

City of Portland, Maine – Building or Use Permit Application 389 Congress Street, 04101, Tel: (207) 874-8703, FAX: 874-8716

Location of Construction: 520 Capisic Street		Owner: Lisa & John Gallagher		Phone: 871-8682		Permit No: 981170	
Owner Address: 520 Capisic Street		Lessee/Buyer's Name:		Phone:		BusinessName:	
Contractor Name: Avery Services		Address: 7 Thomas Dr. Westbrook		Phone: 772-8687		Permit Issued: PERMIT ISSUED OCT 9 1998 260-G-003	
Past Use: Residential		Proposed Use: same		COST OF WORK: \$ 3895.00		PERMIT FEE: \$ 40	
				FIRE DEPT. <input type="checkbox"/> Approved <input type="checkbox"/> Denied		INSPECTION: Use Group: Type:	
Proposed Project Description: Installation of a condensing unit with fan coil				Signature:		Signature:	
				PEDESTRIAN ACTIVITIES DISTRICT (P.A.D.)		Zoning Approval: Special Zone or Reviews: <input type="checkbox"/> Shoreland <input type="checkbox"/> Wetland <input type="checkbox"/> Flood Zone <input type="checkbox"/> Subdivision <input type="checkbox"/> Site Plan maj <input type="checkbox"/> minor <input type="checkbox"/> mm <input type="checkbox"/>	
Action: Approved <input type="checkbox"/> Approved with Conditions: <input type="checkbox"/> Denied <input type="checkbox"/>				Signature:		Date:	
Permit Taken By: UB		Date Applied For: 10/6/98				Zoning Appeal <input type="checkbox"/> Variance <input type="checkbox"/> Miscellaneous <input type="checkbox"/> Conditional Use <input type="checkbox"/> Interpretation <input type="checkbox"/> Approved <input type="checkbox"/> Denied	

1. This permit application does not preclude the Applicant(s) from meeting applicable State and Federal rules.
2. Building permits do not include plumbing, septic or electrical work.
3. Building permits are void if work is not started within six (6) months of the date of issuance. False information may invalidate a building permit and stop all work..

CERTIFICATION

I hereby certify that I am the owner of record of the named property, or that the proposed work is authorized by the owner of record and that I have been authorized by the owner to make this application as his authorized agent and I agree to conform to all applicable laws of this jurisdiction. In addition, if a permit for work described in the application is issued, I certify that the code official's authorized representative shall have the authority to enter all areas covered by such permit at any reasonable hour to enforce the provisions of the code(s) applicable to such permit

10/7/98

SIGNATURE OF APPLICANT ADDRESS: DATE: PHONE:

RESPONSIBLE PERSON IN CHARGE OF WORK, TITLE PHONE:

White-Permit Desk Green-Assessor's Canary-D.P.W. Pink-Public File Ivory Card-Inspector

CEO DISTRICT

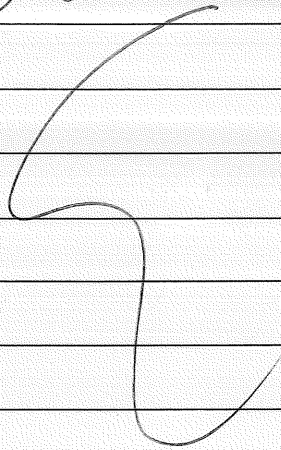
3

COMMENTS

11/12/18 work in progress on

5/1/00 - work finished and appears to meet permit requirements.

Close out Jm



Inspection Record

Type

Date

Foundation: _____

Framing: _____

Plumbing: _____

Final: _____

Other: _____

THIS IS NOT A PERMIT/CONSTRUCTION CANNOT COMMENCE UNTIL THE PERMIT IS ISSUED

**Building or Use Permit Pre-Application
Additions/Alterations/Accessory Structures
To Detached Single Family Dwelling**

In the interest of processing your application in the quickest possible manner, please complete the Information below for a Building or Use Permit.

NOTEIf you or the property owner owes real estate or personal property taxes or user charges on any property within the City, payment arrangements must be made before permits of any kind are accepted.**

Location/Address of Construction: 520 CAPESEE STREET

Tax Assessor's Chart, Block & Lot Number Chart# <u>260</u> Block# <u>G</u> Lot# <u>003</u>	Owner: <u>JOHN & LISA GALLAGHER</u>	Telephone#: <u>871-8682</u>
Owner's Address: <u>520 CAPESEE ST, PORTLAND</u>	Lessee/Buyer's Name (If Applicable)	Cost Of Work: <u>\$3,895⁰⁰</u> Fee: <u>\$40</u>

Proposed Project Description: (Please be as specific as possible)
INSTALLATION OF A CONDENSING UNIT WITH FAN COIL

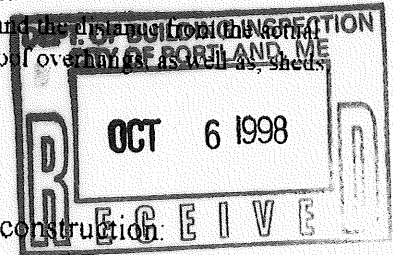
Contractor's Name, Address & Telephone: AVERY SERVICES, INC. 7 THOMAS DR. WESTBROOK, ME 04092 - 772-8687 Rec'd By: SJ

- Separate permits are required for Internal & External Plumbing, HVAC and Electrical installation.
- All construction must be conducted in compliance with the 1996 B.O.C.A. Building Code as amended by Section 6-Art II.
 - All plumbing must be conducted in compliance with the State of Maine Plumbing Code.
 - All Electrical Installation must comply with the 1996 National Electrical Code as amended by Section 6-Art III.
 - HVAC (Heating, Ventilation and Air Conditioning) Installation must comply with the 1993 BOCA Mechanical Code.

- You must Include the following with you application:
- 1) A Copy of Your Deed or Purchase and Sale Agreement
 - 2) A Copy of your Construction Contract, if available
 - 3) A Plot Plan (Sample Attached)

If there is expansion to the structure, a complete plot plan (Site Plan) must include:

- The shape and dimension of the lot, all existing buildings (if any), the proposed structure and the dimensions of the property lines. Structures include decks porches, a bow windows cantilever sections and roof overhangs, sheds, pools, garages and any other accessory structures.
- Scale and required zoning district setbacks



4) Building Plans (Sample Attached)

- A complete set of construction drawings showing all of the following elements of construction:
- Cross Sections w/Framing details (including porches, decks w/ railings, and accessory structures)
 - Floor Plans & Elevations
 - Window and door schedules
 - Foundation plans with required drainage and dampproofing
 - Electrical and plumbing layout. Mechanical drawings for any specialized equipment such as furnaces, chimneys, gas equipment, HVAC equipment (air handling) or other types of work that may require special review must be included.

Certification

I hereby certify that I am the Owner of record of the named property, or that the proposed work is authorized by the owner of record and that I have been authorized by the owner to make this application as his/her authorized agent. I agree to conform to all applicable laws of this jurisdiction. In addition, if a permit for work described in this application is issued, I certify that the Code Official's authorized representative shall have the authority to enter all areas covered by this permit at any reasonable hour to enforce the provisions of the codes applicable to this permit.

Signature of applicant: Douglas C. Murray Date: 10-6-98

Building Permit Fee: \$25.00 for the 1st \$1000.00 cost plus \$5.00 per \$1,000.00 construction cost thereafter.

Submission Requirements Residential Construction

When a property owner is proposing either a new structure or an addition, this office requires:

- A plot or site plan, showing the shape and dimensions of the entire lot, all existing and proposed structures on the lot and the distance that the structures are from all lot lines. For a new dwelling the plan must be prepared by a registered design professional. For dwelling additions, the plan can be prepared by the owner or agent. (See Figure 1)

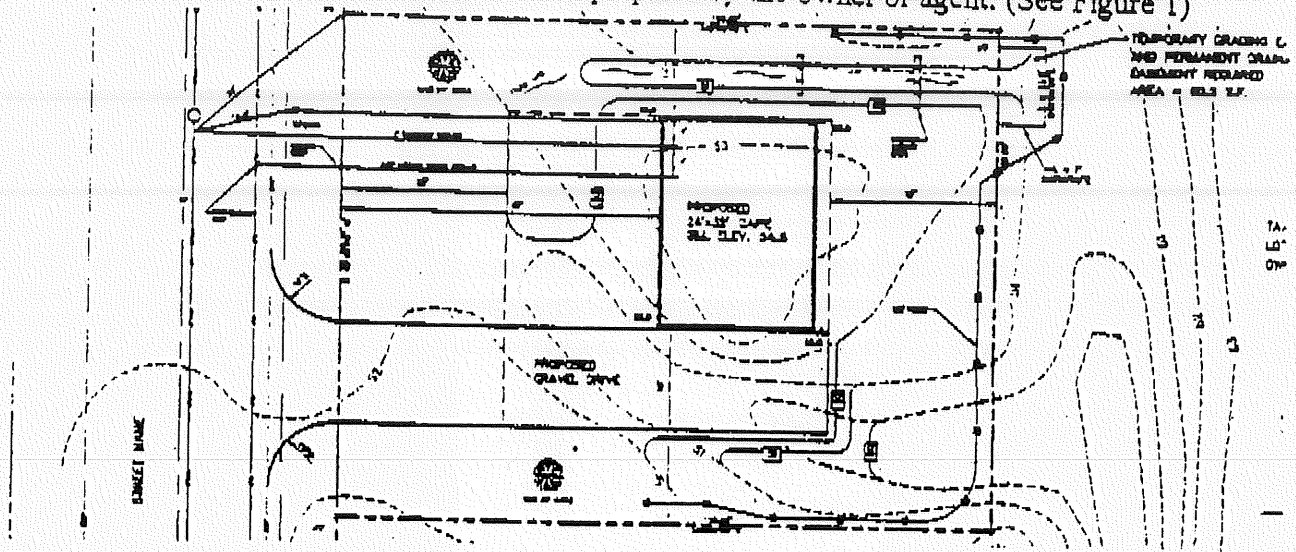


Figure 1. Typical Plot Plan

As can be seen, it is easy to establish the extent of compliance with the required setbacks and lot coverage.

