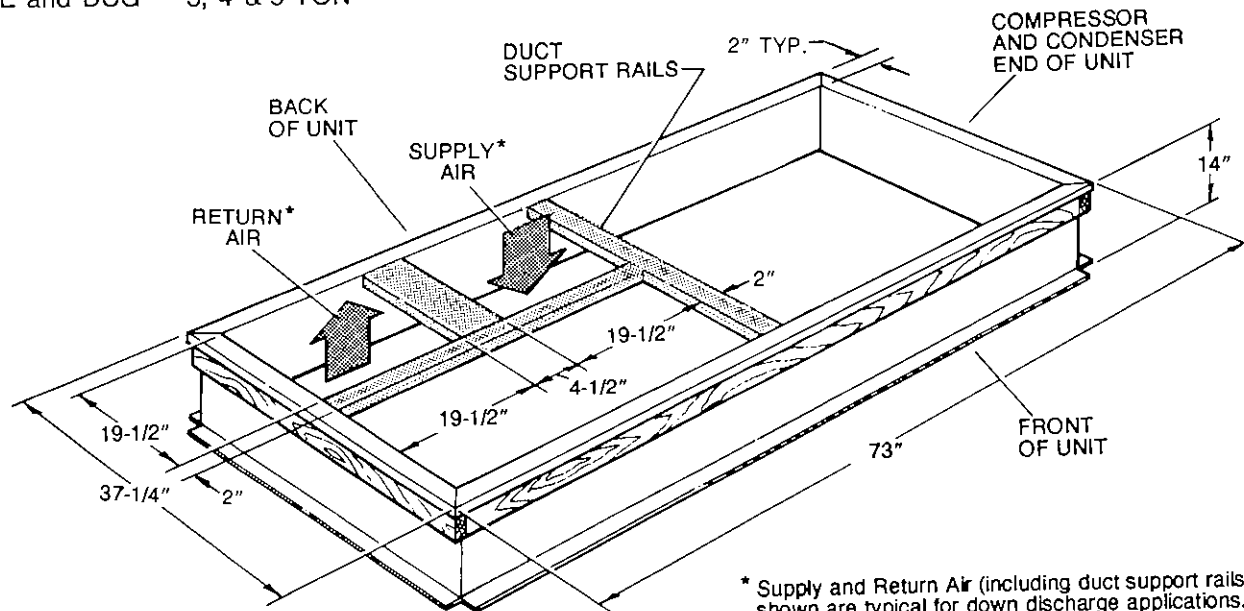


**CENTER
OF
GRAVITY**
DCE and DCG
3, 4 & 5 TON



ROOF CURB DIMENSIONS

DCE and DCG – 3, 4 & 5 TON

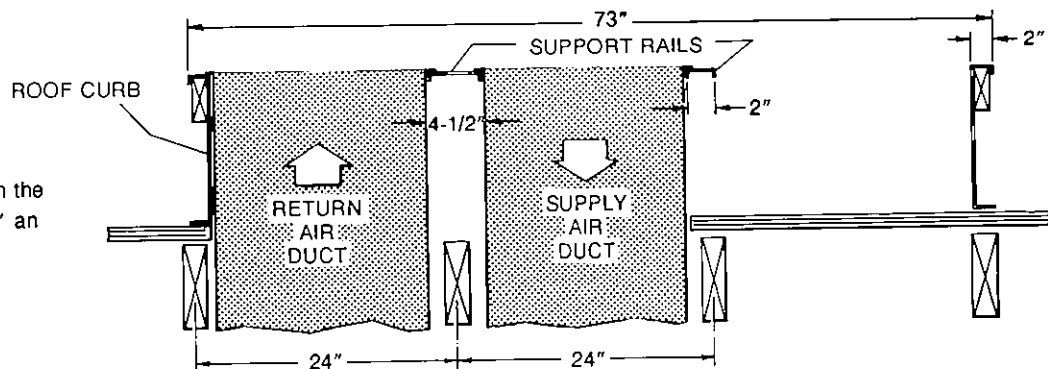


* Supply and Return Air (including duct support rails) shown are typical for down discharge applications.

For location of side discharge applications (on back of unit), refer to Unit Dimension details.

