

**City of Portland, Maine - Building or Use Permit Application**

389 Congress Street, 04101 Tel: (207) 874-8703, Fax: (207) 874-8716

Permit No: 06-084	Issue Date:	CBL: 196-G012001
<b>PERMIT ISSUED</b>		
<b>JUN 12 2006</b>		
<b>CITY OF PORTLAND</b>		
Owner Address: 18 Rabbit Run	Phone:	Zone: R3
Contractor Address: 7 Thomas Drive Westbrook	Phone: 2077728687	
Permit Type: HVAC		
Permit Fee: \$130,521.00	Cost of Work: \$14,600.00	CEO District: 3
FIRE DEPT: <input type="checkbox"/> Approved <input type="checkbox"/> Denied <i>NIA</i>	INSPECTION: Use Group: <i>NIA</i> Type: <i>HVAC</i> <i>6/12/06</i> <i>[Signature]</i>	
Signature:	Signature:	
PEDESTRIAN ACTIVITIES DISTRICT (P.A.D.)		
Action: <input type="checkbox"/> Approved <input type="checkbox"/> Approved w/Conditions <input type="checkbox"/> Denied		
Signature:		Date:

Location of Construction: 18 Rabbit Run	Owner Name: Blethen Robert C Jr &
Business Name: n/a	Contractor Name: Avery Services, Inc.
Lessee/Buyer's Name n/a	Phone: n/a
Past Use: Single Family	Proposed Use: Install Air Conditioner
Proposed Project Description: Install Air Conditioner <i>12000</i>	
<i>resale use: single family</i>	

Permit Taken By: GG	Date Applied For: 06/09/2006	<b>Zoning Approval</b>		
<ol style="list-style-type: none"> <li>This permit application does not preclude the Applicant(s) from meeting applicable State and Federal Rules.</li> <li>Building permits do not include plumbing, septic or electrical work.</li> <li>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..</li> </ol>	<b>Special Zone or Reviews</b> <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"/> <i>OK</i> Date: <i>6/12/06 ABC</i>	<b>Zoning Appeal</b> <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 Date:	<b>Historic Preservation</b> <input checked="" type="checkbox"/> Not in District or Landmark <input type="checkbox"/> Does Not Require Review <input type="checkbox"/> Requires Review <input type="checkbox"/> Approved <input type="checkbox"/> Approved w/Conditions <input type="checkbox"/> Denied Date:	

**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 provision of the code(s) applicable to such permit.

SIGNATURE OF APPLICANT	ADDRESS	DATE	PHONE
RESPONSIBLE PERSON IN CHARGE OF WORK, TITLE		DATE	PHONE

# PROPOSAL

1225

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

FAX (207) 874-0933

879-

TO: Rob & Katherine Blethen  
18 Rabbit Run  
Portland ME 04103

PHONE <del>829</del> 1825	DATE 5/17/06
JOB NUMBER CJA #680421	JOB PHONE

We hereby submit specifications and estimates for:

Avery Services, Inc. is pleased to you with a quote on installing a central air conditioning system. Scope of work as follows:

Provide and install a Carrier FV4BNF006000 fan coil unit, with variable speed motor to increase controlled dehumidification and save up to 80% less electricity, located in the attic.

Provide and install a Carrier EZXCab mechanical air cleaner. This filter offers a MERV 10 rating. This attaches to the fan coil.

Provide and install a Carrier 24APA3 condensing unit, to be located behind the fence on the left side of your home. This (15 SEER) compressor uses Puron refrigerant and has a silencer system for extra quiet operation. Provide and install a duct work system of galvanized metal. The main trunk and duct runs are in the attic (insulated). The supply air will be distributed by ceiling grilles.

Provide and install a Carrier Weathermaker III, <sup>Two</sup> ~~three~~ <sup>203</sup> zone system. Zone one; Master Bedroom, Zone two; second floor bedrooms, Zone three; first floor (covering kitchen dining room and Great room).

Provide and install one (1) Guardian Air PHI cell air cleaner.

This system is ligible for The Avery Advantage Guarantee.

OPTION: To add the return duct run going down to the basement from the attic.

ADD \$600.00 <sup>initials</sup>

EXCLUSIONS: Adequacy of existing systems, plumbing, power wiring, structural, soffiting.