- For new construction, structural alterations, or additions, plans showing structural details must be provided. Minimally they should include foundation plans, including drainage and support column spacing framing details, floor plans and a cross section. (See Figures 2, 3 & 4)

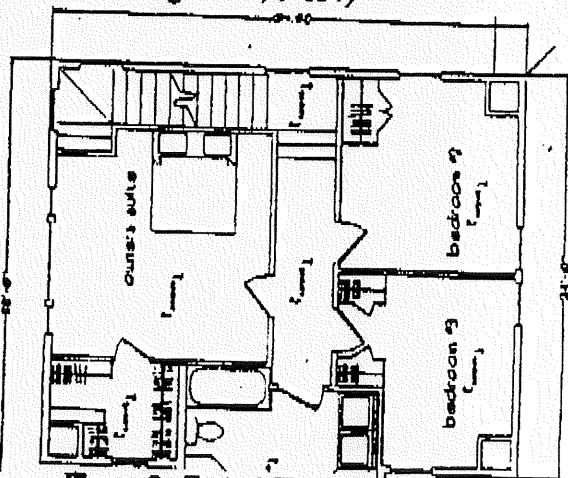


Figure 3. Typical Floor Plan

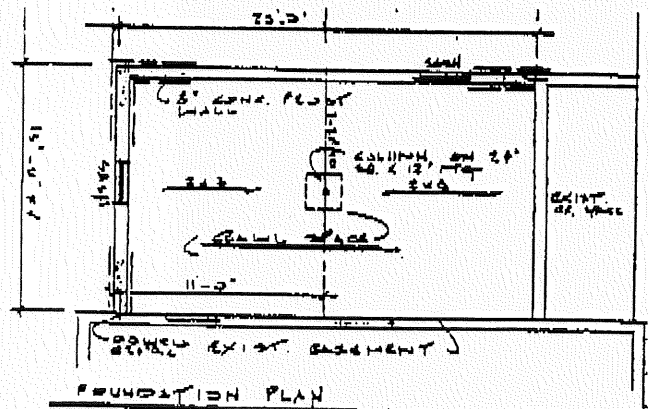
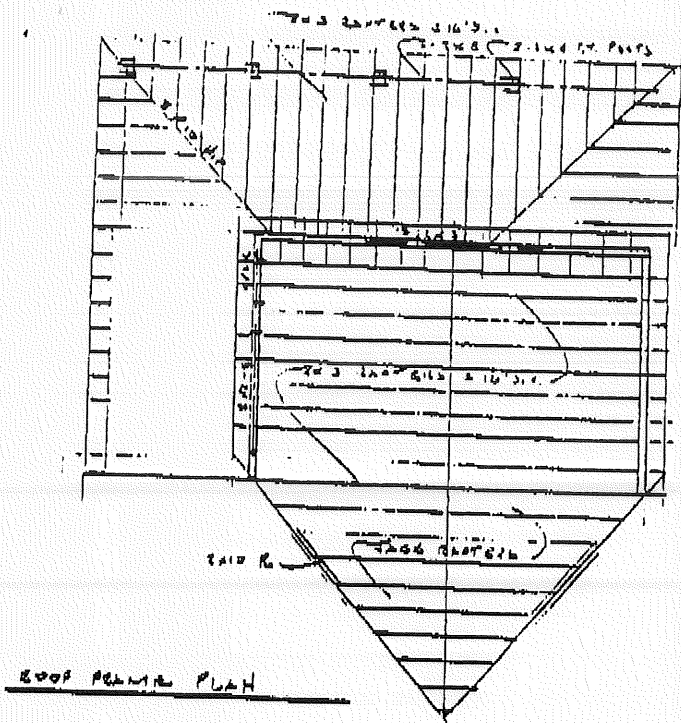
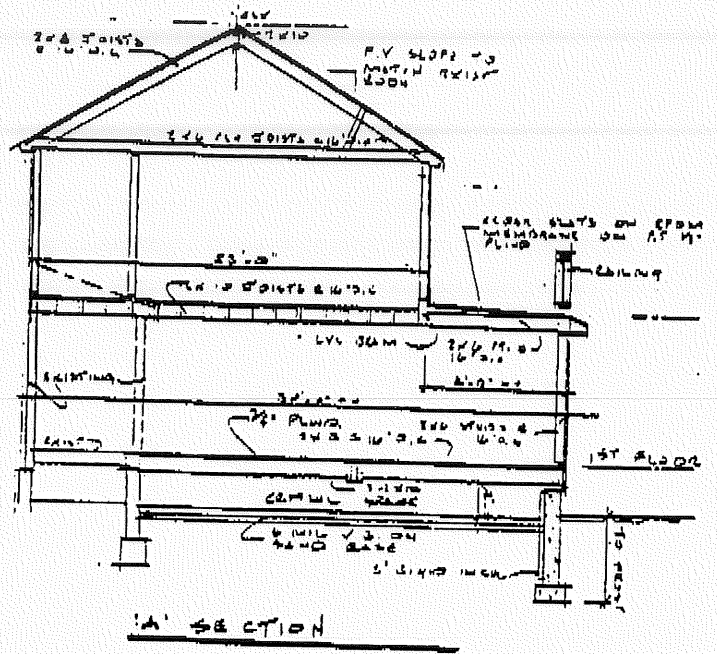


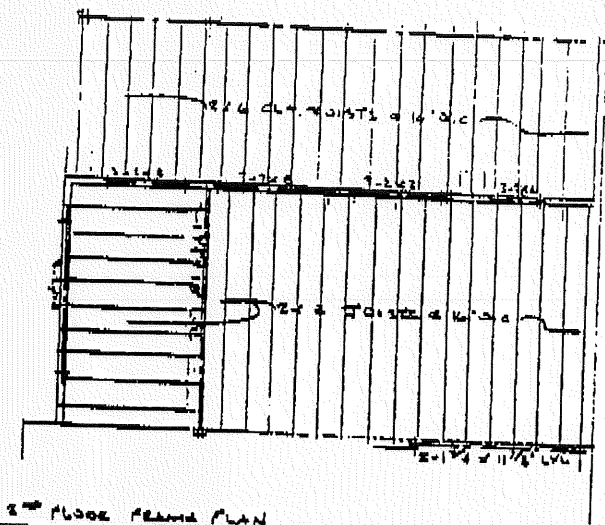
Figure 2. Typical Foundation Plan



ROOF FRAME PLAN



'A-A' SECTION



1ST FLOOR FRAME PLAN

Figure 4. Typical Framing and Cross Section

These plans are all done by professionals, you can do your own plans for the purposes of residential construction, the plan does not have to be of this quality, but the level of detail and accuracy is important. When proposing an addition, similar plans are required, the same goes for a detached garage or an attached deck.

WE WOULD LIKE TO SERVE YOU



865359

DESIGN-BUILD CONTRACTOR

AIR CONDITIONING, REFRIGERATION, HEAT PUMPS, HEATING, SHEET METAL, HEAT TRANSFER & RECOVERY

DOWN EAST ENERGY TO PO BOILER

MAKE DIFFER BY PER

Pricing for Air Conditioning System

Base Bid for installing Air Conditioning capability for the Gallagher residence at 520 Capisic Street, Portland. Our proposal utilizes a Carrier 10 EER Condensing Unit and Deluxe Fan Coil capable of overcoming high static pressure. Price includes Supply and Return transitions to tie into existing duct with portions of the return lined for sound attenuation. Pricing also includes a hot water coil with transitions to allow tie into. System includes refrigerant piping from condensing unit to fan coil, condensate piping from fan coil to nearest indirect drain line. Pricing includes low voltage control wiring and thermostat. Power wiring to condensing unit by licensed electrician is included.