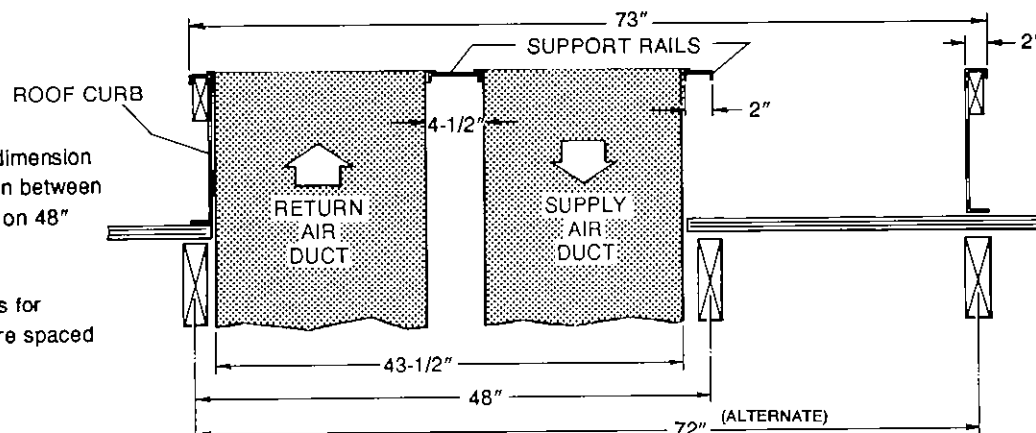
ROOF CURB BENEFITS

FRONT VIEW (3-JOIST SUPPORT)



The 4-1/2" space between the ducts allows for "jumping" an existing roof joist.

FRONT VIEW (2-JOIST SUPPORT)

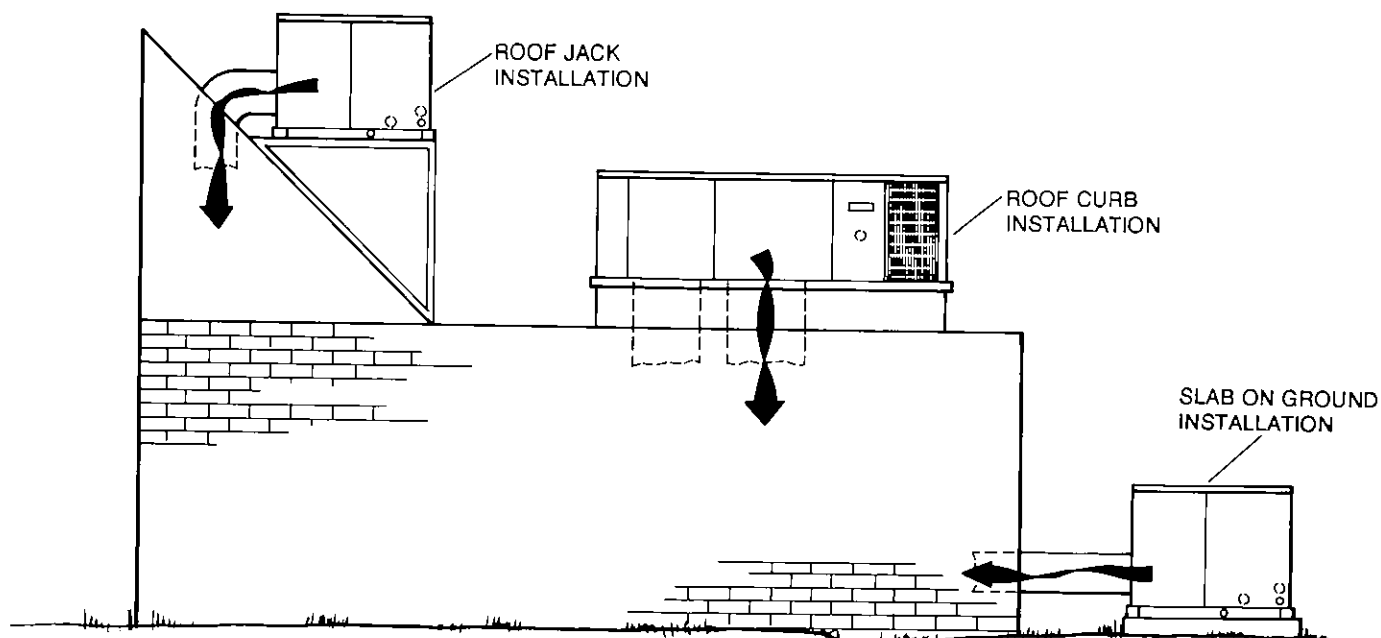


The 43-1/2" overall duct dimension allows ductwork penetration between roof joists that are spaced on 48" centers.

