



CONSTRUCTION PERMIT APPLICATION

17-000810

Applicant Completes: Sections I, II, III (optional), IV, VI, and VII

I. IDENTIFICATION

1. Proposed Work Site at: **1586 Larsen Street, Brick, NJ 08724**

2. Name of Owner in Fee: **Francisca Morales**

Tel. _____ e-mail _____

Address **1586 Larsen Street** **Brick, NJ** **08724**

3. Ownership in Fee: Public _____ Private ☒ _____

4. Principal Contractor: **Allied Construction LLC** Tel. **(856) 528-2822**

Address **100 Dobbs Lane** e-mail **karen.h@alliedconstruct.**

Cherry Hill, NJ 08034

License No. OR, if new home, Builder Reg. No. _____ Exp. Date **03/31/2017**

Home Improvement Contractor Registration No. or Exemption Reason **13VH062202**

Federal Emp. ID No. **274623527** FAX: **(856) 528-2823**

5. Architect or Engineer _____ Contact _____

Address _____ e-mail _____

Tel. _____ FAX: _____

6. Responsible Person in Charge once Work has Begun **Karen Heinze**

Tel. **(856) 528-2822** FAX: **(856) 528-2823**

V. FEE SUMMARY (for office use only)

		Update	Update
1. Building	\$ 150		
2. Electrical	\$ 150		
3. Plumbing			
4. Fire Protection			
5. Elevator Devices			
6. Subtotal			
7. Less 20% for State Plan Review	\$		
8. Subtotal	\$		
9. State Permit Surcharge Fee	\$		
10. Subtotal	\$		
11. Cert. of Occupancy			
12. Other			
13. TOTAL	\$		

VI. BUILDING/SITE CHARACTERISTICS

	(office use only)
1. Number of Stories _____	
2. Height of Structure _____ ft.	
3. Area — Largest Floor _____ sq. ft.	
4. New Building Area _____ sq. ft.	
5. Volume of New Structure _____ cu. ft.	
6. Max. Live Load _____	
7. Max. Occupancy Load _____	
8. If Industrialized Building: State Approved _____ HUD _____	
9. Total Land Area Disturbed _____ sq. ft.	
10. Flood Hazard Zone _____	
11. Base Flood Elevation _____ ft.	
12. Wetlands yes _____ no _____	

IIa. PROPOSED WORK

- ☐ Minor Work ☐ New Building ☐ Addition ☐ Demolition
- ☐ Repair ☐ Alteration ☒ Renovation ☐ Reconstruction
- ☐ Asbestos Abat. -Subch. 8 ☐ Lead Hazard Abatement ☐ Radon Remediation ☐ Annual Permit

IIb. SUBCODES

(Check all that apply)

- ☒ Building
- ☒ Electrical
- ☐ Plumbing
- ☐ Fire Protection
- ☐ Elevator

FOR OFFICE USE ONLY (Optional)

Est. Cost	Plans Rec'd by	Date Rec'd	Rejection Date	Approval Date	Re-viewer	Resubmission Dates	Re-viewer
2,500	<i>[Signature]</i>						
4,000							
4,000							

TOTAL COST **\$10,500**

III. PLAN REVIEW (optional)

DO YOU WANT:

1. ☐ Partial Releases
2. ☐ Prototype Processing

IV. DOES OR WILL YOUR BUILDING CONTAIN ANY OF THE FOLLOWING?

1. ☐ Elevators/Escalators/Lifts/ Dumbwaiters/Moving Walks
2. ☐ High Pressure Boilers
3. ☐ Pressure Vessels
4. ☐ Refrigeration Systems
5. ☐ Cross-Connections/Backflow Preventers
6. ☐ Hazardous Uses/Places of Assembly
7. ☐ Sprinklers/Standpipes
8. ☐ Smoke Control Systems in Open Wells
9. ☐ Underground Storage Tanks
10. ☐ Swimming Pools, Spas and Hot Tubs
11. ☐ LPGas Tanks
12. ☐ Fire Alarm

VII. DESCRIPTION OF BUILDING USE

A. RESIDENTIAL (primary use)

1. State Specific Use: _____
2. Use Group, Proposed: **Select Group**
3. Change in Use Group, Indicate Present: **Select Group**
4. No. of dwelling units: **Total Units** **Income-restricted**
- Gained, Sale _____
- Gained, Rental _____
- Lost, Sale _____
- Lost, Rental _____

B. NON-RESIDENTIAL (primary use)

1. State Specific Use: _____
2. Use Group, Proposed: **Select Group** **Select Group**
3. Change in Use Group, Indicate Present: _____
- C. MIXED USE -List secondary use(s): _____
- D. Construct. Classification: **Present** **Proposed**



Brick Township
401 Chambersbridge Rd
Brick, NJ 08723

Date Issued 10/30/2017
Control Number C-17-000810
Permit Number 17-0687
Permit Issue Date 3/7/2017
Certificate Number 17-0687

Certificate

Construction Code Division

(Certificate of Approval)

Identification

Work Site Location: 1586 LARSEN ST. Brick Township, NJ Block: 819 Lot: 5 Qual: _____
Owner in Fee: MORALES, ADALBERTO & FRANCESCA
Owner Address: 1586 LARSEN ST BRICK NJ 08724
Telephone: [REDACTED]
Contractor ALLIED CONSTRUCTION GROUP
Address 100 DOBBS LANE SUITE 102 CHERRY HILL NJ 08034
Telephone: (856) 258-6216 Fax: (856) 528-2823
License Number or Builders Registration Number: 34EB01653400 Federal Emp. Number: _____
13VH06220200
36BI01261500
36B101323400

Home Warranty Number: _____

Type of Warranty Plan: ☐ State ☐ Private

Use Group: R-5 Construction Classification: _____

Maximum Live Load: 0 Maximum Occupancy Load: 0

Description of Work/Use: RENOVATION ...REPLACE HVAC & WATER HEATER; INSTALL BLOWN-IN ATTIC INSULATION

Certificate Comments:

☐ **Certificate of Occupancy**

This serves notice that said building or structure has been constructed in accordance with the New Jersey Uniform Construction Code and is approved for occupancy.

☒ **Certificate of Approval**

This serves notice that the work completed has been constructed or installed in accordance with the New Jersey Uniform Construction Code and is approved. If the permit was issued for minor work, this certificate was based upon what was visible at the time of inspection.

☐ **Certificate of Clearance - Lead Abatement 5:17**

This serves notice that based on written certification, lead abatement was performed as per NJACS:17 to the following extent.

☐ Total removal of lead-based paint hazards in scope of work

☐ Partial or limited time period (_____ years); see file

☐ **Certificate of Clearance - Asbestos Abatement**

This serves notice that based on written certification, asbestos abatement was performed to the following extent.

Construction Official

Fee: \$0.00

Check Number: _____

Collected By: _____

CERTIFICATION IN LIEU OF OATH

I. OWNER SECTION (to be completed if the applicant is the owner in fee)

I hereby certify that I am the owner in fee of the property listed on Page 1.

Mark the following applicable boxes:

- A. ☐ I further certify that a new home (private residence) will be constructed on this property for my own use and occupancy. This dwelling is to be occupied by myself and is not to be used for any purpose other than single family residential use. I attest that all construction, plumbing, or electrical work will be done, in whole or in part, by me or by subcontractors under my supervision, in accordance with all applicable laws; and, I further acknowledge that said new home is not covered under the New Home Warranty and Builders Registration Act (N.J.S.A. 46:3B-1 et seq.) and that such fact shall be disclosed to any person purchasing this property within ten years of the date of issuance of a certificate of occupancy.

I UNDERSTAND THAT IN MARKING BOX A, I ACKNOWLEDGE THAT I AM ASSUMING RESPONSIBILITY FOR THE WORK DONE ON SAID PROPERTY, THE CONDITION OF THE PROPERTY PRIOR TO, DURING, AND AFTER ANY WORK PERFORMED, AND FOR THE PERFORMANCE OF THE SUBCONTRACTORS I HIRE, EMPLOY, OR OTHERWISE CONTRACT OR WITH WHOM I MAKE AGREEMENTS TO PERFORM WORK. I AM VOLUNTARILY AND KNOWINGLY ASSUMING THIS RESPONSIBILITY.

- B. ☐ I further certify the following as required by the New Jersey Uniform Construction Code, N.J.A.C. 5:23-2.15(f)1.ix:

I personally prepared the plans submitted for: 1) the new home referred to in A.; or 2) an addition, alteration, renovation, or repair to an existing single family residence owned and occupied by myself and located on the property listed on Page 1; or 3) a new structure that will be physically separate from, but that will be deemed part of, an existing single family residence that is owned and occupied by myself and located on the property listed on Page 1.

- C. ☐ I further certify that I will perform or supervise the following work:

C.1. ☐ Building C.2. ☐ Fire Protection

I further certify that I will perform the following work:

C.3. ☐ Electrical C.4. ☐ Plumbing

- D. ☐ I agree to advise all contractors on this project that they are required to be registered with the New Jersey Division of Taxation and to comply with all New Jersey tax laws.

I further certify the following as required by the Uniform Construction Code, N.J.A.C. 5:23-2.15(a)5: All required State, county, and local prior approvals, including such certification as the construction official may require, have been given or will be given prior to permit issuance.

I understand that if any of the above statements are willfully false, I am subject to punishment.

Signature _____ Date _____

II. AGENT SECTION (to be completed if the applicant is not the owner in fee)

I hereby certify the following as required by the Uniform Construction Code, N.J.A.C. 5:23-2.15(d): the proposed work is authorized by the owner in fee; and I have been authorized by the owner in fee to make this application as his agent.

I further certify the following as required by the Uniform Construction Code, N.J.A.C. 5:23-2.15(a)5: All required State, county, and local prior approvals, including such certification as the construction official may require, have been given or will be given prior to permit issuance.

I agree to advise all contractors on this project that they are required to be registered with the New Jersey Division of Taxation and to comply with all New Jersey tax laws.

I understand that if any of the above statements are willfully false, I am subject to punishment.

(X) Check if contractor.

Agent Name Allied Construction LLC

Address 100 Dobbs Lane

Cherry Hill, NJ 08034

Telephone (856) 528-2822

Signature _____

- III. ☐ LEAD HAZARD ABATEMENT: Include Homeowner or Building Owner Affidavit as per N.J.A.C. 5:23-2.15(b)4.

- IV. ☐ HOME ELEVATION: Include Home Elevation Contractor Certification as per N.J.S.A. 52:27D-123.16.


KNAUF*energy*

CERTIFICATE OF INSULATION

The undersigned certifies that Knauf Insulation products have been installed in accordance with the manufacturer's recommended applications for these products.