\$ 3,895.00 *

* Options

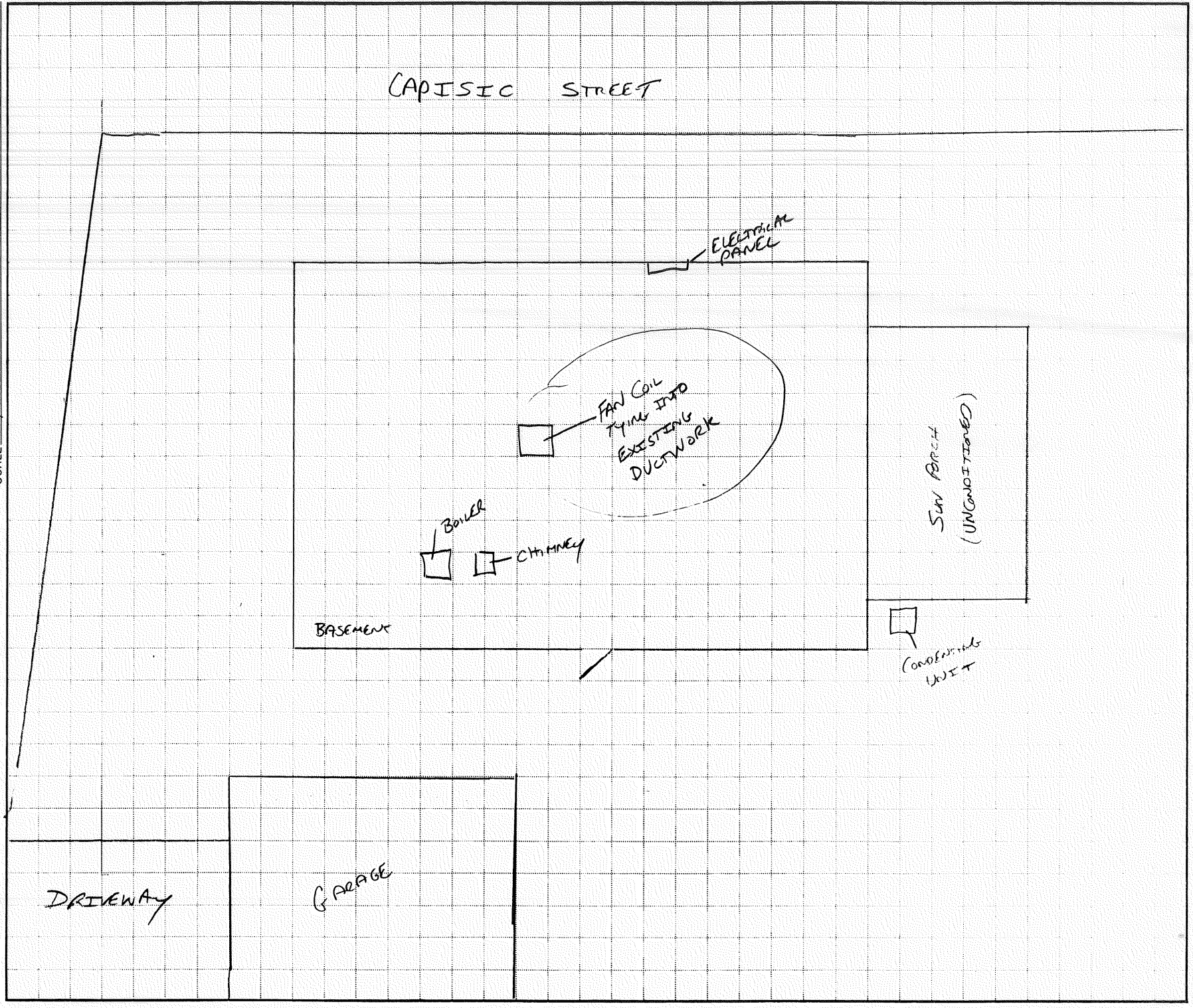
Carrier Mechanical Air Cleaner.	Add \$	225
Replace Deluxe fan coil with Standard	Deduct \$	295
Wrap Duct work in the Basement	Add \$	625
Install New Oil Boiler	Add \$	4,650.

Note - The existing duct work to the second floor is very limited in its capacity to carry enough air flow to provide proper cooling. We feel the high static unit will help overcome this shortcoming, but that this fact in combination with the fact that there is no high return makes it impossible to quantify the results that will be seen upstairs.

ACCEPTED
#86545

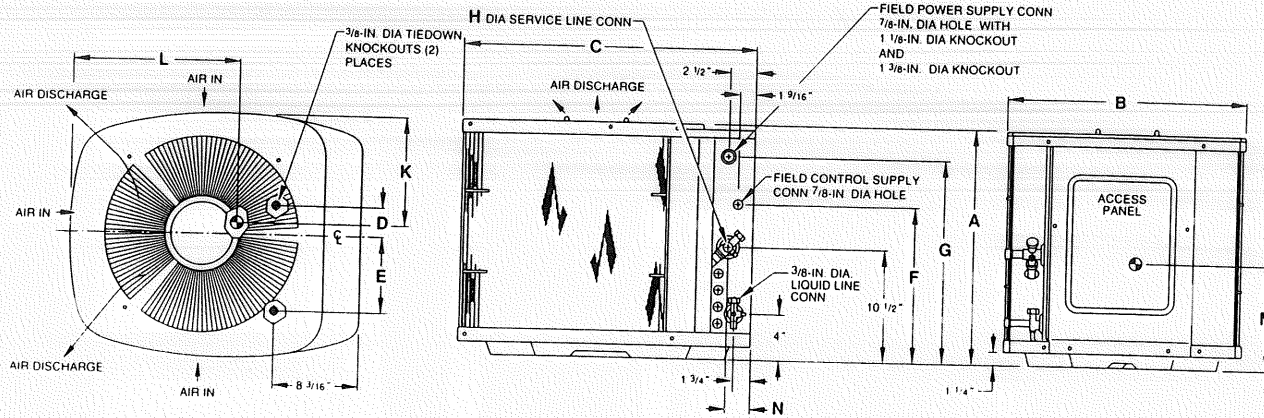
JOB DR GALLAGHER - 522 CAPISIC STREET
SHEET NO. _____ OF _____
CALCULATED BY _____ DATE _____
CHECKED BY _____ DATE _____
SCALE 1/4" = 1'-0"

AVERY SERVICES, INC.
7 Thomas Drive
WESTBROOK, MAINE 04092
(207) 772-8687
FAX (207) 874-0933



NOTES:

1. Allow 30 in. clearance to service side of unit, 48 in. above unit, 6 in. on one side, 12 in. on remaining side, and 24 in. between units for proper airflow.
2. Minimum outdoor operating ambient in cooling mode is 55°F (unless low-ambient control is used) max 125°F.
3. Series designation is the 13th position of the unit model number.
4. Center of gravity \oplus .



A97000

DIMENSIONS (IN.)

UNIT SIZE	SERIES	UNIT DIMENSIONS											MINIMUM MOUNTING PAD DIMENSIONS	
		A	B	C	D	E	F	G	H	K	L	M		N
018	0	21-7/8	22-1/2	27-1/2	2-13/16	6-15/16	13-3/8	17-7/8	5/8					
018	1	21-7/8	22-1/2	27-1/2	2-13/16	6-15/16	13-3/8	17-7/8	5/8	12	14-1/2	10-3/8	2-3/8	20 x 27
024	0	21-7/8	22-1/2	27-1/2	2-13/16	6-15/16	13-3/8	17-7/8	5/8					
024	1	21-7/8	22-1/2	27-1/2	2-13/16	6-15/16	13-3/8	17-7/8	5/8	12	15-1/8	10-3/8	2-3/8	20 x 27
030	0	31-7/8	22-1/2	27-1/2	2-13/16	6-15/16	21-1/2	27-7/8	3/4					
030	1	31-7/8	22-1/2	27-1/2	2-13/16	6-15/16	21-1/2	27-7/8	3/4	12-3/16	14-3/4	11-13/16	2-3/8	20 x 27
036	0	31-7/8	22-1/2	27-1/2	2-13/16	6-15/16	21-1/2	27-7/8	3/4					
036	1	31-7/8	22-1/2	27-1/2	2-13/16	6-15/16	21-1/2	27-7/8	3/4	12-3/16	14-3/4	11-13/16	2-3/8	20 x 27
036	2	31-7/8	22-1/2	27-1/2	2-13/16	6-15/16	21-1/2	27-7/8	3/4	12-9/16	14	12-5/16	2-3/8	20 x 27
042	0	31-7/8	30	34-15/16	4	9-3/4	21-1/2	27-7/8	7/8					
042	1	31-7/8	30	34-15/16	4	9-3/4	21-1/2	27-7/8	7/8	15-3/4	19	12-13/16	2-15/16	26 x 32
048	1	31-7/8	30	34-15/16	4	9-3/4	21-1/2	27-7/8	7/8	15-3/4	19	12-13/16	2-15/16	26 x 32
048	3	31-7/8	30	34-15/16	4	9-3/4	21-1/2	27-7/8	7/8	13-1/2	20-7/16	14-1/16	2-15/16	26 x 32
060	1	37-7/8	30	34-15/16	4	9-3/4	21-1/2	27-7/8	7/8	13-1/2	20-7/16	14-1/16	2-15/16	26 x 32
060	3	37-7/8	30	34-15/16	4	9-3/4	21-1/2	27-7/8	7/8	15-3/4	19-15/16	14-1/16	2-15/16	26 x 32
										15-3/4	19-15/16	14-1/16	2-15/16	26 x 32

Physical data

UNIT SIZE	018-30/31	024-30/31	030-30/31	036-30/31	036-32	042-30/31	048-31/33	060-31/33
OPERATING WEIGHT (Lb)	138/143	140/153	158/163	159/168	164	230/237	241/241	258/258
REFRIGERANT Control Charge (Lb) @ 15 Ft	R-22 AccuRater® Piston							
	3.69	4.01	4.88	5.01	5.01	6.06/6.13	6.81/7.00	10.31/8.50
CONDENSER FAN Air Discharge Air Qty (CFM) Motor HP Motor RPM	Vertical							
	1600	1600	1900	1900	1900	2900	2900	2800
	1.12	1/12	1/10	1/10	1/10	1/4	1/4	1/4
					1100			
CONDENSER COIL Face Area (Sq Ft) Fins per In. Rows Circuits	25	7.2 25	20	10.8 25	25	20/18	15.0 23/20	20/25
	1	1	1	1	1	1	1	2/1
	1	1	2	2	2	3	3	4
VALVE CONNECT (In. ID) Vapor Liquid	5/8		3/4			7/8		
					3/8			
REFRIG TUBES* (In. OD) Vapor (0-50 Ft Tube Length) Vapor (Max Diameter for Long-Line Applications) Liquid (0-50 Ft. Tube Length)† Liquid (For Long-Line Applications)	5/8	5/8	3/4	3/4	3/4	7/8	7/8	1-1/8
	3/4	3/4	7/8	7/8	7/8	1-1/8	1-1/8	1-1/8
					3/8			
					3/8			
COMPRESSOR Manufacturer & Type	Copeland Recip/ Tecumseh Recip				Millennium Scroll	Copeland Recip/ Millennium Scroll	Millennium Scroll/ Copeland Scroll	

NOTE: See unit Installation Instructions for proper installation.

* For tube sets between 50 and 175 ft. consult Long-Line Application Guideline.

† 3/8-in. liquid tube must be used on capillary type coils.

METERING DEVICE

CONDENSING UNIT SIZE	PISTON* IDENTIFICATION NO.
018-30, 31	52
024-30, 31	59
030-30, 31	70
036-30, 31	73
036-32	76
042-30	82
042-31	78
048-31	82
048-33	84
060-31	98
060-33	96

* Piston listed is for any approved non-capillary tube non-TXV coil combination. Piston is shipped with outdoor unit and must be installed in an approved indoor coil.