CK # 106  
\$ 3,500

We Propose hereby to furnish material and labor — complete in accordance with the above specifications, for the sum of:

Fourteen Thousand Six Hundred Seventy Nine and 00/100 Dollars dollars (\$) 14,679.00 +

Payment to be made as follows:

25% upon acceptance - Progress billing/net ten (10) days - All balances due upon substantial completion.  
If payment is not made as outlined above, a service charge of 2% per month on the overdue balance plus all reasonable costs of collection, including attorney's fees will be paid.

All material is guaranteed to be as specified All work to be completed in a professional manner according to standard practices Any alteration or deviation from above specifications involving extra costs will be executed only upon written orders and will become an extra charge over and above the estimate All agreements contingent upon strikes, accidents or delays beyond our control Owner to carry fire tornado and other necessary insurance Our workers are fully covered by Worker's Compensation insurance

Authorized Signature

Note. This proposal may be withdrawn by us if not accepted within

30 days

Signature

Signature

Acceptance of Proposal — The above prices specifications and conditions are satisfactory and are hereby accepted You are authorized to do the work as specified Payment will be made as outlined above

Date of Acceptance

5.19.06

NEXT DOOR  
Sheet 1

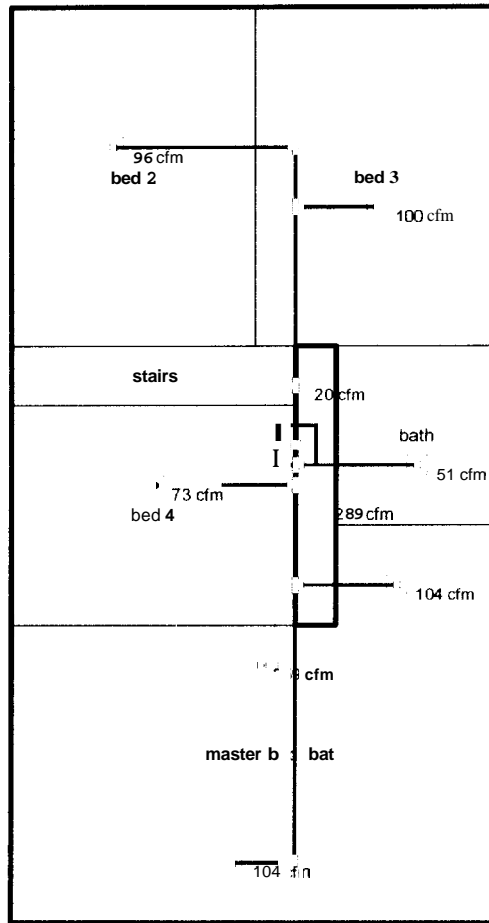
12'-0"

25'-0"

38'-0"

STREET

Back Yard



Job #:  
Performed by for:

Your Company Name

Your Company Address  
Your City, ST 99999-9999  
Phone: 999-555-1212 Fax: 999-555-2121


Scale: 1 : 114  
Page 1  
Right-Suite Residential (tm)  
5.5.12 RSR-Demo  
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Project1.rdr