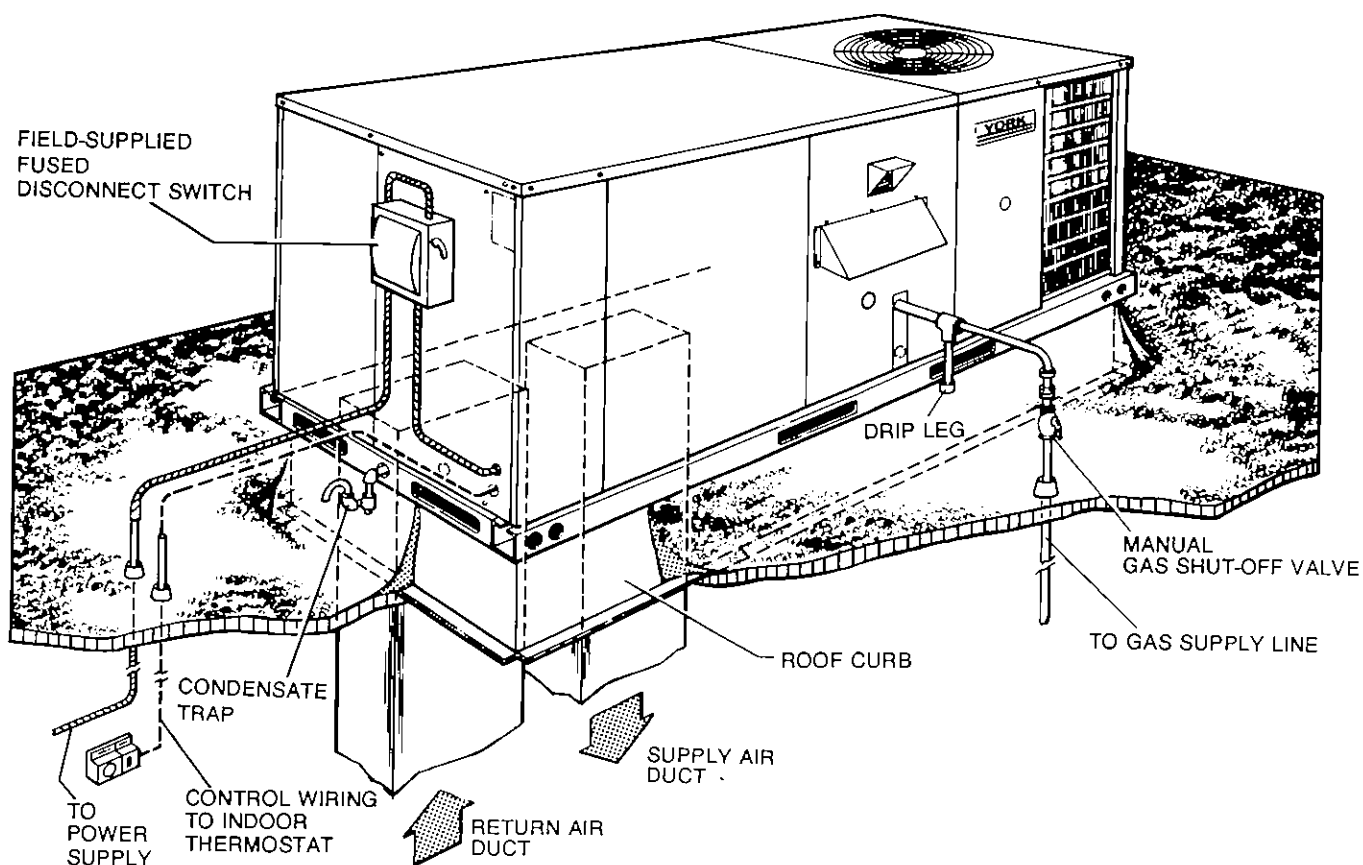
The 73" curb length allows for spanning roof joists that are spaced on 72" centers.

NOTE: Both supply air and return air duct openings are square and are the same size, providing easy duct installation. Ducts can be installed onto the curb from the roof. All electrical wiring and gas line connections can be made inside the curb.

TYPICAL APPLICATIONS



TYPICAL ROOF-TOP INSTALLATION (MODEL DCG SHOWN)



Supersedes: 530.18-AS1Y (1086), 530.18-AS2Y (1086)
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