Electrical Data

UNIT SIZE	V/PH	OPER VOLTS*		COMPR		FAN FLA	MCA	60 MIN WIRE SIZE†	75 MIN WIRE SIZE†	60 MAX LENGTH (Ft)‡	75 MAX LENGTH (Ft)‡	MAX FUSE** OR HACR TYPE CKT BKR AMPS
		Max	Min	LRA	RLA							
018-30, 31	208-230/1	253	197	49.0	8.6	0.5	11.3	14	14	99	94	15
024-30, 31				61.0	11.2	0.5	14.5	14	14	72	68	20
030-30, 31				75.0	13.7	0.8	17.9	14	14	56	75	25
036-30, 31				86.0	15.3	0.8	19.9	14	14	39	37	30
036-32				105.0	17.9	0.8	23.2	12	12	63	60	35
042-30				105.0	17.3	1.4	23.5	12	12	63	60	35
042-31				115.0	19.9	1.4	26.3	10	10	87	83	40
048-31				140.0	24.4	1.4	31.9	8	10	111	68	50
048-33				129.0	23.7	1.4	31.0	8	10	115	70	50
060-31				165.0	28.8	1.4	37.4	8	8	91	87	50
060-33				169.0	28.8	1.4	37.4	8	8	91	87	60

* Permissible limits of the voltage range at which the unit will operate satisfactorily. Operation outside these limits may result in unit failure.

† If wire is applied at ambient greater than 30°C (86°F), consult Table 310-16 of the NEC (ANSI/NFPA 70).

The ampacity of nonmetallic-sheathed cable (NM), trade name ROMEX, shall be that of 60°C (140°F) conductors, per the NEC (ANSI/NFPA 70) Article 336-26.

If other than uncoated (non-plated), 60 or 75°C (140 or 167°F) insulation, copper wire (solid wire for 10 AWG and smaller, stranded wire for larger than 10 AWG) is used, consult applicable tables of the NEC (ANSI/NFPA 70).

‡ Length shown is as measured 1 way along wire path between unit and service panel for a voltage drop not to exceed 2%.

** Time-delay fuse.

NOTES:

1. Control circuit is 24v on all units and requires external power source.
2. Copper wire must be used from service disconnect to unit.
3. All motors/compressors contain internal overload protection.

FLA — Full Load Amps

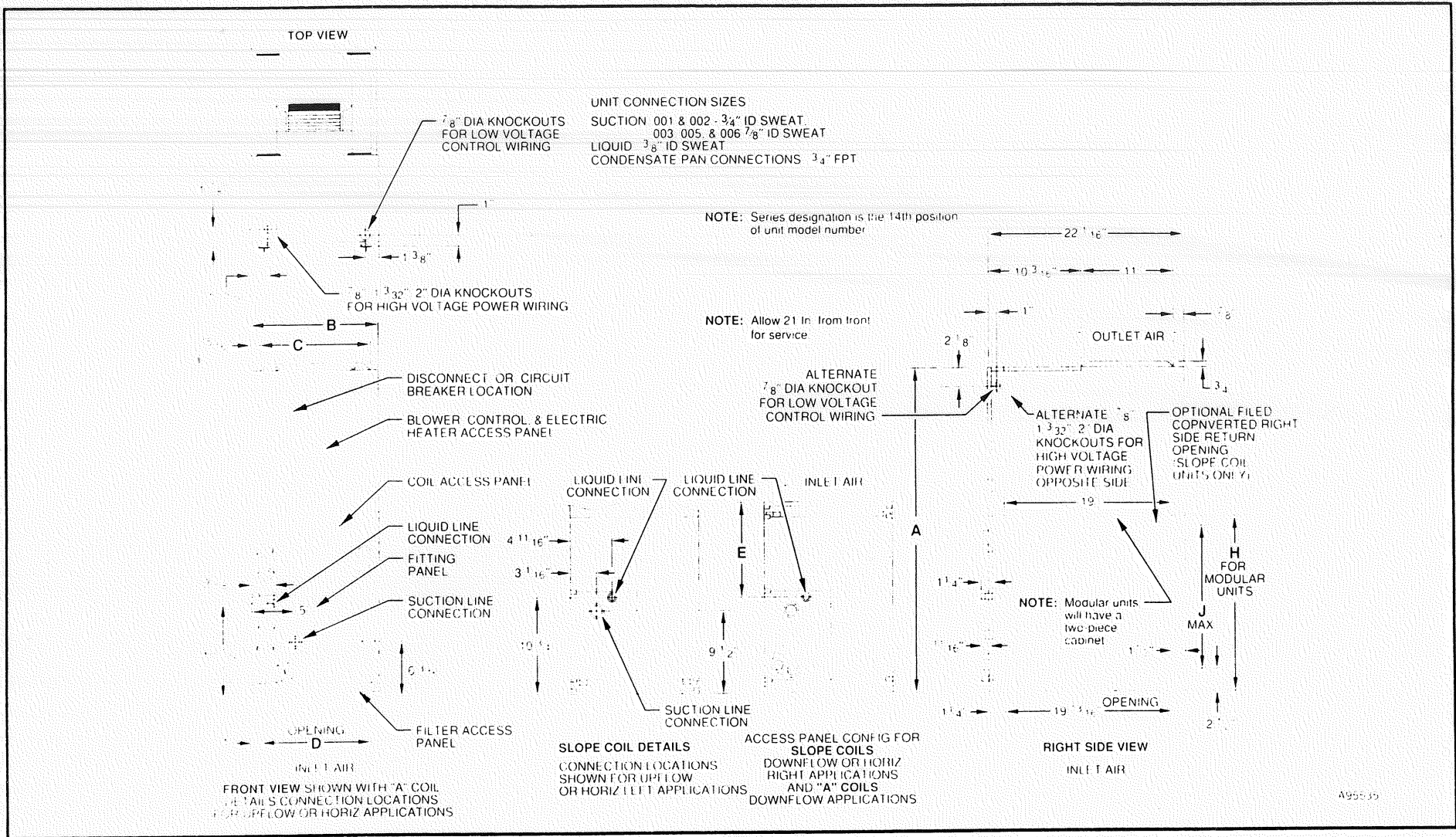
HACR — Heating, Air Conditioning, Refrigeration

LRA — Locked Rotor Amps

MCA — Minimum Circuit Amps

RLA — Rated Load Amps

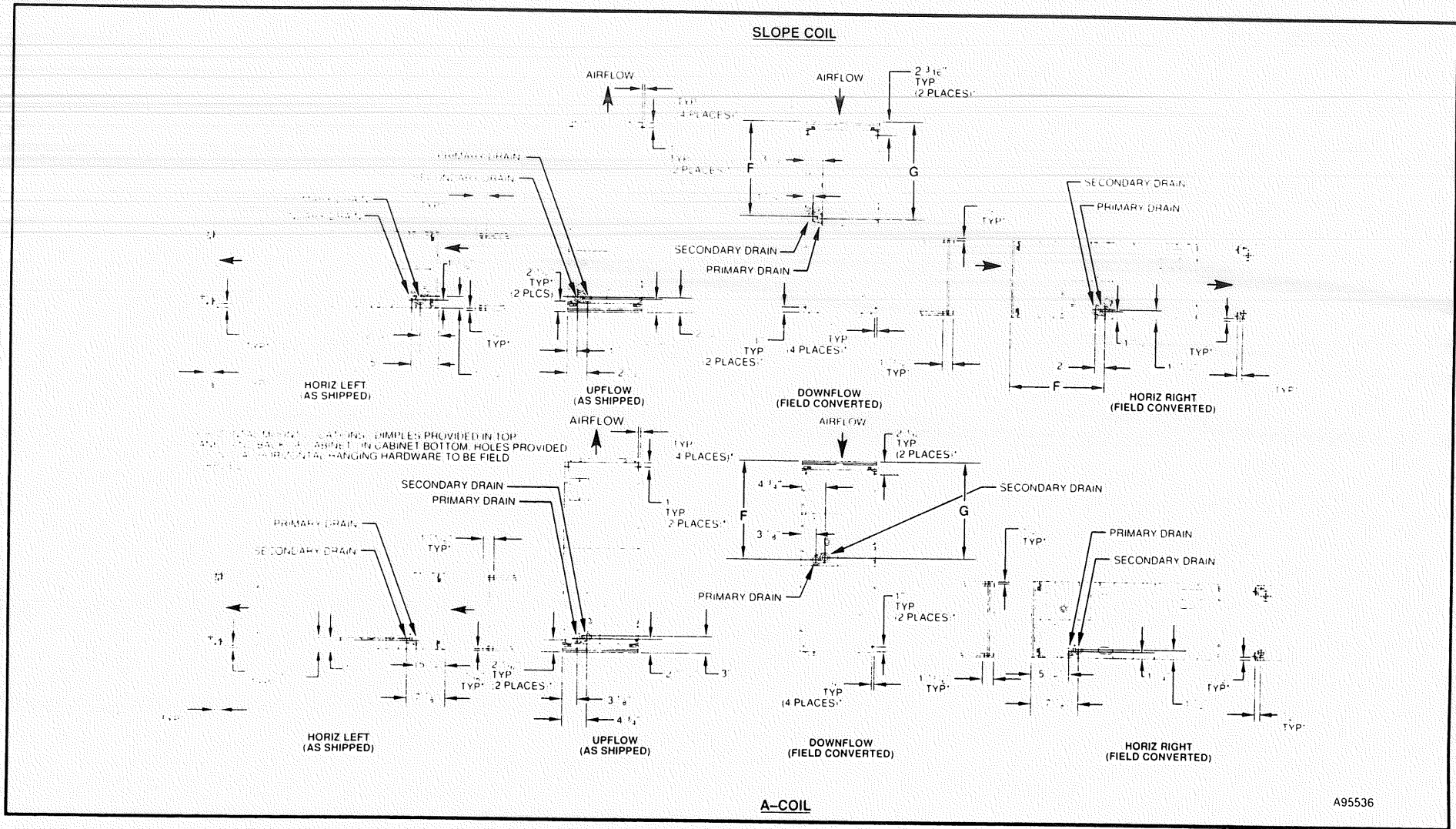
Dimensions



495535

UNIT	SIZE	A	B	C	D	E
		In.	In.	In.	In.	In.
FK4C	001	47-5/8	17-5/8	15-3/4	15-5/8	15-3/8
	002	42-11/16	17-5/8	15-3/4	15-5/8	10-3/4
	003	53-7/16	21-1/8	19-1/4	19-1/8	19-3/16
	005	53-7/16	21-1/8	19-1/4	19-1/8	19-1/2
	006	59-3/16	24-11/16	22-3/4	22-11/16	25-1/4