Street Address

1586 Hansen Street

City

Burl

State

VT

Zip

08724

Installing Company

Allied

State License

13V06220200

Signed



Date

2/20/17

R-Value

50

Attic

Thickness

Cell 8 inches

Knauf Insulation GmbH
One Knauf Drive
Shelbyville, IN 46176

Sales and Marketing

(800) 825-4434, ext. 8300

Technical Support

(800) 825-4434, ext. 8312

Fax

(317) 398-3675

Information

info.us@knaufinsulation.com

World Wide Web

www.knaufinsulation.us

Equipment Required

It is recommended that a pneumatic blowing machine and a corrugated hose with a minimum 1/2" internal corrugation, a minimum length of 150'. Coils in the hose should not be less than 36" in diameter. Acceptable material feed rate is 5-35 lbs/minute. Recommended feed rate is 15-25 lbs/minute.

The stated thermal resistance (R-value) is provided by installing with the manufacturer's instructions. Failure to install the required number of bags per 1,000 square feet and exceeding the maximum square feet of coverage per bag as recommended by the label will result in lower installed R-values. Field blending of this product with other loose fill insulations is not recommended by the manufacturer.

Cavity Wall Application Bag Net Weight—Nominal 30 lbs Minimum 29 lbs						
Spacing	Cavity Depth	R-Value to obtain + thickness of insulation	Density	Bags per 1000 SF The number of bags per 1000 square feet of area should not be less than	Maximum Coverage per Bag Contents of one bag should not cover more than	Net Minimum Weight per SF The weight per square foot of insulation should not be less than
2"x 4"	3.50"	R-15	2.2 lbs./cu. ft.	21.4 bags	46.8 sq. ft.	0.94 lbs.
2"x 6"	5.50"	R-23	2.2 lbs./cu. ft.	33.6 bags	29.8 sq. ft.	1.01 lbs.
2"x 8"	7.25"	R-31	2.2 lbs./cu. ft.	44.3 bags	22.6 sq. ft.	1.33 lbs.
2"x 10"	9.25"	R-39	2.2 lbs./cu. ft.	56.6 bags	17.7 sq. ft.	1.70 lbs.

*R means resistance to heat flow. The higher the R-value, the greater the insulating power. To get the marked R-value, it is essential that this insulation be installed properly.

Open Area Application Bag Net Weight—Nominal 30 lbs Minimum 29 lbs					
R-Value	Bags per 1000 SF	Maximum Coverage	Minimum Weight	Installed Insulation Thickness	Contents of Bag Thickness**
To obtain an insulation resistance (R-value) of:	The number of bags/1,000 SF of net area should not be less than:	Contents of this bag should not cover more than:	The weight/SF of installed insulation should not be less than:	Installed insulation should not be less than:	Contents of this bag should not cover more than:
R-60	33.2	30.1 SF	.995 lbs.	20.000"	20.000"
R-49	26.4	37.9 SF	.791 lbs.	16.625"	16.625"
R-44	23.3	43.0 SF	.698 lbs.	15.000"	15.000"
R-39	19.8	50.5 SF	.595 lbs.	13.125"	13.125"
R-30	15.3	65.5 SF	.458 lbs.	10.500"	10.500"
R-26	13.2	75.8 SF	.386 lbs.	9.250"	9.250"
R-22	11.0	91.0 SF	.330 lbs.	7.875"	7.875"
R-19	9.4	105.8 SF	.283 lbs.	6.875"	6.875"
R-13	6.3	158.5 SF	.189 lbs.	4.750"	4.750"
R-11	5.2	190.5 SF	.157 lbs.	4.000"	4.000"

Builder's Insulation Statement

EcoFill Wx has been installed in conformance with the included recommendations to provide a thermal resistance of ...

	R-Value	Thickness
Attic Area	R-_____ at _____ inches	
Sloped Ceilings	R-_____ at _____ inches	
Walls	R-_____ at _____ inches	
Floors (over an unheated crawl space)	R-_____ at _____ inches	
Crawl Space Perimeter	R-_____ at _____ inches	

Bag Net Weight—Nominal 30 lbs., Minimum 29 lbs.

Coverage and installation data were determined using a Volo-Matic® II blowing machine in third gear with 15" gate opening, 2.0 psi air pressure and 150' of 3" internally-corrugated hose.

This product conforms to the performance requirements of ASTM C 795, Type I, and cancelled Federal Specification HH-1030B, Type I, Class B. R-values are determined in accordance with C 687 and C 518.

*R means resistance to heat flow. The higher the R-value, the greater the insulating power. To get the marked R-value, it is essential that this insulation be installed properly. If you do it yourself, get instructions and follow them carefully. Instructions do not come with this package.

**Based on Third Party 2-year settling study, the predicted settlement over a 20-year period would be 1 percent or less. This amount of settling is thermally insignificant. Therefore, the installed and settled thicknesses are effectively the same.

Volo-Matic® II is a registered trademark of Unisul.

The coverage information on this Attic/Sidewall card applies to the entire United States (including Minnesota).



Knauf EcoFill® Wx insulation is certified for indoor air quality as a low emitting product by The GREENGUARD Environmental Institute® to both the GREENGUARD Certification Program® and the more stringent GREENGUARD For Children and Schools® standard and is verified to be formaldehyde free. www.greenguard.org

Date Installed _____

ATTIC:

Blown insulation has been installed in conformance with the above recommendations to provide an R-value of:

R-_____ using _____ bags of this insulation to cover _____ square feet of area at a minimum thickness of _____ inches.

WALLS:

Blown insulation has been installed in conformance with the above recommendations to provide an R-value of:

R-_____ using _____ bags of this insulation to cover _____ square feet of area at a minimum thickness of _____ inches.

Insulation Contractor (signature) Allied

Company Knauf Insulation

Date _____

Home Builder (signature) Karen Lee

www.knaufinsulation.us

Knauf Insulation GmbH One Knauf Drive, Shelbyville, IN 46176 Tel: (800) 325-4434 ext. 3300 FAX (317) 398-3675

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BWI-AC-20 DS-11



The new degree of comfort.™



Gas Furnaces
R96V Series

Rheem *Prestige Series*™ Communicating Two Stage Variable Speed Multi position Gas Furnaces

R96V- Series

96% A.F.U.E.†

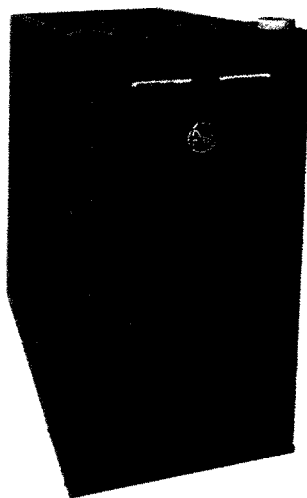
Input Rates from 40 to 115 kBTU

[11.72 to 33.71 kW]



All Models
except
R96VA085

†A.F.U.E. (Annual Fuel Utilization Efficiency) calculated in accordance with
Department of Energy test procedures.



- 96% residential gas furnace CSA certified
- 4 way multi-poise design
- Two stages of operation to save energy and maintain optimal comfort level.
- Variable speed blower motor technology provides ultimate humidity control, quieter sound levels, and year round energy savings.
- EcoNet™ enabled HVAC Product
- PlusOne™ Diagnostics 7-Segment LED all units
- PlusOne™ Ignition System – DSI for reliability and longevity
- PlusOne™ Water Management System with patented Blocked Drain Sensor
- Heat exchanger is removable for improved serviceability. Aluminized steel primary and stainless steel secondary construction provide maximum corrosion resistance and thermal fatigue reliability.
- Low profile “34 inch” cabinet ideal for space constrained installations.
- Blower Shelf design – serviceable in all furnace orientations
- Pre marked hoses – insures proper system drainage
- Vent with 2" or 3" PVC
- Replaceable Collector box
- Hemmed edges on cabinet and doors
- Quarter turn fasteners for tool less access
- Integrated control boards feature dip switches for easy system set up
- Self priming condensate trap
- Solid bottom included
- Compatible with single or two stage thermostats. For optimal performance a two stage thermostat is recommended.



INTEGRATED HOME COMFORT

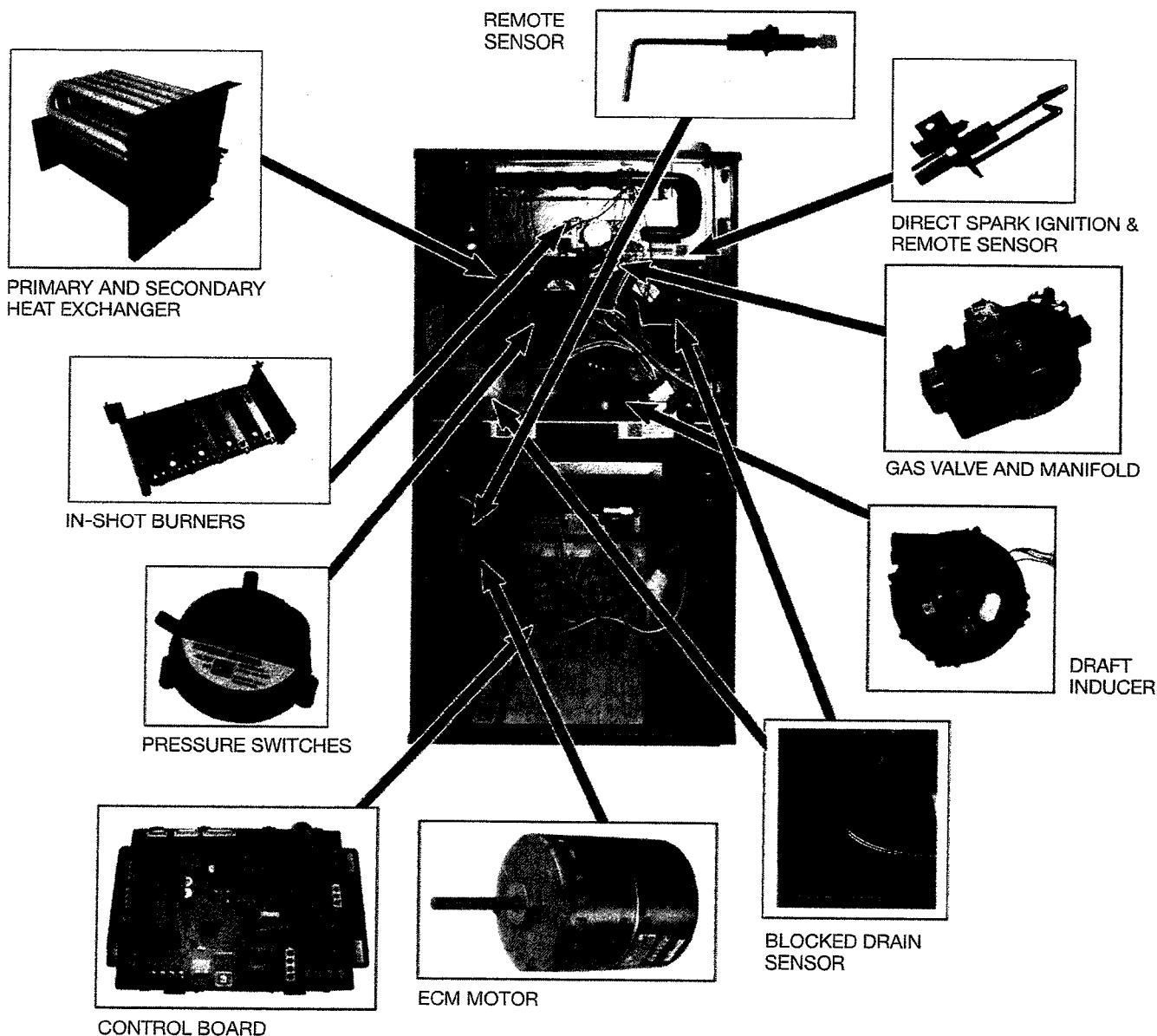
FORM NO. G11-540 REV. 4



TABLE OF CONTENTS

Standard & Optional Equipment	3
Physical Data & Specifications	4
Model Number Identification	5
Dimensional Data.....	6
Blower Performance Data.....	7
Accessories.....	8
Limited Warranty	9