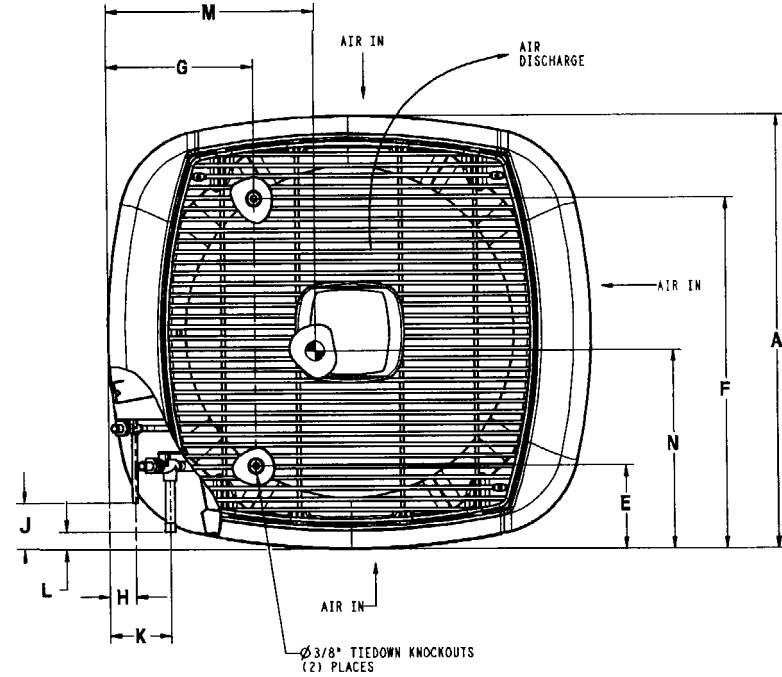
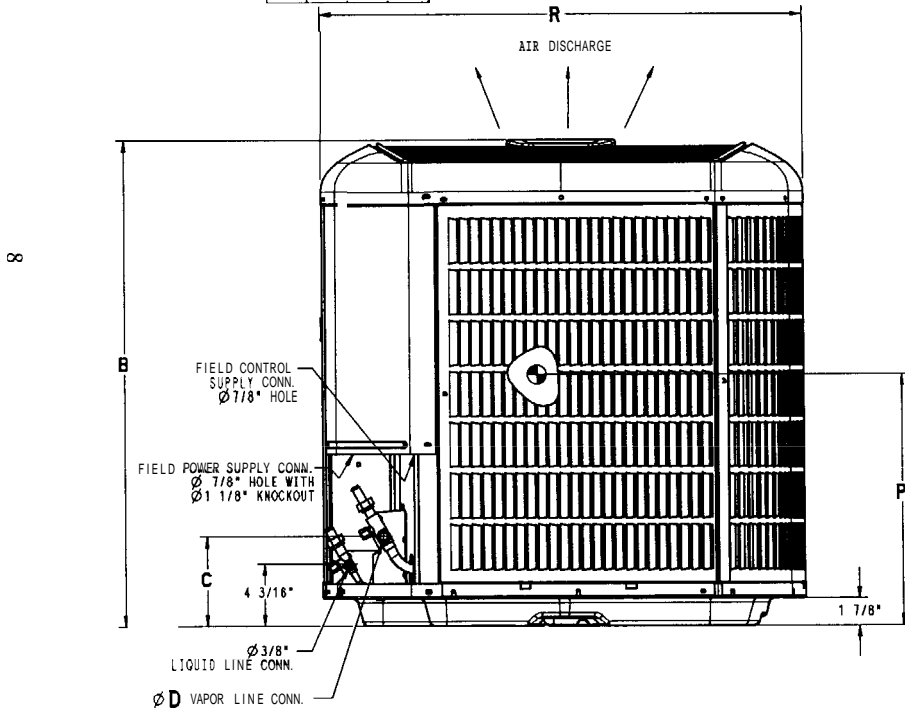
**DIMENSIONS**

UNIT	SERIES	ELECTRICAL CHARACTERISTICS				A	B	C	D	E	F	G	H	J	K	L	M	N	P	R	OPERATING WEIGHT	SHIPPING WEIGHT	SHIPPING DIMENSIONS (L x W x H)
		X	O	O	O																		
24APA318	0	X	0	0	0	29 1/4"	29 1/2"	6 1/16"	5/8"	5 5/8"	23 3/4"	10 1/16"	1 3/4"	3 3/16"	4 3/16"	1 1/8"	15 1/2"	13"	13 3/4"	33"	166#	197#	34 1/8" X 30 1/2" X 34 1/16"
24APA324	0	X	0	0	0	29 1/4"	29 1/2"	6 1/16"	5/8"	5 5/8"	23 3/4"	10 1/16"	1 3/4"	3 3/16"	4 3/16"	1 1/8"	16"	13"	14"	33"	168#	199#	34 1/8" X 30 1/2" X 34 1/16"
24APA330	0	X	0	0	0	29 1/4"	36 5/16"	6 5/16"	3/4"	5 5/8"	23 3/4"	10 1/16"	1 3/4"	3 3/16"	4"	1 1/8"	17"	14 1/2"	16"	33"	185#	218#	34 1/8" X 30 1/2" X 40 7/8"
24APA336	0	X	0	0	0	29 1/4"	39 3/4"	6 5/16"	3/4"	5 5/8"	23 3/4"	10 1/16"	1 3/4"	3 3/16"	4"	1 1/8"	16"	14 1/2"	19"	33"	231#	263#	34 1/8" X 30 1/2" X 44 1/4"
24APA342	0	X	0	0	0	35 1/2"	43 7/8"	6 1/4"	7/8"	6 13/16"	28 3/4"	11 5/8"	1 3/4"	3 3/16"	4 1/16"	1 1/8"	21"	16 1/2"	18 3/4"	40"	259#	295#	41 1/8" X 36 5/8" X 47 11/16"
24APA348	0	X	0	0	0	35 1/2"	43 7/8"	6 1/4"	7/8"	6 13/16"	28 3/4"	11 5/8"	1 3/4"	3 3/16"	4 1/16"	1 1/8"	19 1/2"	18 1/2"	20"	40"	267#	303#	41 1/8" X 36 5/8" X 47 11/16"
24APA360	0	X	0	0	0	35 1/2"	37 1/8"	6 1/4"	7/8"	6 13/16"	28 3/4"	11 5/8"	1 3/4"	3 3/16"	4 1/16"	1 1/8"	22"	16 1/4"	19 1/4"	40"	287#	323#	41 1/8" X 36 5/8" X 40 7/8"