Dimensions continued



UNIT	SIZE	F	G	H	J	COIL CONFIGURATION		OPERATING WEIGHT
		In.	In.	In.	In.	SLOPE	"A"	
FK4C	001	23-1/8	23-5/8	—	17	Yes	—	112
	002	18-9/16	18-1/4	—	—	—	Yes	120
	003	26-15/16	27-1/2	—	19	Yes	—	145
	005	27-1/4	26-15/16	—	—	—	Yes	162
	006	32-15/16	32-5/8	34-1/16	—	—	Yes	195

state-of-the-art Thermostatic Expansion Valve (TXV) refrigerant metering. All of this is packed in a rugged, prepainted metal cabinet that is lined with super-thick, high-density insulation. Obviously a unit built to last.

In addition to superior quality, the FK4C also offers the ultimate in versatility. Compact and designed for upflow, downflow, and horizontal applications, the FK4C fits right where it is needed. It is equipped with sweat connections and has multiple electric

entries for fast, simple installations. Carrier also offers the FK4C with factory- or field-installed electric resistance heat kits in sizes 5kw to 30kw. When the ultimate in efficiency, comfort, and durability is needed, the FK4C is the fan coil to use.

Features

- Programmable ICM2 blower motor
- Easy Select™ Board
- Grooved copper tube
- Lanced sine wave aluminum fin
- Discreet refrigerant circuits
- Prepainted galvanized sheet metal cabinet
- Cooling control in every unit
- Static independent airflow
- Logarithmic spiral blower housings for blower efficiency
- High impact thermoplastic condensate pans
- All units multipoise
- Provision made for suspending from roof or ceiling joists
- Modular cabinet design on 006 size
- Factory-supplied, cleanable, permanent framed filter
- Easy access filter — no tools required
- Field-installed heater packages 5 – 30 kw, fused, circuit breaker, non-fused (10 kw and down)
- Low-voltage terminal block
- AMP plug connection provided for accessory heater packages
- Connections for humidistat/humidifier
- Connections for air cleaner relay
- Blower on/off-delay time selections
- Extra thick 1-in., R 4.2 high-density insulation
- Tested for condensate disposal at conditions much more severe than those required by ARI
- Sweat connections
- Bi-flow hard shut-off TXV
- Multiple electrical entry
- Primary and secondary drain connections with brass inserts
- Inspection plate on A-coil models
- 1-1/2 – 5 ton application
- HUD approved for manufactured housing
- Replaceable 5-amp blade-type auto fuse protects against transformer secondary short
- 40 va. 208/230-v transformer
- All models listed with UL, c-UL, ARI, and RADCO
- Independent fan only selections

Physical data

UNIT SIZE	001	002	003	005	006*
OPERATING WEIGHT (Lb)	112	120	145	162	195
REFRIGERANT Metering Device	R 22 TXV†				
TXV SIZE	3 Ton	3 Ton	5 Ton	5 Ton	5 Ton
COIL Type	Slope	A	Slope	A	A
Rows—Fins/In.	3 - 14				
Face Area (Sq Ft)	2.97	3.46	3.46	5.93	7.42
FAN Air Discharge	Upflow, Downflow, Horizontal				
CFM (Nominal Clg/Htg)	525 / 470 700 / 630 875 / 785 1050 / 945	525 / 470 700 / 630 875 / 785 1050 / 945	700 / 630 875 / 785 1050 / 945 1225 / 1100	875 / 785 1050 / 945 1225 / 1100 1400 / 1260	1050 / 945 1225 / 1100 1400 / 1260 1750 / 1575
MOTOR HP (ECM)	1/2	1/2	1/2	1/2	3/4
FILTER SIZE	21-1/2 x 16-3/8	21-1/2 x 16-3/8	21-1/2 x 18-7/8	21-1/2 x 18-7/8	21-1/2 x 23-5/16

* Modular Units

† Fan coil units with TXV must have a start capacitor and relay for single-phase outdoor units with reciprocating compressor.
See outdoor unit presale literature.

Electrical data

UNITS WITHOUT ELECTRICAL HEAT

UNIT SIZE	VOLTS-PHASE	FLA	MIN CKT AMPS	BRANCH CIRCUIT			Fuse Amps
				Min Wire Size Awg*	Max Wire Length (ft)†		
					208v	230v	
001	208/230-1	4.3	5.4	14	158	174	15
002	208/230-1	4.3	5.4	14	158	174	15
003	208/230-1	4.3	5.4	14	158	174	15
005	208/230-1	4.3	5.4	14	158	174	15
006	208/230-1	6.8	8.5	14	100	110	15

* Use copper wire only to connect unit. If other than uncoated (nonplated) 75°F ambient, copper wire (solid wire for 10 AWG and smaller, stranded wire for larger than 10 AWG) is used consult applicable tables of the National Electric Code (ANSI/NFPA 70).
 † Length shown is as measured 1 way along wire path between unit and service panel for a maximum 2% voltage drop.
 FLA — Full Load Amps

Accessory electric heaters

ELECTRIC HEATERS

HEATER PART NO.	KW @ 240V	VOLTS/PHASE	KW/STAGE	INTERNAL CIRCUIT PROTECTION	FAN COIL SIZE USED WITH	HEATING CAP. @ 230V‡	SMART HEAT CAPABLE††
KFAEH0201N05	5	230/1	5	None**	All	15,700	No
KFAEH0301N08	8	230/1	8	None**	All	25,100	No
KFAEH0401N10	10	230/1	10	None**	All	31,400	No
KFAEH2601F15	15	230/1	5, 10	Fuses	All	47,100	Yes
KFAEH0601F20	20	230/1	10, 10	Fuses	All	62,800	No
KFAEH2501N09	9	230/1*	3, 6	None**	All	28,300	Yes
KFAEH0801315	15	230/3	5, 10	None**	All	47,100	No
KFAEH0901318	18	230/3	6, 6, 6	None**	All	56,500	No
KFAEH1001F24	24	230/3†	8, 8, 8	Fuses	003, 005, 006	78,500	Yes
KFAEH1101F30	30	230/3†	10, 10, 10	Fuses	005, 006	94,200	Yes
KFAEH1301C05	5	230/1	5	Ckt Bkr**	All	15,700	No
KFAEH1401C08	8	230/1	8	Ckt Bkr**	All	25,100	No
KFAEH1501C10	10	230/1	10	Ckt Bkr**	All	31,400	No
KFAEH2801C15	15	230/1	5, 10	Ckt Bkr**	All	47,100	Yes
KFAEH1701C20	20	230/1	10, 10	Ckt Bkr**	All	62,800	No
KFAEH2701S15	15	230/1	5, 10	Fused**	All	47,100	Yes
KFAEH1901S20	20	230/1	10, 10	Fused**	All	62,800	No

* These heaters field convertible to 3 phase.
 † These heaters field convertible to single phase.
 ‡ Blower motor heat not included.
 ** c-UL approved.
 †† Heaters designated with yes are Smart Heat capable when used with corporate 2-speed programmable thermostat (TSTATCCP2S01-A).

ELECTRIC HEATER INTERNAL PROTECTION

HEATER KW	PHASE	FUSES QTY/SIZE	CKT BKR QTY SIZE
5	1	—	2 60
8	1	—	2 60
9	1 3	—	—
10	1	—	—
15	1	—	2 60
15	3	2 30, 2 60	4 60
18	3	—	—
20	1	—	—
24	3 1	4 60	4 60
30	3 1	6 60	—

WE WOULD LIKE TO SERVE YOU



865359

DESIGN-BUILD CONTRACTOR

AIR CONDITIONING, REFRIGERATION, HEAT PUMPS, HEATING, SHEET METAL, HEAT TRANSFER & RECOVERY

DOWN EAST ENERGY TO PO BOILER

MWE
DIFFER
BY PWR

Pricing for Air Conditioning System

Base Bid for installing Air Conditioning capability for the Gallagher residence at 520 Capisic Street, Portland. Our proposal utilizes a Carrier 10 EER Condensing Unit and Deluxe Fan Coil capable of overcoming high static pressure. Price includes Supply and Return transitions to tie into existing duct with portions of the return lined for sound attenuation. Pricing also includes a hot water coil with transitions to allow tie into. System includes refrigerant piping from condensing unit to fan coil, condensate piping from fan coil to nearest indirect drain line. Pricing includes low voltage control wiring and thermostat. Power wiring to condensing unit by licensed electrician is included.