STANDARD EQUIPMENT

Completely assembled and wired; blocked drain sensor, 7 segment LED and marked hoses; heat exchanger; primary: aluminized steel, secondary: 29-4C stainless steel; 2 stage induced draft; pressure switches; redundant 2 stage main gas control; blower compartment door safety switch; solid state time on/off blower control; limit controls; manual shut-off valve; 100% safety lock out; cool fan off delay; field selectable heat fan off delay; one hour automatic retry; power and self-test diagnostics; flame sense current diagnostics; electronic air cleaner connections; twinning (built-in) features; humidifier connections; humidifier on/off delay; low speed continuous fan option; single speed option for heating and cooling applications; transformer; direct drive, variable speed electrically commutated blower motor (ECM). Solid bottom. (Please note: a thermostat is not included as standard equipment.)

OPTIONAL EQUIPMENT

Side and bottom filter racks; return air cabinet for all sizes.

NOTE: Furnace is not listed for use with fuels other than natural or L.P. (propane) gas.

All models can be converted by a qualified distributor or local service dealer to use L.P. (propane) gas without changing burners. Factory approved kits must be used to convert from natural to L.P. (propane) gas and may be ordered as optional accessories from a parts distributor.

For L.P. (propane) operation, refer to Conversion Kit Index Form.

WARNING

THIS FURNACE IS NOT APPROVED
OR RECOMMENDED
FOR USE IN MOBILE HOMES





Physical Data and Specifications—Upflow Models

U.S. and Canadian Models

MODEL NUMBERS	R96VA0402317MSA	R96VA0602317MSA	R96VA0702317MSA	R96VA0852521MSB	R96VA1002521MSA	R96VA1152524MSA
HIGH FIRE INPUT BTU/HR [kW] ①	42,000 [12.31]	56,000 [16.41]	70,000 [20.50]	84,000 [24.61]	98,000 [28.72]	112,000 [32.82]
LOW FIRE INPUT	29,400 [8.61]	39,200 [11.49]	49,000 [14.36]	58,800 [17.23]	68,600 [20.11]	78,400 [23.00]
HEATING CAPACITY BTU/HR [kW]	40,320 [11.82]	53,760 [15.75]	67,200 [19.68]	80,640 [23.63]	94,080 [27.57]	107,520 [31.51]
HIGH ALTITUDE OUTPUT 10% DERATE [kW] ②	36,288 [10.64]	48,384 [14.18]	60,480 [17.72]	72,756 [21.27]	84,672 [24.81]	96,768 [28.36]
BLOWER (D x W) [mm]	11 x 7 [279 x 178]	11 x 8 [279 x 203]	11 x 8 [279 x 203]	11 x 10 [279 x 254]	11 x 10 [279 x 254]	11 x 11 [279 x 279]
MOTOR H.P. [W]— TYPE	1/2 [373] E.C.M.	1/2 [373] E.C.M.	1/2 [373] E.C.M.	3/4 [559] E.C.M.	3/4 [559] E.C.M.	3/4 [559] E.C.M.
MOTOR FULL LOAD AMPS	8.9	8.9	8.9	10.8	10.8	10.8
MINIMUM EXT. STATIC PRESSURE (IN. W.C.) [kPa]	.18 [.045]	.20 [.050]	.23 [.057]	.28 [.070]	.28 [.070]	.28 [.070]
MAXIMUM EXT. STATIC PRESSURE (IN. W.C.) [kPa]	1.0 [0.249]	1.0 [0.249]	1.0 [0.249]	1.0 [0.249]	1.0 [0.249]	1.0 [0.249]
HEATING CFM @ .2" [.049 kPa] W.C. E.S.P. [L/s]	1050 [496]	1025 [484]	1015 [479]	1470 [694]	1710 [807]	1450 [684]
COOLING CFM @ .5" [.124 kPa] W.C. E.S.P. [L/s]	1050 [496]	1050 [496]	1050 [496]	1750 [826]	1750 [826]	1750 [826]
TEMPERATURE RISE-HIGH FIRE RANGE IN DEGREES °F [°C]	20 - 50 [11 - 28]	30 - 60 [17 - 33]	40 - 70 [22 - 39]	30 - 60 [17 - 33]	40 - 70 [22 - 39]	45 - 75 [25 - 42]
TEMPERATURE RISE-LOW FIRE RANGE IN DEGREES °F [°C]	15 - 45 [8 - 25]	20 - 50 [11 - 28]	30 - 60 [17 - 33]	20 - 50 [11 - 28]	30 - 60 [17 - 33]	35 - 63 [19 - 36]
APPROX. SHIPPING WEIGHT (LBS.) [kg]	128 [58]	128 [58]	132 [60]	147.5 [67]	152 [69]	165 [75]
AFUE ③	96.00%	96.00%	96.00%	96.00%	96.00%	96.00%

NOTES: All models are 115V, 60HZ, 1 phase Gas connection size for all models is 1/2" [13 mm] N.P.T.

① Installation instructions for high altitude derate.

② Canadian installations only.

③ In accordance with D.O.E. test procedures.

*S=Standard Models

NOTE: Standard model complies with California low nox requirements.

[] Designates Metric Conversions



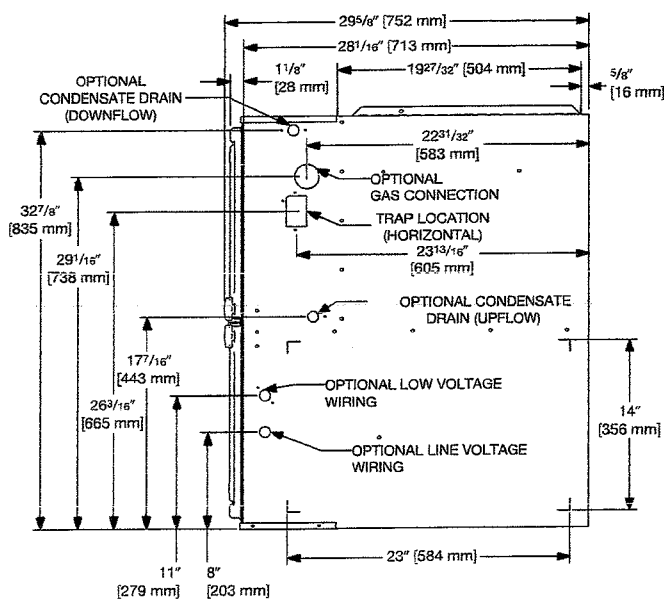
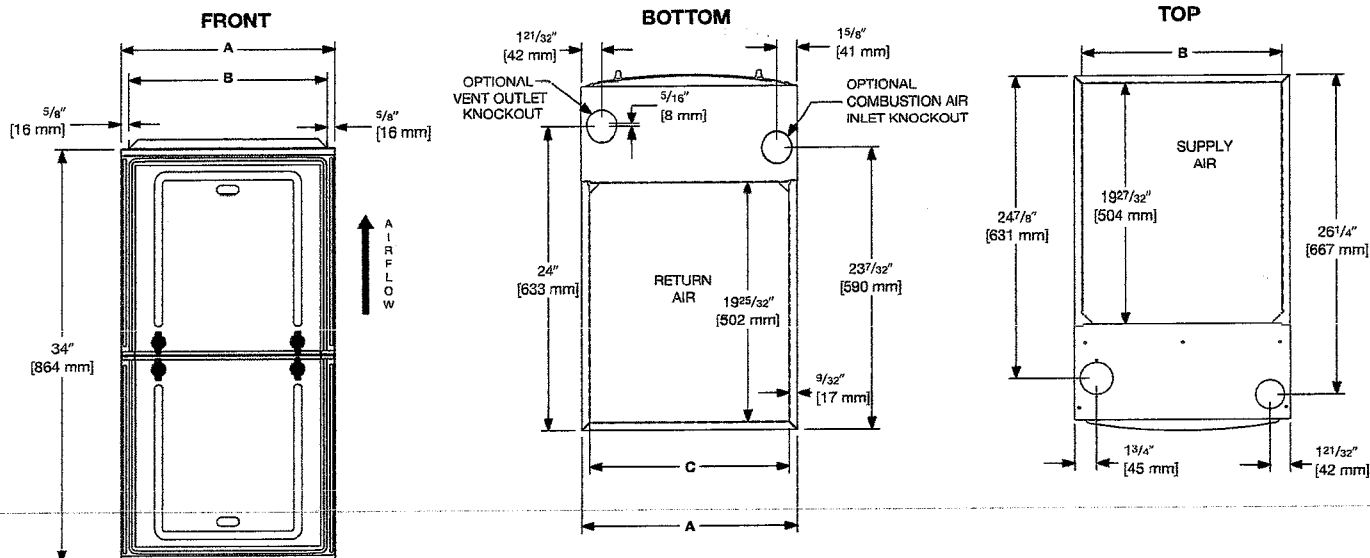