208-230-1-60
230-1-60
208/230-3-60
460-3-60

X = YES  
O = NO

- NOTES:
1. ALLOW 30" CLEARANCE TO SERVICE SIDE OF UNIT, 48" ABOVE UNIT, 6" ON ONE SIDE, 12" ON REMAINING SIDE, AND 24" BETWEEN UNITS FOR PROPER AIRFLOW.
  2. MINIMUM OUTDOOR OPERATING AMBIENT IN COOLING MODE IS 55°F, MAX. 125°F.
  3. SERIES DESIGNATION IS THE 13TH POSITION OF THE UNIT MODEL NUMBER.
  4. CENTER OF GRAVITY 



UNIT SIZE	MINIMUM MOUNTING PAD DIMENSIONS
18, 24, 30, 36	29 1/2" X 33"
42, 48, 60	36 1/2" X 40"

## PHYSICAL DATA

UNIT SIZE - VOLTAGE, SERIES	18-30	24-30	30-30	36-30	42-30	48-30	60-30
Operating Weight (lb)	166	168	185	231	259	267	287
Shipping Weight (lb)	197	199	218	263	295	303	323
Compressor Type	Scroll						
REFRIGERANT	Puron® (R-410A)						
Control	TXV (Puron® Hard Shutoff)						
Charge (lb)	3.9	4.25	5.75	5.85	7.13	8.4	9.35
COND FAN	Propeller Type, Direct Drive						
Air Discharge	Vertical						
Air Qty. (CFM)	2140	2140	2800	2800	3270	3670	3670
Motor HP	1/12	1/12	1/5	1/5	1/5	1/4	1/4
Motor RPM	800	800	800	800	800	800	800
COND COIL							
Face Area (Sq. ft.)	11.26	11.26	14.47	16.08	22.36	22.36	18.30
Fins per In.	20	25	25	25	25	25	20
Rows	1	1	1	1	1	1	2
Circuits	3	3	4	4	5	5	5
VALVE CONNECT. (In. ID)							
Vapor	5/8	5/8	3/4	3/4	7/8	7/8	7/8
Liquid	3/8						
REFRIGERANT TUBES* (In. OD)							
Vapor (0-80 ft. Tube Length)	5/8	5/8	3/4	3/4	7/8	7/8	1-1/8
Liquid (0-80 ft. Tube Length)	3/8						

\* For tubing sets between 80 and 200 ft. horizontal or 20 ft. vertical differential (250 ft. Total Equivalent Length), consult the Long-Line Guideline.  
 Note: See unit Installation Instruction for proper installation.