\$ 3,895.00 *

* Options

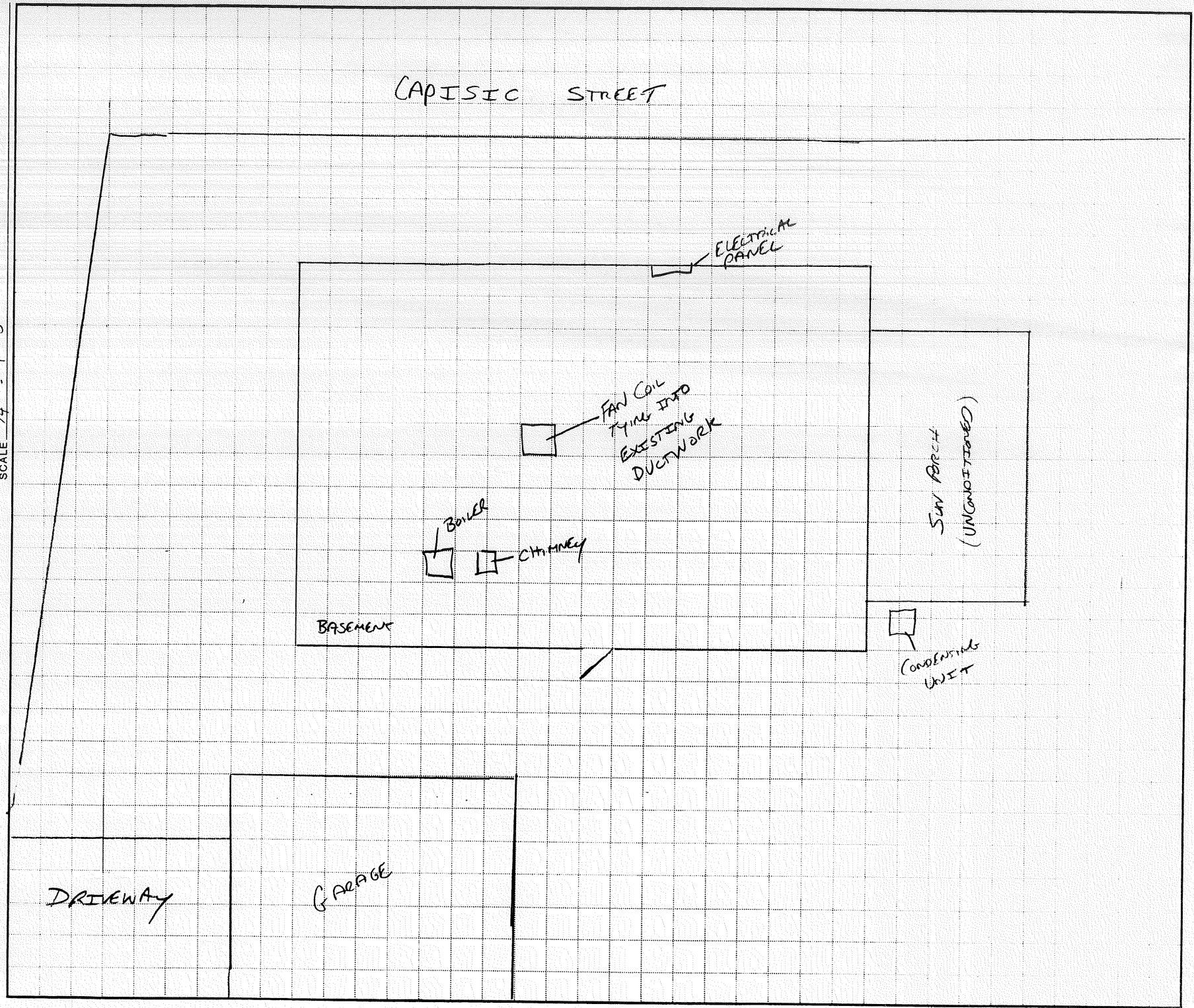
Carrier Mechanical Air Cleaner.	Add \$	225
Replace Deluxe fan coil with Standard	Deduct \$	295
Wrap Duct work in the Basement	Add \$	625
Install New Oil Boiler	Add \$	4,650.

Note - The existing duct work to the second floor is very limited in its capacity to carry enough air flow to provide proper cooling. We feel the high static unit will help overcome this shortcoming, but that this fact in combination with the fact that there is no high return makes it impossible to quantify the results that will be seen upstairs.

ACCEPTED
VERIFIED
86545

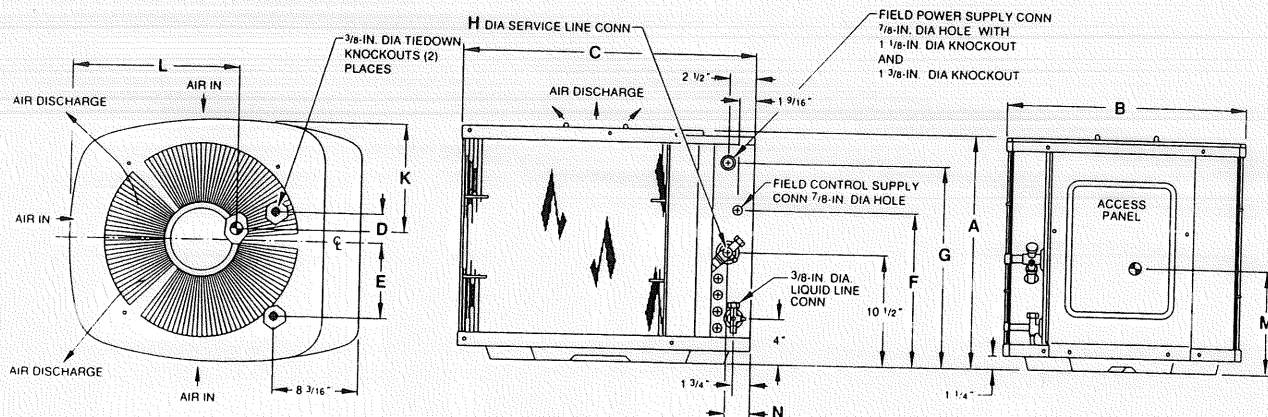
AVERY SERVICES, INC.
7 Thomas Drive
WESTBROOK, MAINE 04092
(207) 772-8687
FAX (207) 874-0933

JOB DR. GALLAGHER - 520 CAPEISIC STREET
SHEET NO. _____ OF _____
CALCULATED BY _____ DATE _____
CHECKED BY _____ DATE _____
SCALE $\frac{1}{4}'' = 1'-0''$



NOTES:

1. Allow 30 in. clearance to service side of unit, 48 in. above unit, 6 in. on one side, 12 in. on remaining side, and 24 in. between units for proper airflow.
2. Minimum outdoor operating ambient in cooling mode is 55°F (unless low-ambient control is used) max 125°F.
3. Series designation is the 13th position of the unit model number.
4. Center of gravity



A97000

DIMENSIONS (IN.)

UNIT SIZE	SERIES	UNIT DIMENSIONS											MINIMUM MOUNTING PAD DIMENSIONS	
		A	B	C	D	E	F	G	H	K	L	M		N
018	0	21-7/8	22-1/2	27-1/2	2-13/16	6-15/16	13-3/8	17-7/8	5/8	12-3/16	14-1/2	10-3/8	2-3/8	20 x 27
018	1	21-7/8	22-1/2	27-1/2	2-13/16	6-15/16	13-3/8	17-7/8	5/8	12	15-1/8	10-3/8	2-3/8	20 x 27
024	0	21-7/8	22-1/2	27-1/2	2-13/16	6-15/16	13-3/8	17-7/8	5/8	12-3/16	14-1/2	10-3/8	2-3/8	20 x 27
024	1	21-7/8	22-1/2	27-1/2	2-13/16	6-15/16	13-3/8	17-7/8	5/8	12	15-1/8	10-3/8	2-3/8	20 x 27
030	0	31-7/8	22-1/2	27-1/2	2-13/16	6-15/16	21-1/2	27-7/8	3/4	12-3/16	14-3/4	11-13/16	2-3/8	20 x 27
030	1	31-7/8	22-1/2	27-1/2	2-13/16	6-15/16	21-1/2	27-7/8	3/4	12-9/16	14	12-5/16	2-3/8	20 x 27
036	0	31-7/8	22-1/2	27-1/2	2-13/16	6-15/16	21-1/2	27-7/8	3/4	12-3/16	14-3/4	11-13/16	2-3/8	20 x 27
036	1	31-7/8	22-1/2	27-1/2	2-13/16	6-15/16	21-1/2	27-7/8	3/4	12-9/16	14	12-5/16	2-3/8	20 x 27
036	2	31-7/8	22-1/2	27-1/2	2-13/16	6-15/16	21-1/2	27-7/8	3/4	12-9/16	14	12-5/16	2-3/8	20 x 27
042	0	31-7/8	30	34-15/16	4	9-3/4	21-1/2	27-7/8	7/8	15-3/4	19	12-13/16	2-15/16	26 x 32
042	1	31-7/8	30	34-15/16	4	9-3/4	21-1/2	27-7/8	7/8	15-3/4	19	12-13/16	2-15/16	26 x 32
048	1	31-7/8	30	34-15/16	4	9-3/4	21-1/2	27-7/8	7/8	15-3/4	19	12-13/16	2-15/16	26 x 32
048	3	31-7/8	30	34-15/16	4	9-3/4	21-1/2	27-7/8	7/8	13-1/2	20-7/16	14-1/16	2-15/16	26 x 32
060	1	37-7/8	30	34-15/16	4	9-3/4	21-1/2	27-7/8	7/8	13-1/2	20-7/16	14-1/16	2-15/16	26 x 32
060	3	37-7/8	30	34-15/16	4	9-3/4	21-1/2	27-7/8	7/8	15-3/4	19-15/16	14-1/16	2-15/16	26 x 32

Physical data

UNIT SIZE	018-30/31	024-30/31	030-30/31	036-30/31	036-32	042-30/31	048-31/33	060-31/33
OPERATING WEIGHT (Lb)	138/143	140/153	158/163	159/168	164	230/237	241/241	258/258
REFRIGERANT	R-22							
Control	AccuRater® Piston							
Charge (Lb) @ 15 Ft	3.69	4.01	4.88	5.01	5.01	6.06/6.13	6.81/7.00	10.31/8.50
CONDENSER FAN	Vertical							
Air Discharge	1600	1600	1900	1900	1900	2900	2900	2800
Air Qty (CFM)	1.12	1/12	1/10	1/10	1/10	1/4	1/4	1/4
Motor HP	1100							
Motor RPM								
CONDENSER COIL								
Face Area (Sq Ft)	25	7.2	25	20	10.8	25	20/18	15.0
Fins per In.	1	1	1	1	25	1	1	23/20
Rows	1	1	1	1	1	1	1	1
Circuits	1	1	2	2	2	3	3	20/25
VALVE CONNECT (In. ID)								
Vapor	5/8		3/4			7/8		
Liquid	3/8							
REFRIG TUBES* (In. OD)								
Vapor (0-50 Ft Tube Length)	5/8	5/8	3/4	3/4	3/4	7/8	7/8	1-1/8
Vapor (Max Diameter for Long-Line Applications)	3/4	3/4	7/8	7/8	7/8	1-1/8	1-1/8	1-1/8
Liquid (0-50 Ft. Tube Length)†	3/8							
Liquid (For Long-Line Applications)	3/8							
COMPRESSOR								
Manufacturer & Type	Copeland Recip/ Tecumseh Recip				Millennium Scroll	Copeland Recip/ Millennium Scroll	Millennium Scroll/ Copeland Scroll	

NOTE: See unit Installation Instructions for proper installation.