Model Number Identification

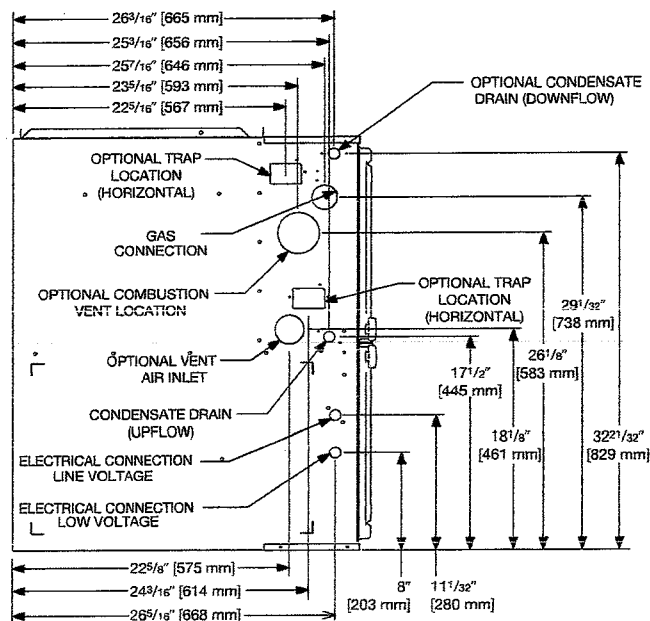
<u>R</u>	<u>96</u>	<u>V</u>	<u>A</u>	<u>—</u>	<u>040</u>	<u>2</u>	<u>3</u>	<u>17</u>	<u>M</u>	<u>S</u>	<u>A</u>
Rheem	96% Efficient	Motor - ECM	Design Series A = 1st Design		Input BTU/HR	Stage - Two	Airflow 3 - Up to 3 Tons 5 - Up to 5 Tons	Cabinet Width 17 = 17.5" 21 = 21.0" 24 = 24.5"	Configuration - Multi-Position	S = Standard N = NOx	Revision - Marketing (A - First Time Release) (B - First Revision)
					040 = 42,000 [12.31 kW]						
					060 = 56,000 [16.41 kW]						
					070 = 70,000 [20.51 kW]						
					085 = 84,000 [24.62 kW]						
					100 = 98,000 [28.72 kW]						
					115 = 112,000 [32.82 kW]						

[] Designates Metric Conversions





RIGHT SIDE



LEFT SIDE

UNIT DIMENSIONS (CLEARANCE TO COMBUSTIBLES)

MODEL R96V	LEFT SIDE	MINIMUM CLEARANCE (IN.) [mm]					SHIP WGTS.	FLANGE DIMENSIONS		
		RIGHT SIDE	BACK	TOP	FRONT	VENT		A	B	C
040	0	0	0	1 [25]	2 [51]	0	123.5 [56]	171/2 [445]	1617/64 [413]	1613/64 [412]
060	0	0	0	1 [25]	2 [51]	0	128 [58]	171/2 [445]	1617/64 [413]	1613/64 [412]
070	0	0	0	1 [25]	2 [51]	0	132 [60]	171/2 [445]	1617/64 [413]	1613/64 [412]
085	0	0	0	1 [25]	2 [51]	0	147.5 [67]	21 [533]	1949/64 [502]	1945/64 [500]
100	0	0	0	1 [25]	2 [51]	0	152 [69]	21 [533]	1949/64 [502]	1945/64 [500]
115	0	0	0	1 [25]	2 [51]	0	165 [75]	241/2 [662]	2317/64 [591]	2313/64 [589]

*A service clearance of at least 24" is recommended in front of all furnaces
Supply and return depicted as upflow configuration.
Flange configuration will vary depending on installation orientation.

[] Designates Metric Conversions





MODEL NUMBER				R96VA0402317MSA	R96VA0602317MSA	R96VA0702317MSA	R96VA0852521MSB	R96VA1002521MSA	R96VA115524MSA
TARGET GAS HEATING AIRFLOW	HIGH HEATING CFM [L/s]	SW 15 = OFF	SW 16 = OFF	1050 [496]	1025 [484]	1015 [479]	1470 [694]	1710 [807]	1450 [684]
		SW ON = ON	SW 16 = OFF	800 [378]	880 [415]	950 [448]	1235 [583]	1490 [703]	1300 [614]
		SW 15 = OFF	SW 16 = ON	1200 [566]	1250 [590]	1190 [562]	1850 [873]	1965 [927]	1700 [802]
		SW 15 = ON	SW 16 = ON	700 [330]	780 [368]	900 [425]	1120 [529]	1400 [661]	1225 [578]
	LOW HEATING CFM [L/s]	SW 13 = OFF	SW 14 = OFF	910 [429]	925 [437]	900 [425]	1300 [614]	1500 [708]	1250 [590]
		SW 13 = ON	SW 14 = OFF	690 [326]	750 [354]	770 [363]	1065 [503]	1335 [630]	1060 [500]
		SW 13 = OFF	SW 14 = ON	1040 [491]	1210 [571]	1050 [496]	1775 [838]	1800 [850]	1400 [661]
		SW 13 = ON	SW 14 = ON	607 [286]	660 [311]	700 [330]	925 [437]	1210 [571]	960 [453]
TARGET COOLING/ HEAT-PUMP AIRFLOW	HIGH COOLING CFM [L/s]	SW 4 = OFF	SW 5 = OFF	1050 [496]	1050 [496]	1050 [496]	1750 [826]	1750 [826]	1750 [826]
		SW 4 = ON	SW 5 = OFF	875 [413]	875 [413]	875 [413]	1400 [661]	1400 [661]	1400 [661]
		SW 4 = OFF	SW 5 = ON	700 [330]	700 [330]	700 [330]	1225 [578]	1225 [578]	1225 [578]
		SW 4 = ON	SW 5 = ON	525 [248]	525 [248]	525 [248]	1050 [496]	1050 [496]	1050 [496]
	LOW COOLING CFM [L/s]	SW 4 = OFF	SW 5 = OFF	788 [372]	788 [372]	788 [372]	1313 [619]	1313 [619]	1313 [619]
		SW 4 = ON	SW 5 = OFF	656 [310]	656 [310]	656 [310]	1050 [496]	1050 [496]	1050 [496]
		SW 4 = OFF	SW 5 = ON	525 [248]	525 [248]	525 [248]	919 [434]	919 [434]	919 [434]
		SW 4 = ON	SW 5 = ON	394 [186]	394 [186]	394 [186]	788 [372]	788 [372]	788 [372]

*S = Standard Models

NOTE Standard model complies with California low NOx requirements.

[] Designates Metric Conversions.



VENT TERMINATION KITS: =

RXGY-E02: Vertical/Horizontal Concentric Vent Termination Kit
2" Pipe (US Only)

RXGY-E02A: Vertical/Horizontal Concentric Vent Termination Kit
2" Pipe (US & Canadian)

RXGY-E03: Vertical/Horizontal Concentric Vent Termination Kit
3" Pipe (US Only)

RXGY-E03A: Vertical/Horizontal Concentric Vent Termination Kit
3" Pipe (US & Canadian)

RXGY-G02: Direct Vent Furnace Side Wall Vent 2" or 3" (US Only)

RXGY-D05: Combustion Air Drain Kit 2"

RXGY-D06: Combustion Air Drain Kit 3"

NEUTRALIZER KIT: RXGY-A01
(Replacement Cartridge 54-22120-01)

EXTERNAL BOTTOM FILTER (UPFLOW/HORIZONTAL) RACK:
RXGF-CB

EXTERNAL SIDE (UPFLOW) FILTER RACK: RXGF-CD

EXTERNAL (DOWNFLOW) FILTER RACK: RXGF-CC

FILTER RACK FILTER SIZES* INCHES [mm]			
MODEL	RXGF-CB (UPFLOW/ HORIZONTAL)	RXGF-CD (UPFLOW)	RXGF-CC (DOWNFLOW)
R96VA040	15 ³ / ₄ x 25 [400 x 635]	15 ³ / ₄ x 25 [400 x 635]	12 x 20 [305 x 508]
R96VA060	15 ³ / ₄ x 25 [400 x 635]	15 ³ / ₄ x 25 [400 x 635]	12 x 20 [305 x 508]
R96VA070	15 ³ / ₄ x 25 [400 x 635]	15 ³ / ₄ x 25 [400 x 635]	12 x 20 [305 x 508]
R96VA085	19 ¹ / ₄ x 25 [489 x 635]	15 ³ / ₄ x 25 [400 x 635]	12 x 20 [305 x 508]
R96VA100	19 ¹ / ₄ x 25 [489 x 635]	15 ³ / ₄ x 25 [400 x 635]	12 x 20 [305 x 508]
R96VA115	22 ³ / ₄ x 25 [578 x 635]	15 ³ / ₄ x 25 [400 x 635]	14 x 20 [356 x 508]

*Filter racks are shipped without filters.
Filters shipped with furnace may be used or a suitable 1" [25.4 mm] filter.

[] Designates Metric Conversions

INDOOR COIL CASINGS

MODEL NUMBER
RXBC-D17A1
RXBC-D21A1
RXBC-D21B1
RXBC-D24A1

FOR HIGH ALTITUDES:

NOTE: For Canadian installations only, an optional derate (manifold gas pressure reduction) method may be used to adjust the furnace for altitude. See Installation Instructions for more information. This optional method may **NOT** be used for U.S. installations. See installation instructions as appropriate orifice change is required.

L.P. CONVERSION KIT: RXGJ-FP34

CONDENSATE PUMP KIT: PROSTOCK & 1PCB151TUL

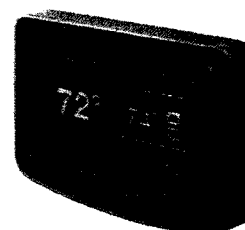
DOWNFLOW/HORIZONTAL CONVERSION KIT: RXGY-CK

**DOWNFLOW/HORIZONTAL LEFT ZERO CLEARANCE
CONVERSION KIT:** RXGY-ZK

COMBUSTIBLE FLOOR BASE: RXGC-B17
RXGC-B21
RXGC-B24

ECONET CONTROL

RECOMMENDED COMMUNICATING FURNACE CONTROL



RETST600SYS

CONTRACTOR BENEFITS:

- Auto/Self Configuration
- Day-at-a-glance scheduling, with programmable fan
- Intuitive wiring connections
- Dual fuel ready
- Automatically optimizes airflow
- System status & mode information
- Complete diagnostic information on display

HOMEOWNER BENEFITS:

- Large, easy to read icons and characters
- Auto-mode control
- Smart recovery
- Continuous Fan Mode (5 speeds)
- Humidity Control
- Water heater, pool heater integration* (check model compatibility)

*ECONET CONTROL ACCESSORIES:

Wall Plate = RCPN-AMC08

Face Plate = RETSTFPL

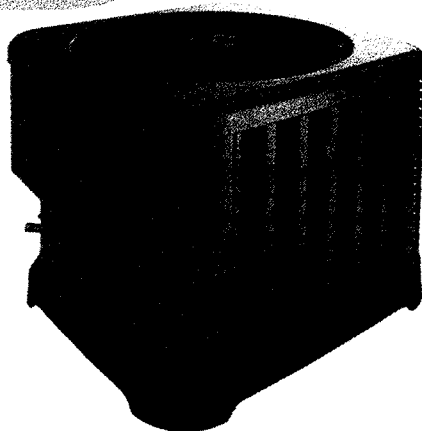
IMPORTANT: Existing Comfort Control[®] System Condensing Units & Heat Pumps are compatible with EcoNet when matched with a R96V Gas Furnace and with an EcoNet Translator (RETRN620CC2) installed on the Comfort Control[®] System control board.