## VAPOR LINE SIZING AND COOLING CAPACITY LOSS PURON 1-STAGE AIR CONDITIONER APPLICATIONS

**LONG-LINE APPLICATION:** An application is considered "Long Line" when the total equivalent tube length exceeds 80 ft. or when there is more than 20 ft. vertical separation between indoor and outdoor units. These applications require additional accessories and system modifications for reliable system operation. The maximum allowable total equivalent length is 250 ft. The maximum vertical separation is 200 ft. when outdoor unit

is above indoor unit, and 80 ft. when the outdoor unit is below the indoor unit. Refer to Accessory Usage Guideline below for required accessories. See Long-Line Application Guideline for required piping and system modifications. Also, refer to the table below for the acceptable vapor tube diameters based on the total length to minimize the cooling capacity loss.

Unit Nominal Size (Btuh)	Acceptable Liquid Line Diameter OD (in.)	Acceptable Vapor Line Diameters OD (in.)	Cooling Capacity Loss (%)										
			Standard Application			Long Line Application Requires Accessories							
			25	50	80	80+	100	125	150	175	200	225	250
18000 1 Stage Puron AC	3/8	1/2	1	2	3								
		5/8	0	0	1								
24000 1 Stage Puron AC	3/8	5/8	0	1	1								
		3/4	0	0	0								
		7/8	0	0	0								
30000 1 Stage Puron AC	3/8	5/8	1	2	3								
		3/4	0	0	1								
		7/8	0	0	0								
36000 1 Stage Puron AC	3/8	5/8	1	2	4								
		3/4	0	0	1								
		7/8	0	0	0								
42000 1 Stage Puron AC	3/8	3/4	0	1	2				4	4	5	6	8
		7/8	0	0	1				2	2	2	3	3
		1 1/8	0	0	0				0	0	0	0	1
48000 1 Stage Puron AC	3/8	3/4	0	1	2				5	5	6	7	8
		7/8	0	0	1				2	2	3	3	4
		1 1/8	0	0	0				0	0	1	1	1
60000 1 Stage Puron AC	3/8	3/4	1	2	4	4	5	6	7	9	10	11	12
		7/8	0	1	2	2	2	3	4	4	5	5	6
		1 1/8	0	0	0	0	1	1	1	1	1	1	2

Standard Length = 80 ft. or less total equivalent length

Applications in this area may have height restrictions that limit allowable total equivalent length, when outdoor unit is below indoor unit. See Line Guidelines

24APA3

# ELECTRICAL DATA

UNIT SIZE-VOLTAGE, SERIES	V/PH	OPER VOLTS*		COMPR		FAN	MCA	MIN WIRE SIZEI	MIN WIRE SIZEI	MAX LENGTH (FT)II	MAX LENGTH (FT)II	MAX FUSE** or CKT BRK AMPS
		MAX	MIN	LRA	RLA	FLA		60° C	75° C	60° C	75° C	
18-30	208/230/1	253	187	48.0	9.0	0.5	11.7	14	14	67	64	20
24-30				58.3	12.8	0.5	16.5	14	14	48	45	25
30-30				73.0	11.1	1.1	18.7	14	14	42	40	30
36-30				79.0	16.7	1.1	21.9	12	12	57	54	35
42-30				109.0	19.9	1.1	25.9	10	10	77	73	40
48-30				117.0	21.8	1.3	28.5	10	10	70	67	45
60-30				134.0	26.3	1.3	34.2	8	8	91	86	50

• Permissible limits of the voltage range at which the unit will operate satisfactorily  
 † 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 non-metallic-sheathed cable (NM), trade name ROMEX, shall be that of 60° C (140° F) conditions, per the NEC (ANSI/NFPA 70) Article 336-26. If other than uncoated (no-plated), 60 or 75° C (140 or 167° C) insulation, copper wire (solid wire for 10 AWG or 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 voltage drop not to exceed 2%.

\*\* Time-Delay fuse.

FLA - Full Load Amps

LRA - Locked Rotor Amps

MCA - Minimum Circuit Amps

RLA - Rated Load Amps

NOTE: Control circuit is 24-V on all units and requires external power source. Copper wire must be used from service disconnect to unit.

All motors/compressors contain internal overload protection.