* For tube sets between 50 and 175 ft, consult Long-Line Application Guideline.

† 3/8-in. liquid tube must be used on capillary type coils.

METERING DEVICE

CONDENSING UNIT SIZE	PISTON* IDENTIFICATION NO.
018-30, 31	52
024-30, 31	59
030-30, 31	70
036-30, 31	73
036-32	76
042-30	82
042-31	78
048-31	82
048-33	84
060-31	98
060-33	96

* Piston listed is for any approved non-capillary tube non-TXV coil combination. Piston is shipped with outdoor unit and must be installed in an approved indoor coil.

Electrical Data

UNIT SIZE	V/PH	OPER VOLTS*		COMPR		FAN FLA	MCA	60 MIN WIRE SIZE†	75 MIN WIRE SIZE†	60 MAX LENGTH (Ft)‡	75 MAX LENGTH (Ft)‡	MAX FUSE** OR HACR TYPE CKT BKR AMPS
		Max	Min	LRA	RLA							
018-30, 31	208-230/1	253	197	49.0	8.6	0.5	11.3	14	14	99	94	15
024-30, 31				61.0	11.2	0.5	14.5	14	14	72	68	20
030-30, 31				75.0	13.7	0.8	17.9	14	14	56	75	25
036-30, 31				86.0	15.3	0.8	19.9	14	14	39	37	30
036-32				105.0	17.9	0.8	23.2	12	12	63	60	35
042-30				105.0	17.3	1.4	23.5	12	12	63	60	35
042-31				115.0	19.9	1.4	26.3	10	10	87	83	40
048-31				140.0	24.4	1.4	31.9	8	10	111	68	50
048-33				129.0	23.7	1.4	31.0	8	10	115	70	50
060-31				165.0	28.8	1.4	37.4	8	8	91	87	50
060-33				169.0	28.8	1.4	37.4	8	8	91	87	60

* Permissible limits of the voltage range at which the unit will operate satisfactorily. Operation outside these limits may result in unit failure.

† If wire is applied at ambient greater than 30°C (86°F), consult Table 310-16 of the NEC (ANSI/NFPA 70).

‡ The ampacity of nonmetallic-sheathed cable (NM), trade name ROMEX, shall be that of 60°C (140°F) conductors, per the NEC (ANSI/NFPA 70) Article 336-26.

§ If other than uncoated (non-plated), 60 or 75°C (140 or 167°F) insulation, copper wire (solid wire for 10 AWG and smaller, stranded wire for larger than 10 AWG) is used, consult applicable tables of the NEC (ANSI/NFPA 70).

¶ Length shown is as measured 1 way along wire path between unit and service panel for a voltage drop not to exceed 2%.

** Time-delay fuse.

NOTES:

1. Control circuit is 24v on all units and requires external power source.
2. Copper wire must be used from service disconnect to unit.
3. All motors/compressors contain internal overload protection.

FLA — Full Load Amps

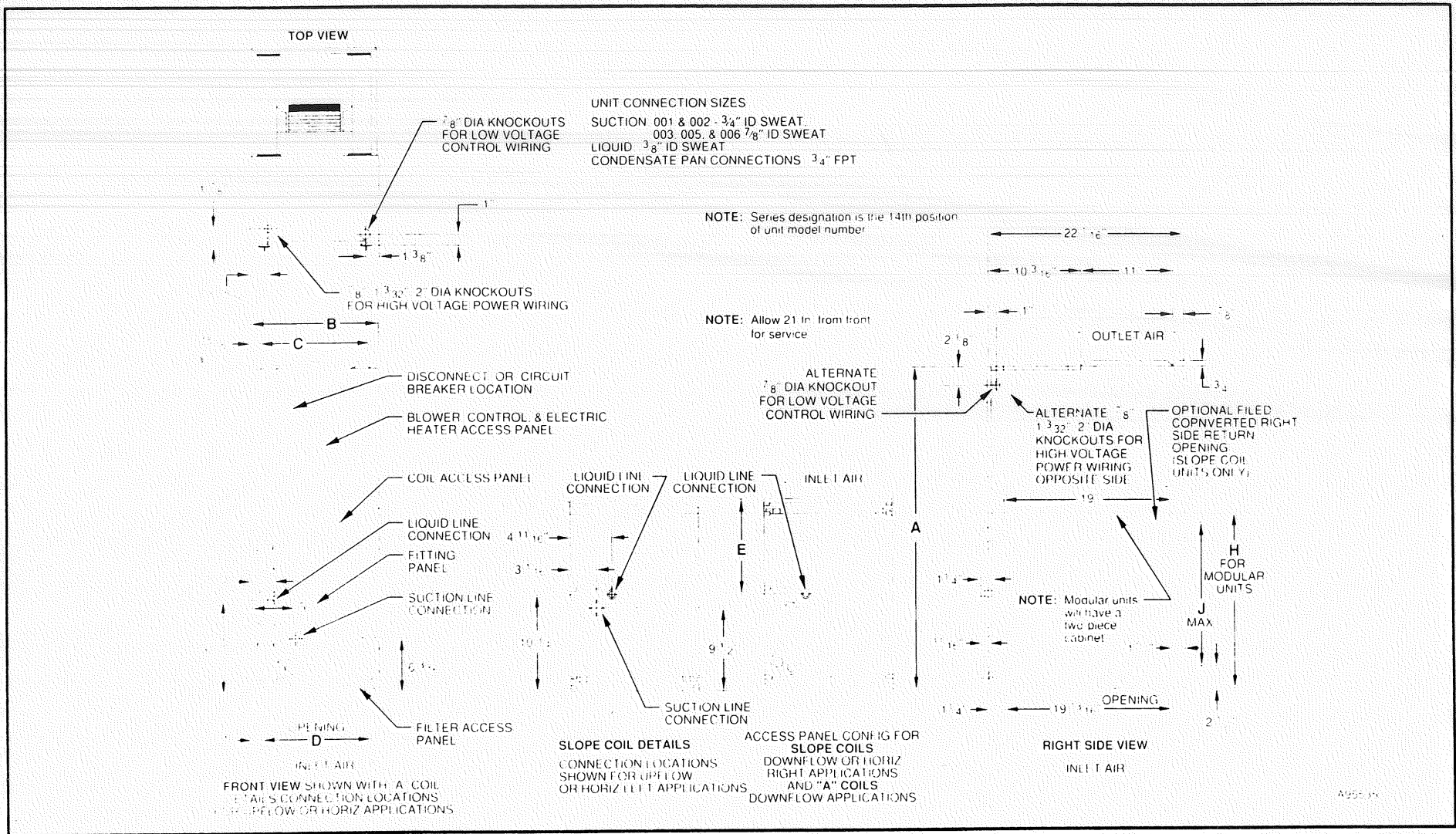
HACR — Heating, Air Conditioning, Refrigeration