*Available through PROSTOCK[®].



The new degree of comfort.™

Rheem Classic® Series Heat Pump



RP15 Series

Efficiencies: 14-15 SEER/11.5-12.5 EER

Nominal Sizes 1 1/2 to 5 Ton [5.28 to 17.6 kW]

Cooling Capacities 17.3 to 60.5 kBTU
[5.7 to 17.7 kW]

"Proper sizing and installation of equipment is critical to achieve optimal performance. Split system air conditioners and heat pumps must be matched with appropriate coil components to meet Energy Star. Ask your Contractor for details or visit www.energystar.gov."

- New composite base pan – dampens sound, captures louver panels, eliminates corrosion and reduces number of fasteners needed
- Improved tubing design – reduces vibration and stress, making unit quieter and reducing opportunity for leaks
- Optimized defrost characteristics – decrease defrosting and provide better home comfort
- Powder coat paint system – for a long lasting professional finish
- Optimized reversing valve sizing – improves shifting performance for quieter unit operation and increased life of the system
- Enhanced mufflers – help to dissipate vibration energy for quieter unit operation
- Scroll compressor – a sound abating feature added to the compressor significantly reduces noise when system transitions in and out of defrost mode
- Modern cabinet aesthetics – increased curb appeal with visually appealing design
- Curved louver panels – provide ultimate coil protection, enhance cabinet strength, and increased cabinet rigidity
- Optimized fan orifice – optimizes airflow and reduces unit sound
- Rust resistant screws – confirmed through 1500-hour salt spray testing
- PlusOne™ **Expanded Valve Space** – 3"-4"-5" service valve space – provides a minimum working area of 27-square inches for easier access
- Integrated heat pump lift receptacle – allows standard CPVC stands to be inserted into the base
- PlusOne™ **Triple Service Access** – 15" wide, industry leading corner service access – makes repairs easier and faster. The two fastener removable corner allows optimal access to internal unit components. Individual louver panels come out once fastener is removed, for faster coil cleaning and easier cabinet reassembly
- Diagnostic service window with two-fastener opening – provides access to the TXV valves and the heat pump reversing valve before opening the unit.
- External gauge port access – allows easy connection of "low-loss" gauge ports
- Single-row condenser coil – makes unit lighter and allows thorough coil cleaning to maintain "out of the box" performance
- 35% fewer cabinet fasteners and fastener-free base – allow for faster access to internal components and hassle-free panel removal
- Service trays – hold fasteners or caps during service calls
- QR code – provides technical information on demand for faster service calls
- Fan motor harness with extra-long wires – allows unit top to be removed without disconnecting fan wire



Standard Feature Table

Feature	18	24	30	36	42	48	60
R-410a Refrigerant	√	√	√	√	√	√	√
Maximum SEER	15.0	15.0	15.0	15.0	15.0	15.0	15.0
Maximum EER	12.5	12.5	12.5	12.5	12.5	12.5	12.5
Scroll Compressor	√	√	√	√	√	√	√
Field Installed Filter Drier	√	√	√	√	√	√	√
Front Seating Service Valves	√	√	√	√	√	√	√
High Pressure Switch	√	√	√	√	√	√	√
Low Pressure Switch	√	√	√	√	√	√	√
Internal Pressure Relief Valve	√	√	√	√	√	√	√
Internal Thermal Overload	√	√	√	√	√	√	√
Long Line capability	√	√	√	√	√	√	√
Low Ambient capability with Kit	√	√	√	√	√	√	√
3-4-5 Service Valve Access	√	√	√	√	√	√	√
Composite Basepan	√	√	√	√	√	√	√
2 Screw Control Box Access	√	√	√	√	√	√	√
15" Access to Internal Components	√	√	√	√	√	√	√
Quick release louver panel design	√	√	√	√	√	√	√
No fasteners to remove along bottom	√	√	√	√	√	√	√
Optimized Venturi Airflow	√	√	√	√	√	√	√
Single row condenser coil	√	√	√	√	√	√	√
Powder coated paint	√	√	√	√	√	√	√
Rust resistant screws	√	√	√	√	√	√	√
QR code	√	√	√	√	√	√	√
External gauge ports	√	√	√	√	√	√	√
Service trays	√	√	√	√	√	√	√

= Standard

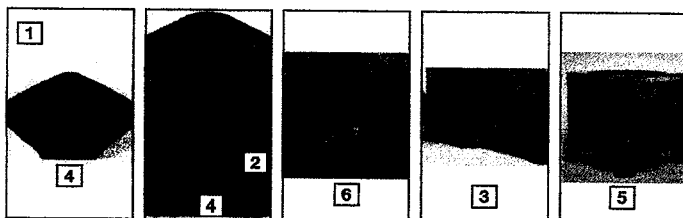
Available SKU

Available Models	Description
RP1518BJ1NA	Classic® 1 1/2 ton 15 SEER Single-Stage Heat Pump-208/230/1/60
RP1524BJ1NA	Classic® 2 ton 15 SEER Single-Stage Heat Pump-208/230/1/60
RP1530BJ1NA	Classic® 2 1/2 ton 15 SEER Single-Stage Heat Pump-208/230/1/60
RP1536AJ1NA	Classic® 3 ton 15 SEER Single-Stage Heat Pump-208/230/1/60
RP1542AJ1NA	Classic® 3 1/2 ton 15 SEER Single-Stage Heat Pump-208/230/1/60
RP1548AJ1NA	Classic® 4 ton 15 SEER Single-Stage Heat Pump-208/230/1/60
RP1560AJ1NA	Classic® 5 ton 15 SEER Single-Stage Heat Pump-208/230/1/60
RP1536AC1NA	Classic® 3 ton 15 SEER Single-Stage Heat Pump-208/230/3/60
RP1542AC1NA	Classic® 3 1/2 ton 15 SEER Single-Stage Heat Pump-208/230/3/60
RP1548AC1NA	Classic® 4 ton 15 SEER Single-Stage Heat Pump-208/230/3/60
RP1560AC1NA	Classic® 5 ton 15 SEER Single-Stage Heat Pump-208/230/3/60
RP1536AD1NA	Classic® 3 ton 15 SEER Single-Stage Heat Pump-460/3/60
RP1542AD1NA	Classic® 3 1/2 ton 15 SEER Single-Stage Heat Pump-460/3/60
RP1548AD1NA	Classic® 4 ton 15 SEER Single-Stage Heat Pump-460/3/60
RP1560AD1NA	Classic® 5 ton 15 SEER Single-Stage Heat Pump-460/3/60

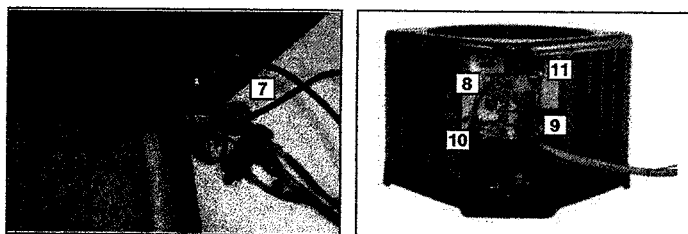
Introduction to RP15 Heat Pump

The RP15 is our 15 SEER heat pump and is part of the Rheem heat pump product line that extends from 14 to 20 SEER. This highly featured and reliable heat pump is designed for years of reliable, efficient operation when matched with Rheem indoor aluminum evaporator coils and furnaces or air handler units with aluminum evaporators.

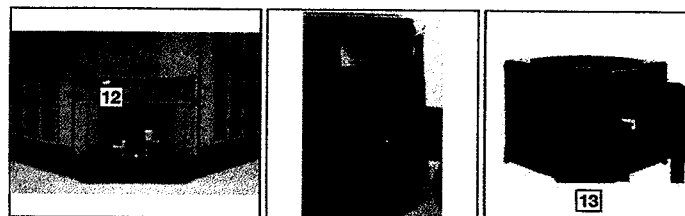
Our unique composite base (1) reduces sound emission, eliminates rattles, significantly reduces fasteners, eliminates corrosion and has integrated brass compressor attachment inserts (2). Furthermore it has incorporated into the design, water management features, means for hand placement (3) for unit maneuvering, screw trays (4) and inserts for lifting unit off pad. (5)



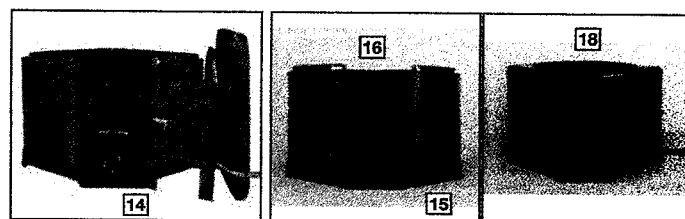
Service Valves (6) are rigidly mounted in the composite base with 3" between suction and discharge valves, 4" clearance below service valves and a minimum of 5" above the service valves, creating industry leading installation ease. The minimum 27-square inches around the service valves allows ample room to remove service valve schrader prior to brazing, plenty of clearance for easy brazing of the suction and discharge lines to service valve outlets, easy access and hookup of low loss refrigerant gauges (7), and access to the service valve caps for opening. For applications with long-line lengths up to 250 feet total equivalent length, up to 200 feet heat pump above evaporator, or up to 80 feet evaporator above heat pump, the long-line instructions in the installation manual should be followed.