## A-WEIGHTED SOUND LEVEL (dBA)

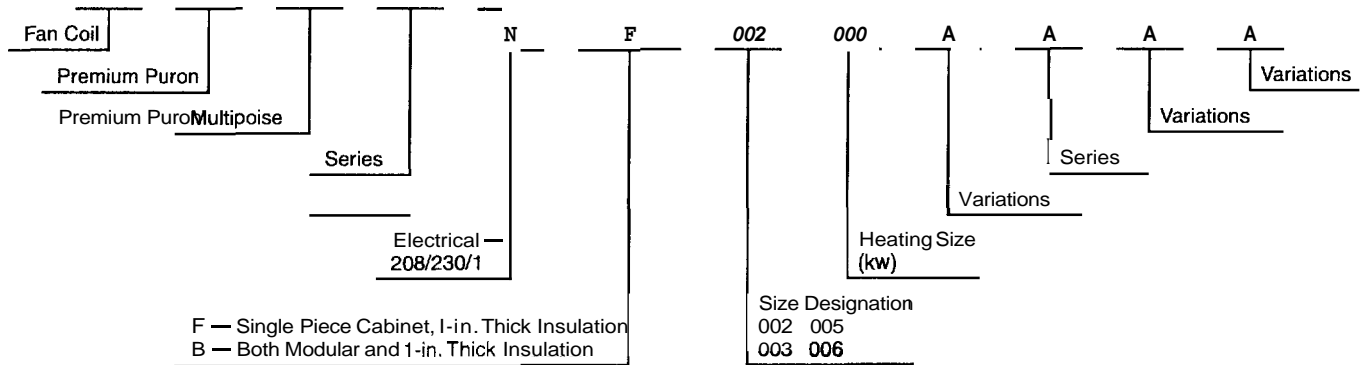
UNIT SIZE-VOLTAGE, SERIES	STANDARD RATING	TYPICAL OCTAVE BAND SPECTRUM (without tone adjustment)						
		125	250	500	1000	2000	4000	8000
18-30	68	51	56.5	58.5	56	54	46	41
24-30	68	52.5	51.5	54.5	57	55	49	42
30-30	69	52	57	56.5	59.5	53.5	45.5	42
36-30	69	50	55	57	58	55	48.5	43
42-30	72	58.5	62	61.5	61.5	56.5	51	49.5
48-30	73	62	58	57.5	67	57.5	51.5	47.5
60-30	73	58	60	60.5	63	57.5	51.5	47

## CHARGING SUBCOOLING (TXV-TYPE EXPANSION DEVICE)

UNIT SIZE-VOLTAGE, SERIES	REQUIRED SUBCOOLING (F)
18-30	10
24-30	13
30-30	17
36-30	12
42-30	12
48-30	13
60-30	12

24AP3

# Model number nomenclature



REGISTERED  
QUALITY  
SYSTEM



CERTIFICATION APPLIES ONLY WHEN THE COMPLETE SYSTEM IS LISTED WITH ARI.