LRA — Locked Rotor Amps

MCA — Minimum Circuit Amps

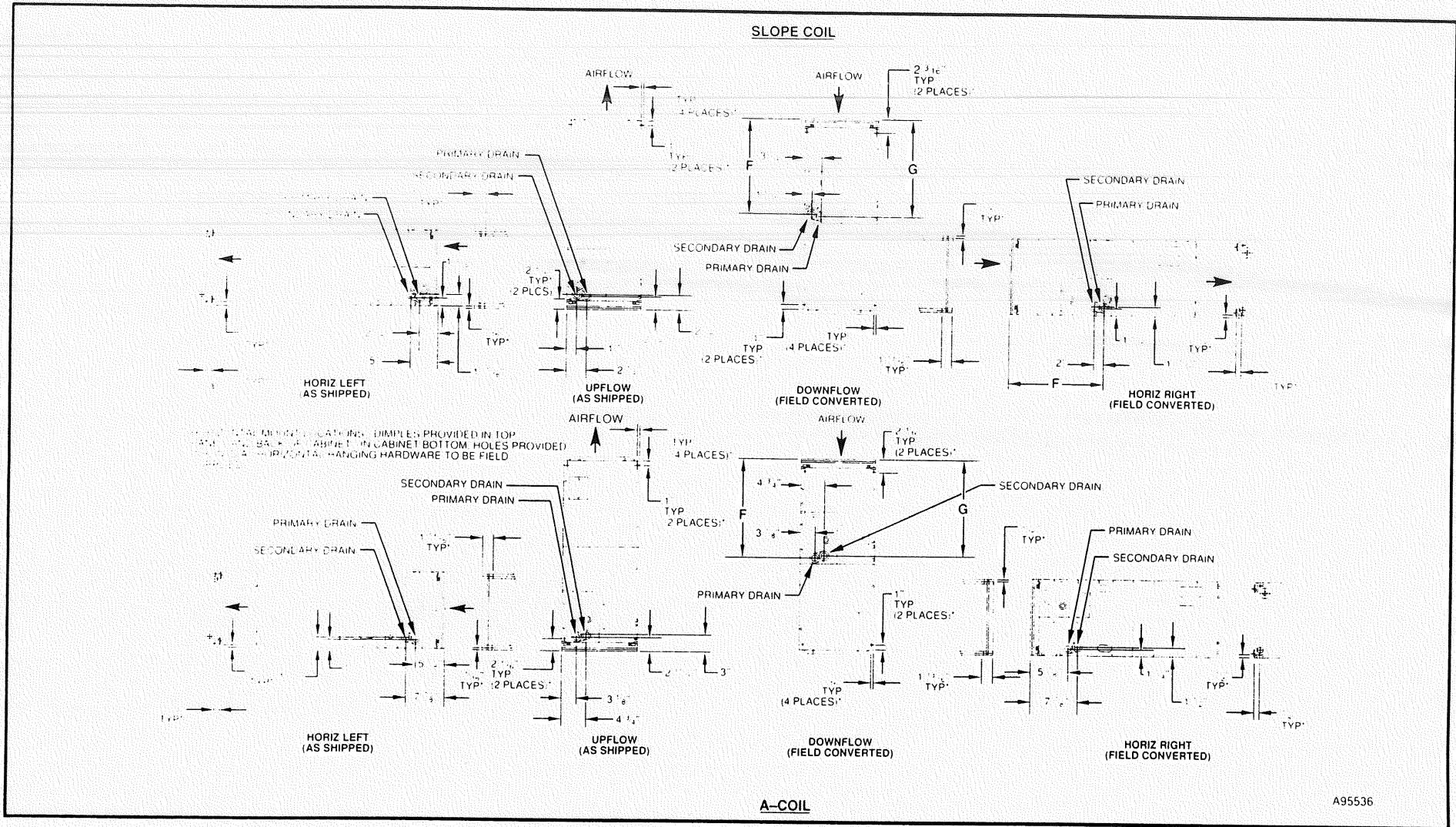
RLA — Rated Load Amps

Dimensions



UNIT	SIZE	A	B	C	D	E
		In.	In.	In.	In.	In.
FK4C	001	47-5/8	17-5/8	15-3/4	15-5/8	15-3/8
	002	42-11/16	17-5/8	15-3/4	15-5/8	10-3/4
	003	53-7/16	21-1/8	19-1/4	19-1/8	19-3/16
	005	53-7/16	21-1/8	19-1/4	19-1/8	19-1/2
	006	59-3/16	24-11/16	22-3/4	22-11/16	25-1/4

Dimensions continued



UNIT	SIZE	F	G	H	J	COIL CONFIGURATION		OPERATING WEIGHT Lb
		In.	In.	In.	In.	SLOPE	"A"	
FK4C	001	23-1/8	23-5/8	—	17	Yes	—	112
	002	18-9/16	18-1/4	—	—	—	Yes	120
	003	26-15/16	27-1/2	—	19	Yes	—	145
	005	27-1/4	26-15/16	—	—	—	Yes	162
	006	32-15/16	32-5/8	34-1/16	—	—	Yes	195

state-of-the-art Thermostatic Expansion Valve (TXV) refrigerant metering. All of this is packed in a rugged, prepainted metal cabinet that is lined with super-thick, high-density insulation. Obviously a unit built to last.

In addition to superior quality, the FK4C also offers the ultimate in versatility. Compact and designed for upflow, downflow, and horizontal applications, the FK4C fits right where it is needed. It is equipped with sweat connections and has multiple electric

entries for fast, simple installations. Carrier also offers the FK4C with factory- or field-installed electric resistance heat kits in sizes 5kw to 30kw. When the ultimate in efficiency, comfort, and durability is needed, the FK4C is the fan coil to use.

Features

- Programmable ICM2 blower motor
- Easy Select™ Board
- Grooved copper tube
- Lanced sine wave aluminum fin
- Discreet refrigerant circuits
- Prepainted galvanized sheet metal cabinet
- Cooling control in every unit
- Static independent airflow
- Logarithmic spiral blower housings for blower efficiency
- High impact thermoplastic condensate pans
- All units multipoise
- Provision made for suspending from roof or ceiling joists
- Modular cabinet design on 006 size
- Factory-supplied, cleanable, permanent framed filter
- Easy access filter — no tools required
- Field-installed heater packages 5 – 30 kw, fused, circuit breaker, non-fused (10 kw and down)
- Low-voltage terminal block
- AMP plug connection provided for accessory heater packages
- Connections for humidistat/humidifier
- Connections for air cleaner relay
- Blower on/off-delay time selections
- Extra thick 1-in., R 4.2 high-density insulation
- Tested for condensate disposal at conditions much more severe than those required by ARI
- Sweat connections
- Bi-flow hard shut-off TXV
- Multiple electrical entry
- Primary and secondary drain connections with brass inserts
- Inspection plate on A-coil models
- 1-1/2 – 5 ton application
- HUD approved for manufactured housing
- Replaceable 5-amp blade-type auto fuse protects against transformer secondary short
- 40 va, 208/230-v transformer
- All models listed with UL, c-UL, ARI, and RADCO
- Independent fan only selections

Physical data

UNIT SIZE	001	002	003	005	006*
OPERATING WEIGHT (Lb)	112	120	145	162	195
REFRIGERANT	R 22				
Metering Device	TXV†				
TXV SIZE	3 Ton	3 Ton	5 Ton	5 Ton	5 Ton
COIL	Slope				
Type	Slope	A	Slope	A	A
Rows—Fins/In.	3 - 14				
Face Area (Sq Ft)	2.97	3.46	3.46	5.93	7.42
FAN	Upflow, Downflow, Horizontal				
Air Discharge	Upflow, Downflow, Horizontal				
CFM (Nominal Cfg/Htg)	525 / 470 700 / 630 875 / 785 1050 / 945	525 / 470 700 / 630 875 / 785 1050 / 945	700 / 630 875 / 785 1050 / 945 1225 / 1100	875 / 785 1050 / 945 1225 / 1100 1400 / 1260	1050 / 945 1225 / 1100 1400 / 1260 1750 / 1575
MOTOR HP (ECM)	1/2	1/2	1/2	1/2	3/4
FILTER SIZE	21-1/2 x 16-3/8	21-1/2 x 16-3/8	21-1/2 x 18-7/8	21-1/2 x 18-7/8	21-1/2 x 23-5/16

* Modular Units

† Fan coil units with TXV must have a start capacitor and relay for single-phase outdoor units with reciprocating compressor.
See outdoor unit presale literature

Electrical data

UNITS WITHOUT ELECTRICAL HEAT

UNIT SIZE	VOLTS-PHASE	FLA	MIN CKT AMPS	BRANCH CIRCUIT			Fuse Amps
				Min Wire Size Awg*	Max Wire Length (ft)†		
001	208/230-1	4.3	5.4		14	208v	230v
002	208/230-1	4.3	5.4	14	158	174	15
003	208/230-1	4.3	5.4	14	158	174	15
005	208/230-1	4.3	5.4	14	158	174	15
006	208/230-1	6.8	8.5	14	158	174	15
				14	100	110	15

* Use copper wire only to connect unit. If other than uncoated (nonplated) 75°F ambient, copper wire (solid wire for 10 AWG and smaller, stranded wire for larger than 10 AWG) is used consult applicable tables of the National Electric Code (ANSI/NFPA 70).
 † Length shown is as measured 1 way along wire path between unit and service panel for a maximum 2% voltage drop.
 FLA — Full Load Amps

Accessory electric heaters

ELECTRIC HEATERS

HEATER PART NO.	KW @ 240V	VOLTS/PHASE	KW/STAGE	INTERNAL CIRCUIT PROTECTION	FAN COIL SIZE USED WITH	HEATING CAP. @ 230V‡	SMART HEAT CAPABLE††
KFAEH0201N05	5	230/1	5	None**	All	15,700	No
KFAEH0301N08	8	230/1	8	None**	All	25,100	No
KFAEH0401N10	10	230/1	10	None**	All	31,400	No
KFAEH2601F15	15	230/1	5, 10	Fuses	All	47,100	Yes
KFAEH0601F20	20	230/1	10, 10	Fuses	All	62,800	No
KFAEH2501N09	9	230/1*	3, 6	None**	All	28,300	Yes
KFAEH0801315	15	230/3	5, 10	None**	All	47,100	No
KFAEH0901318	18	230/3	6, 6, 6	None**	003, 005, 006	56,500	No
KFAEH1001F24	24	230/3†	8, 8, 8	Fuses	005, 006	78,500	Yes
KFAEH1101F30	30	230/3†	10, 10, 10	Fuses	005, 006	94,200	Yes
KFAEH1301C05	5	230/1	5	Ckt Bkr**	All	15,700	No
KFAEH1401C08	8	230/1	8	Ckt Bkr**	All	25,100	No
KFAEH1501C10	10	230/1	10	Ckt Bkr**	All	31,400	No
KFAEH2801C15	15	230/1	5, 10	Ckt Bkr**	All	47,100	Yes
KFAEH1701C20	20	230/1	10, 10	Ckt Bkr**	All	62,800	No
KFAEH2701S15	15	230/1	5, 10	Fused**	All	47,100	Yes
KFAEH1901S20	20	230/1	10, 10	Fused**	All	62,800	No

* These heaters field convertible to 3 phase.
 † These heaters field convertible to single phase.
 ‡ Blower motor heat not included.
 ** c-UL approved.
 †† Heaters designated with yes are Smart Heat capable when used with corporate 2-speed programmable thermostat (TSTATCCP2S01-A).

ELECTRIC HEATER INTERNAL PROTECTION

HEATER KW	PHASE	FUSES QTY./SIZE	CKT BKR QTY./SIZE
5	1	—	—
8	1	—	2 60
9	1 3	—	2 60
10	1	—	—
15	1	—	2 60
15	3	2 30, 2 60	4 60
18	3	—	—
20	1	—	—
24	3 1	4 60	4 60
30	3 1	6 60	—
		6 60	—