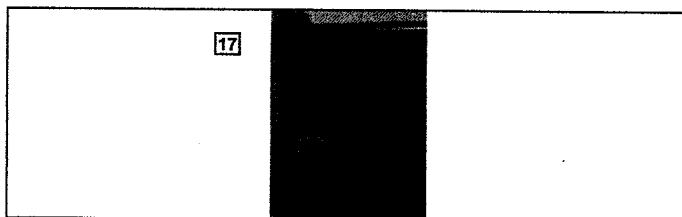
Controls are accessed from the corner of the unit by removing only two fasteners from the control access cover, revealing the industry's largest 15" wide and 14" tall control area (9). With all this room in the control area the high voltage electrical whip (9) can easily be inserted through the right size opening in the bottom of the control area. Routing it leads directly to contractor lugs for connection. The low voltage control wires (10) are easily connected to units low voltage wiring. If contactor, defrost control or capacitor (11) needs to be replaced there is more than adequate space to make the repair. Furthermore, the service window (12) can be removed to access the TXV and reversing valve by removing two screws or the entire corner can be removed providing ultimate access to the TXV or reversing valve. (13)



If in the rare event, greater access is needed to internal components, such as the compressor, the entire corner of the unit can be removed along with the top cover assembly to have unprecedented access to interior of the unit (14). Extra wire length is incorporated into each outdoor fan and compressor so top cover and control panel can be positioned next to unit. With minimal effort the plug can be removed from the compressor and the outdoor fan wires can be removed from the capacitor to allow even more uncluttered access to the interior of the unit (15). Outdoor coils heights range from as short as 25" to 45", aiding access to the compressor. Disassembly to this degree and complete reassembly only takes a first time service technician less than 10 minutes. (18)

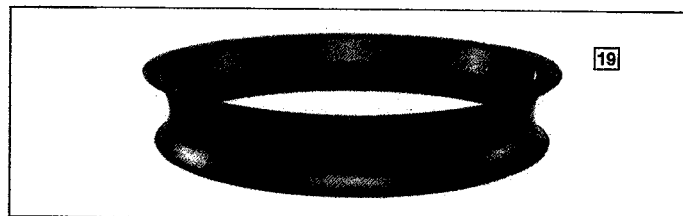


All units utilize strong formed louver panels which provide industry leading coil protection. Louver removal for coil cleaning is accomplished by removing one screw and lifting the panel out of the composite base pan (17). All RP15 units utilize single row coils (16) making cleaning easy and complete, restoring the performance of the heat pump back to out of the box performance levels year after year.

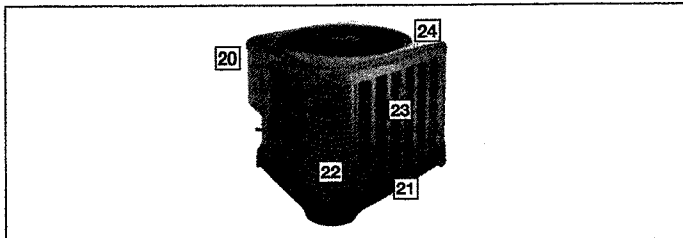


The outdoor fan motor has sleeve bearings and is inherently protected. The motor is totally enclosed for maximum protection from weather, dust and corrosion. Access to the outdoor fan is made by removing four fasteners from the fan grille. The outdoor fan can be removed from the fan grille by removing 4 fasteners in the rare case outdoor fan motor fails.

Each cabinet has optimized composite (19) fan orifice assuring efficient and quiet airflow.

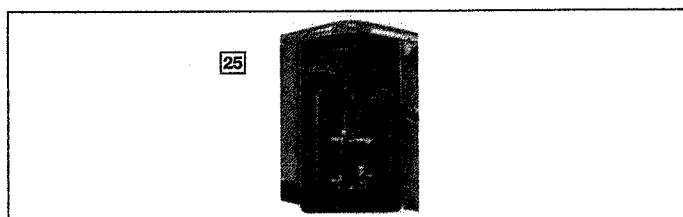


The entire cabinet has powder post paint (20) achieving 1000 hour salt spray rating, allowing the cabinet to retain its aesthetics throughout its life.



Scroll compressors with standard internal pressure relief and internal thermal overload are used on all capacities assuring longevity of high efficient and quiet operation for the life of the product. All RP15 Heat Pumps come standard with high and low pressure switches.

Each unit is shipped with filter drier for field installation and will trap any moisture or dirt that could contaminate the refrigerant system.



All cabinets have industry leading structural strength due to the composite base pan (21), interlocking corner post (22), formed curved louver panels (23) and drawn top cover (24) making it the most durable cabinet on the market today.

Each RP15 capacity has undergone rigorous psychrometric testing to assure performance ratings of capacity, SEER, EER and HSPF per AHRI Standard 210/240 rating conditions. Also each unit bears the UL mark and each unit is certified to UL 1995 safety standards.



Each unit has undergone specific strain and modal testing to assure tubing (25) is outside the units natural frequency and that the suction and discharge lines connected to the compressor withstand any starting, steady state operation or shut down forces imposed by the compressor.

All units have been sound tested in sound chamber to AHRI 270 rating conditions, and A-weighted Sound Power Level tables produced, assuring units have acceptable noise qualities (see page 9). Each unit has been ran in cooling operation at 95°F and 47°F and sound ratings for the RP15 range from as low as 73 dBA to 79 dBA.

All units have been ship tested to assure units meet stringent "over the road" shipping conditions.

As manufactured all units in the RP15 family have cooling capability to 55 °F. Addition of low ambient control will allow the unit to operate down to 0°F.

Factory testing is performed on each unit. All component parts meet well defined specification and continually go through receiving inspections. Each component installed on a unit is scanned, assuring correct component utilization for a given unit capacity and voltage. All condenser coils are leak tested with pressurization test to 550#’s and once installed and assembled, each units’ complete refrigerant system is helium leak tested. All units are fully charged from the factory for up to 15 feet of piping. All units are factory run tested. The RP15 has a 10-year conditional compressor and parts warranty (registration required).

Optional Accessories (Refer to accessory chart for model #)

Compressor Crankcase Heater

- Protects against refrigerant migration that can occur during low ambient operation

Compressor Sound Cover

- Reinforced vinyl compressor cover containing a 1½ inch thick batt of fiberglass insulation
- Open edges are sealed with a one-inch wide hook and loop fastening tape

Compressor hard Start Kit

- Single-phase units are equipped with a PSC compressor motor. This type of motor normally does not need a potential relay and start capacitor
- In conditions such as low voltage, this kit may be required to increase the compressor starting torque

Low Ambient Kit

- Heat Pump operate satisfactorily in the cooling mode down to 55°F outdoor air temperature without any additional controls
- Kit can be added in the field enabling unit to operate properly down to 0° in the cooling mode
- Crankcase heater and freezestat should be installed on compressors equipped with a low ambient kit

3"/6"/12"

- Gray high density polyethylene feet are available to raise unit off of mounting surface away from moisture

Physical Data

Model No.#	RP1518B	RP1521B	RP1530B	RP1536A	RP1542A	RP1548A	RP1560A
Nominal Tonnage	1.5	2.0	2.5	3.0	3.5	4.0	5.0
Valve Connections							
Liquid Line O.D. – in.	3/8	3/8	3/8	3/8	3/8	3/8	3/8
Suction Line O.D. – in.	3/4	3/4	3/4	3/4	7/8	7/8	7/8
Refrigerant (R410A) furnished oz. ¹	99	105	116	118	139	108	217
Compressor Type	Scroll						
Outdoor Coil							
Net face area – Outer Coil ft ²	9.1	11.1	17.3	19.8	19.8	24.2	28.3
Net face area – Inner Coil	—	—	—	—	—	—	—
Tube diameter – in.	3/8	3/8	3/8	3/8	3/8	3/8	3/8
Number of rows	1	1	1	1	1	1	1
Fins per inch	20	20	20	20	20	20	20
Outdoor Fan							
Diameter – in.	20	20	24	24	24	26	26
Number of blades	2	3	3	3	3	3	3
Motor hp	1/8	1/8	1/5	1/3	1/5	1/3	1/5
CFM	2411	2478	3852	3120	3815	4380	3655
RPM	1077	1075	825	910	825	870	850
watts	151	138	197	135	202	266	274
Shipping weight – lbs.	156	159	167	179	187	215	243
Operating weight – lbs.	133	152	160	172	180	208	236

Electrical Data

Line Voltage Data (Volts-Phase-Hz)	208/230-1-60	208/230-1-60	208/230-1-60	208/230-1-60	208/230-1-60	208/230-1-60	208/230-1-60
Maximum overcurrent protection (amps) ²	15	25	25	35	40	40	50
Minimum circuit ampacity ³	12	15	18	23	24	26	31
Compressor							
Rated load amps	9	10.9	12.8	15.4	17.9	18.5	23.7
Locked rotor amps	47.5	62.9	67.8	83.9	112	124	152.5
Condenser Fan Motor							
Full load amps	0.7	0.7	1	2.8	1	2.8	1
Locked rotor amps	1.2	1.3	1.2	—	1.2	—	2.3
Line Voltage Data (Volts-Phase-Hz)				208/230-3-60	208/230-3-60	208/230-3-60	208/230-3-60
Maximum overcurrent protection (amps) ²				25	30	30	35
Minimum circuit ampacity ³				16	18	21	21
Compressor							
Rated load amps				10.4	13.5	13.8	15.9
Locked rotor amps				73	88	83.1	110
Condenser Fan Motor							
Full load amps				2.8	1	2.8	1
Locked rotor amps				—	1.5	—	2.3

¹Refrigerant charge sufficient for 15 ft. length of refrigerant lines. For longer line set requirements see the installation instructions for information about set length and additional refrigerant charge required.

²HACR type circuit breaker or fuse.

³Refer to National Electrical Code manual to determine wire, fuse and disconnect size requirements.

Professional Classic Power Venting gas water heaters offer up to 100 foot vent runs, energy efficiency and the Guardian System

Efficiency

- .67 EF
- ENERGY STAR® rated

Performance

- FHR: Up to 87 gallons for 50-gallon models and up to 71 gallons for 40-gallon models
- Recovery rate is 32.4 to 42.4 for 50-gallon models and 32.4 to 40.4 for 40-gallon models at a 90 degree rise

Self-Diagnostic System

- Electronic gas control for improved monitoring and service



Low Emissions

- Eco-friendly burner, low NOx design

Features

- Uses indoor air for combustion; blower exhausts the flue gases
- Standard 120 VAC electrical connection
- New whisper quiet blower

Guardian System™ & Sensor

- Exclusive air/fuel shut-off device
- Maintenance free – no filter to clean
- Disables the heater in the presence of flammable vapor accumulation



Combustion Shut-off System



Flame Arrestor Plate



Maintenance Free

Flexible Venting Options

- Long venting lengths up to 100 equivalent feet
- PVC, ABS, or CPVC vent pipe options
- Vertical or horizontal termination

Longer Life

- Rheem exclusive R-Tech (resistored) anode rod provides long-lasting tank protection

High Altitude Compliant

- Tall models certified for applications up to 7,700 ft. above sea level and short models up to 6,000 feet above sea level

Plus...