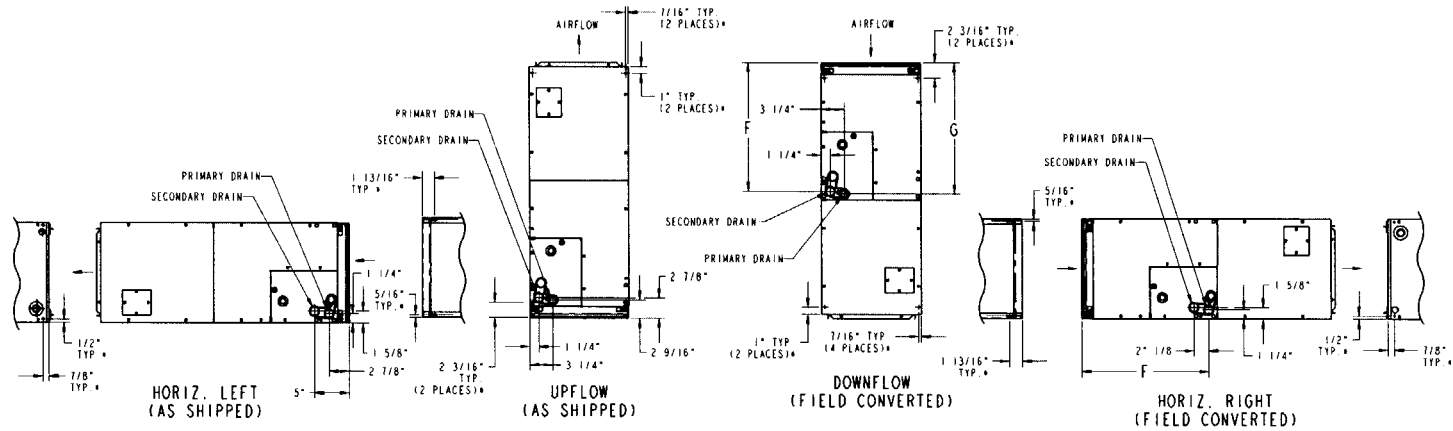
## Physical data

UNIT SIZE	002	003	005	006*
SHIPPING WEIGHT (Lb)	135	150	172	207
REFRIGERANT	Puron (R-410A)			
Metering Device	TXV			
TXV SIZE	2-112 Ton	3 Ton	4 Ton	5 Ton
COIL	3-145			
Type	A	Slope	A	A
Rows—Fins/In.				
Face Area (Sq Ft)	3.46	3.46	5.93	7.42
FAN	Upflow, Downflow, Horizontal			
Air Discharge				
CFM (Nominal Clg/Htg)	525 / 1470 700 / 1630 a75 / 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	3/4
FILTER SIZE	21-1/2 X 16-3/8	21-112 X 19-7/8	21-112 X 19-7/8	21-112 X 23-5/16

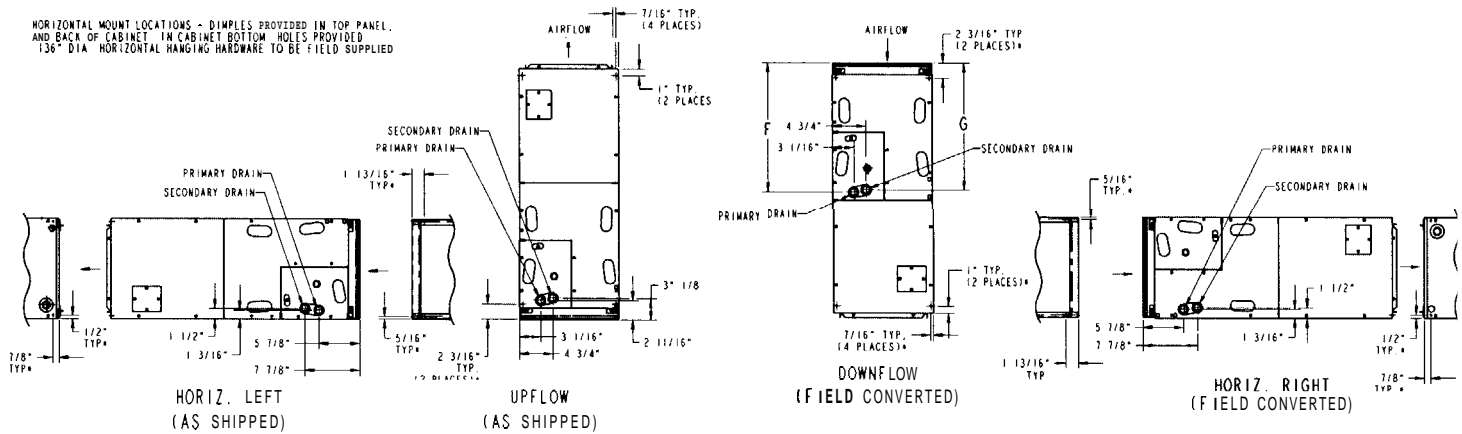
# Dimensions continued

NOTES  
 1 CONDENSATE PAN DRAIN CAPS NOT SHOWN FOR CLARITY

## SLOPE COIL



HORIZONTAL MOUNT LOCATIONS - DIMPLES PROVIDED IN TOP PANEL, AND EACH OF CABINET 18" CABINET BOTTOM HOLES PROVIDED 136" DIA. HORIZONTAL HANGING HARDWARE TO BE FIELD SUPPLIED



## A-COIL

A02322

UNIT	SIZE	COIL CONFIGURATION		SHIPPING WEIGHT	
		F in.	G in.		
FV4B	002	18-9116	18-114	—	135
	003	26-15/16	27-112	Yes	150
	005	27-1/4	26-15/16	—	172
	006	32-15116	32-518	—	207