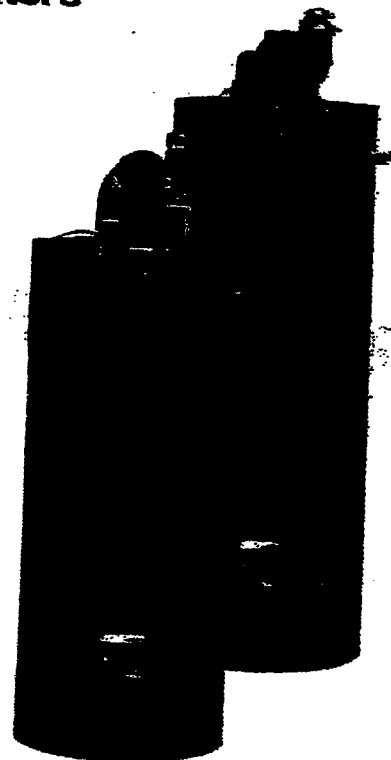
- Enhanced flow brass drain valve
- Temperature and pressure relief valve included
- Low lead compliant
- Durable Silicon Nitride Ignitor (HSI)
- EverKleen™ patented system fights sediment build-up
- Standard replacement parts

Warranty

- 6-Year limited tank and parts warranty*
- With ProtectionPlus™ the 6-year limited tank warranty becomes 10-year

*See Residential Warranty Certificate for complete information

Units meet or exceed ANSI requirements and have been tested according to D.O.E. procedures. Units meet or exceed the energy efficiency requirements of NAECA, ASHRAE standard 90, ICC Code and all state energy efficiency performance criteria.



Professional Classic Power Vent

40 and 50-Gallon Capacities
Up to 42,000 Btu/h
Natural and LP Gas



LEED Point = 1

See dimensions chart on back.



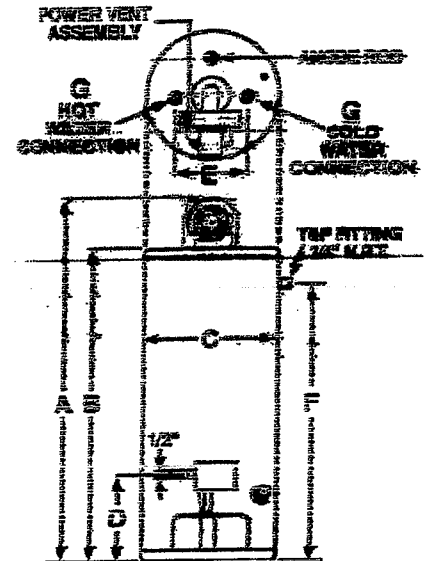
INTEGRATED HOME COMFORT

PRINTED IN U.S.A. 09/13 WP FORM NO. PROG RHPV

Professional Classic - Power Vent Specifications

DESCRIPTION			FEATURES					ROUGHING IN DIMENSIONS (SHOWN IN INCHES)										ENERGY INFO.	
T Y P E	GAL. CAP.	MODEL NUMBER	GAS INPUT IN THOUS. BTU/H		RECOVERY IN G.P.H. 30" RISE		RESET HOUR DEL. G.P.H.	HT. TO TOP OF ASSEMBLY A	TANK HT. B	GRAB. C	HT. TO GAS DOWN. D	WATER DOWN. CONTR. E	HT. TO SIDE TAP UNITS F	WATER DOWN. SIZE G	SHIP WT. (LBS)	ENERGY FACTOR			
			NAT.	LP	NAT.	LP										NAT.	NAT.	LP	
Tall	40	PROG-40-12N-RH67 PV	40		40.4		68	67-3/8	59	19-3/4	14	8	52-1/2	3/4	140	0.67			
Tall	40	PROG-40-30P-RH67 PV		36		36.4		67-3/8	59	19-3/4	14	8	52-1/2	3/4	140		0.67		
Tall	50	PROG-50-12N-RH67 PV	42		42.4		87	68-3/8	59	21-3/4	14	8	52-1/2	3/4	170	0.67			
Tall	50	PROG-50-30P-RH67 PV		42		42.4		68-3/8	59	21-3/4	14	8	52-1/2	3/4	170		0.67		
Short	40	PROG-40-12N-RH67 PV	36		36.4		77	62-1/2	51-1/4	21-3/4	14	8	44-1/4	3/4	165	0.67			
Short	40	PROG-40-30P-RH67 PV		36		36.4		62-1/2	51-1/4	21-3/4	14	8	44-1/4	3/4	165		0.67		
Short	50	PROG-50-12N-RH67 PV	38		38.4		95	62-1/2	51-1/4	23-3/4	14	8	44-1/4	3/4	175	0.67			
Short	50	PROG-50-30P-RH67 PV		38		38.4		62-1/2	51-1/4	23-3/4	14	8	44-1/4	3/4	175		0.67		

Energy Factor based on U.S. Department of Energy test procedures.



Maximum and Minimum Vent Lengths for 2" Vents

NUMBER OF 90° ELBOWS WITH VENT TERMINAL	NUMBER OF 45° ELBOWS	MINIMUM PIPE LENGTH REQ. (FT.)	MAXIMUM PIPE LENGTH (FT.) 0' - 2000'	MAXIMUM PIPE LENGTH (FT.) 2000' - 7700'
One (1)	None	4.0	44.0	24.0
One (3)	One (1)	4.0	41.0	21.0
Two (2)	None	4.0	38.0	18.0
Two (2)	One (1)	4.0	35.0	15.0
Three (3)	None	4.0	32.0	12.0

For the 2" vent, one 90° elbow is approximately equal to 6 feet of pipe.
One 45° elbow is approximately equal to 3 feet of pipe.
*2,000' - 6,000' for short models.

Maximum and Minimum Vent Lengths for 3" Vents

NUMBER OF 90° ELBOWS WITH VENT TERMINAL	NUMBER OF 45° ELBOWS	MINIMUM PIPE LENGTH REQ. (FT.)	MAXIMUM PIPE LENGTH (FT.) 0' - 2000'	MAXIMUM PIPE LENGTH (FT.) 2000' - 7700'
One (1)	None	5.0	95.0	75.0
One (1)	One (1)	5.0	92.5	72.5
Two (2)	None	5.0	90.0	70.0
Two (2)	One (1)	5.0	87.5	67.5
Three (3)	None	5.0	85.0	65.0

For the 3" vent, one 90° elbow is approximately equal to 5 feet of pipe.
One 45° elbow is approximately equal to 2.5 feet of pipe.
*2,000' - 6,000' for short models.

In keeping with its policy of continuous progress and product improvement, Rheem reserves the right to make changes without notice.

Rheem Water Heating • 101 Bell Road
Montgomery, Alabama 36117-4365 • www.rheem.com



INTEGRATED HOME COMFORT

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MECHANICAL INSPECTOR TECHNICAL SECTION



A. IDENTIFICATION—APPLICANT: COMPLETE ALL APPLICABLE INFORMATION. WHEN CHANGING CONTRACTORS, NOTIFY THIS OFFICE. CALL UTILITY DIG NO: 1-800-272-1000.

Block 819 Lot 5 Qualification Code _____

Work Site Location 1586 Larsen Street, Brick, NJ 08724

Owner in Fee Francisca Morales

Tel. _____ e-mail _____

Address 1586 Larsen Street Brick, NJ 08724

Contractor: Michael Wilson T/A Allied Construction LLC Brick, NJ 08724 Tel. (856) 528-2822

Address 100 Dobbs Lane, Suite 102 e-mail karen.h@alliedconstruct.co

Cherry Hill, NJ 08034

Contractor License No. or Builder Registration No. _____ Exp. Date 03/31/2018

Home Improvement Contractor Registration No. or Exemption Reason 13V/H062202

Federal Emp. ID No. 274623527 FAX: (856) 528-2823

B. MECHANICAL CHARACTERISTICS

Use Group Present: _____ Proposed: _____

Heating System work: ☐ New OR ☐ Modification to Existing OR ☐ Conversion OR ☒ Replacement

Type: ☐ Hydronic ☐ Hot Air

Fuel Type: ☒ Gas ☐ Oil ☐ Electric ☐ Solar ☐ Other _____

Estimated Cost of Mechanical Work \$ 2000

JOB SUMMARY (Office Use Only)

PLAN REVIEW		INSPECTIONS		DATES	
		Type:	Failure	Failure	Approval
☐ No Plans Required					
☐ Mechanical Plans Approved		Gas Piping			
Date: _____	Approved by: _____	Appliance			
☐ Joint Plan Review Required:		Chimney/Vent			
☐ Bldg. ☐ Elec. ☐ Plumb. ☐ Fire.		Oil Piping			
☐ Elev.		Oil Tank			
SUBCODE APPROVAL for PERMIT		LPG Tank			
Date: _____		Hydronic Piping			
Approved by: _____		Fireplace			
SUBCODE APPROVAL for CERTIFICATE		Chimney Cert.			
Date: <u>10-23-17</u>	<u>10-23-17</u>	Other <u>Fluval</u>			
Approved by: _____					

C. CERTIFICATION IN LIEU OF
I hereby certify that I am the owner of record and am authorized to make this application.

Sign here: _____

Print name here: Michael Wilson

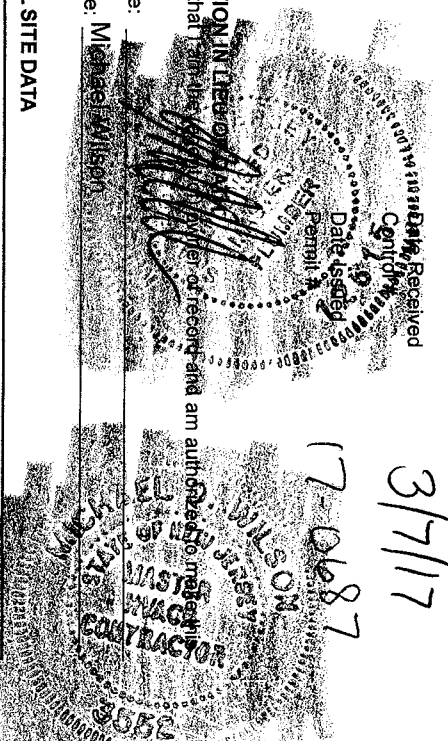
D. TECHNICAL SITE DATA

DESCRIPTION OF WORK

Replacement of Furnace, AC and HWH

NO.	FIXTURE/EQUIPMENT	DATE
<u>1</u>	Water Heater	
	Fuel Oil Piping Connections	
	Gas Piping Connections	
	Steam Boiler	
	Hot Water Boiler	
	Hot Air Furnace	
	Oil Tank	
	LPG Tank	
	Fireplace	
	Other <u>all A/C</u>	

Administrative Surcharge \$	_____
Minimum Fee \$	_____
State Permit Surcharge Fee \$	_____
TOTAL FEE \$	_____





ELECTRICAL SUBCODE TECHNICAL SECTION



A. IDENTIFICATION—APPLICANT: COMPLETE ALL APPLICABLE INFORMATION. WHEN CHANGING CONTRACTORS, NOTIFY THIS OFFICE. CALL UTILITY DIG NO: 1-800-272-1000.

Block 819 lot 5 Qualification Code 08724
Work Site Location 1586 LAESON ST, BRICK, NJ

Owner in Fee: FRANCISCA MADRILEZ

Tel. [REDACTED] e-mail [REDACTED]

Address 1586 LAESON ST Brick, NJ 08724 zip code 08724

Contractor: J & Z Electrical Solutions, LLC Tel. (856) 528-2822 e-mail karen.h@alliedconstruct.co

Address 100 Dobbs Lane, Suite 102 e-mail [REDACTED]

Cherry Hill, NJ 08034

Contractor License No. 34E101795800 Exp. Date 03/31/2018

Home Improvement Contractor Registration No. or Exemption Reason 13VH062202

Federal Emp. ID No. 274623527 FAX: (856) 528-2823

B. ELECTRICAL CHARACTERISTICS

Use Group Present Proposed [] Temporary [] Other []

[] Pole/Pad # [] Utility Co. []

Building Occupied as [] Est. Cost of Elec. Work \$ 4,000

JOB SUMMARY (Office Use Only)

PLAN REVIEW		INSPECTIONS		Dates (Month/Day)	
☐ No Plans Required	Type: _____	Failure	Failure	Approval	Initial
☐ Partial -Underslab Utilities Approved	Rough				
Date: _____	Barrier-Free				
Approved by: _____	Trench				
☐ Electric Plans Approved	Temp. Serv.				
Date: _____	Constr. Serv.				
Approved by: _____	TCO				
Joint Plan Review Required:	Other				
☐ Bldg. ☐ Plumb. ☐ Fire. ☐ Elev.	Service				
SUBCODE APPROVAL for PERMIT	Final				
Date: _____	Barrier-Free				
Approved by: _____					
SUBCODE APPROVAL for CERTIFICATE	Temp. Cut-in-Card Date Issued				
☐ CO ☐ CCO ☐ CA	Final Cut-in-Card Date Issued				
Date: <u>10/20/17</u>	Annual Pool Inspection				
Approved by: <u>[Signature]</u>	Date of Grounding and Bonding Certification				

☒ Licensed Elec. Contractor ☐ Certified Landscape Irrigation Contr ☐ Exempt Applicant

D. TECHNICAL SITE DATA
DESCRIPTION OF WORK: Replacement A/C, Furnace

QTY.	SIZE	ITEMS	FEE (Office Use Only)
		Lighting Fixtures	
		Receptacles	
		Switches	
		Detectors	
		Light Poles	
		Motors—Fract. HP	
		Emergency & Exit Lights	
		Communications Points	
		Alarm Devices/F.A.C. Panel	
		TOTAL NUMBERS	\$ _____
		Pool Permit/with UV Lights	
		Storable Pool/Spa/Hot Tub	
		KW Elec. Range/Receptacle	
		KW Oven/Surface Unit	
		KW Elec. Water Heater	
		KW Elec. Dryer/Receptacle	
		KW Dishwasher	
		HP Garbage Disposal	
		KW Central A/C Unit	
		HP/KW Space Heater/Air Handler	
		KW Baseboard Heat	
		HP Motors 1/+ HP	
		KW Transformer/Generator	
		A/P Service	
		A/P Subpanels	
		A/P Motor Control Center	
		KW Elec. Sign/Outline Light	
		Furnace Reconne	

Administrative Surcharge \$	_____
Minimum Fee \$	_____
State Permit Surcharge Fee \$	_____
TOTAL FEE \$	_____



BUILDING SUBCODE TECHNICAL SECTION



A. IDENTIFICATION—APPLICANT: COMPLETE ALL APPLICABLE INFORMATION. WHEN CHANGING CONTRACTORS, NOTIFY THIS OFFICE. CALL UTILITY DIG NO. 1-800-272-1000.

Block 819 Lot 5 Qualification Code _____
Work Site Location 1586 Larsen Street, Brick, NJ 08724

Owner Ja Morales

Tel. _____ e-mail _____

Address 1000 Laisville Street Brick, NJ 08724

Contractor: Allied Construction LLC Tel. (856) 528-2822 Zip code 08724

Address 100 Dobbs Lane, Suite 102 e-mail karen.h@alliedconstruct.co

Cherry Hill, NJ 08034

Contractor License No. or Builder Registration No. _____ Exp. Date 03/31/2018

Home Improvement Contractor Registration No. or Exemption Reason 13V/H062202

Federal Emp. ID No. 274623527 FAX: (856) 528-2823

JOB SUMMARY (Office Use Only)

PLAN REVIEW	Date	Initial	INSPECTIONS	Failure	Dates (Month/Day)	Approval	Initial
☐ No Plans Required			Footings				
☐ All			Footings/Bonding				
☐ Footings/Foundations			Foundation				
☐ Structural/Framework			Slab				
☐ Exterior			Frame				
☐ Interior			Truss Sys./Bracing				
Joint Plan Review Required:			Barrier-Free				
☐ Elec. ☐ Plumb. ☐ Fire ☐ Elevator			Insulation				
SUBCODE APPROVAL for PERMIT			Finishes -Base Layer				
Date:			Finishes -Final				
Approved by:			Energy				
SUBCODE APPROVAL for CERTIFICATE			Mechanical				
☐ CO ☐ CCO ☒ CA			TCO				
Date:			Other				
Approved by:			Final				
			Barrier-Free				

B. BUILDING CHARACTERISTICS

Use Group Present _____ Proposed _____

No. of Stories _____

Height of Structure _____ ft.

Area — Largest Floor _____ sq. ft.

New Bldg. Area/All Floors _____ sq. ft.

Volume of New Structure _____ cu. ft.

Max. Live Load _____

Max. Occupancy Load _____

Constr. Class Present _____ Proposed _____

If Industrialized Building: State Approved _____ HUD _____

Est. Cost of Bldg. Work:

1. New Bldg. \$ 2,500

2. Rehabilitation \$ 2,500

3. Total (1+ 2) \$ 5,000

U.C.C. F110 (rev. 11/09)
Internet version

C. CERTIFICATION IN LIEU OF OATH

I hereby certify that I am the (agent of) owner of record and am authorized to make this application.

Sign here:

Karen Heinze

D. TECHNICAL SITE DATA

DESCRIPTION OF WORK

Attic: Add 8 inches of blown fiberglass to 9 inches of fiberglass batt for R-Value 50

TYPE OF WORK:

- ☐ New Building
- ☐ Addition
- ☒ Rehabilitation
- ☐ Roofing
- ☐ Siding
- ☐ Fence _____ Height (exceeds 6') _____ Sq. Ft.
- ☐ Sign _____ Sq. Ft.
- ☐ Pool
- ☐ Retaining Wall _____ Sq. Ft.
- ☐ Asbestos Abatement Subchapter 8
- ☐ Lead Haz. Abatement NJAC 5:17
- ☐ Radon Remediation
- ☐ Other _____
- ☐ Demolition

FEE (Office Use Only)
\$ _____

Administrative Surcharge \$ _____
Minimum Fee \$ _____
State Permit Surcharge Fee \$ _____
TOTAL FEE \$ _____

Applicant: When submitting this form to your Local Construction Code Enforcement Office, please provide one original plus three photocopies.

Date Received 3/7/17
Control # _____
Date Issued _____
Permit # 17-0687



CONSTRUCTION PERMIT

Date Issued 3/7/17
Control # C-17-000810
Permit # 17 0687

IDENTIFICATION Block: 819 Lot: 5 Qualifier _____
Work Site Location: 1586 LARSEN ST. Brick Township, NJ Contractor ALLIED CONSTRUCTION GROUP
Address 100 DOBBS LANE SUITE 102 CHERRY HILL NJ 08034
Owner in Fee MORALES, ADALBERTO & FRANCESCA Telephone: (856) 258-6216
1586 LARSEN ST BRICK NJ 08724 Lic. No. or Bldrs. Reg. No. 36B101261500 13VH06220200
Telephone: _____ Federal Employee. No. 24EB01652400 26B101261500

Is hereby granted permission to perform the following work:

- ☒ BUILDING ☐ PLUMBING ☐ LEAD HAZARD ABATEMENT
☒ ELECTRICAL ☐ FIRE PROTECTION ☐ DEMOLITION
☐ ELEVATOR DEVICES ☐ ASBESTOS ABATEMENT (Subchapter 8 only) ☒ OTHER

DESCRIPTION OF WORK:

INSULATION, REPLACEMENT A/C, REPLACEMENT HOT AIR FURNACE, REPLACEMENT WATER HEATER

Note: If construction does not commence within one (1) year of date of issuance, or if construction ceases for a period of six (6) months, this permit is void.

Estimated Cost of Work \$8,500

P. Newman
Construction Official

3/1/17
Date

U.C.C. F170
equiv (rev 1/04)

1 WHITE - INSPECTOR

2 CANARY - OFFICE

3 PINK - TAX ASSESSOR

PAYMENTS (Office Use Only)	
Building	\$150
Electrical	\$150
Plumbing	\$0
Fire Protection	\$0
Elevator Devices	\$0
Other	\$275.00
DCA Training Fee	\$17
CO Fee	
Other	\$0
Total	\$592
Check No.	<u>2527</u>
Cash	\$0
Issued 3/7/17 9:52AM 0015584766390	
Collected By <u>CAS SERV. 803</u>	

BUILDING	\$150.00
ELECTRICAL	\$150.00
MECH.	\$275.00
DCA	\$17.00
CHECK	\$592.00

REQUIRED INSPECTIONS

Construction work must be inspected in accordance with the State Uniform Construction Code Regulations N.J.A.C. 5:23-2.18. This agency will carry out such periodic inspections during the progress of work as are necessary to insure that the work installed conforms with the requirements of the Uniform Construction Code.

The owner or other responsible person in charge of work must notify this agency when work is ready for any required inspections specified below. Requests for inspections must be made at least 24 hours prior to the time the inspection is desired. Inspections will be performed within three business days of the time for which they are requested. The work must not proceed in a manner which will preclude the inspection until it has been made and approval granted.

☒ Required inspections for all subcodes for one- and two-family dwellings are as follows:

- The bottom of footing trenches before placement of footings, except that in cases of pile foundations, inspections shall be made in accordance with the requirements of the building subcode.
- Foundations and all walls up to grade level prior to back filling.
- All structural framing, connections, wall and roof sheathing and insulation; electrical rough wiring, panel and service installation; rough plumbing. The framing inspection shall take place after the rough electrical and plumbing inspections and after the installation of the heating, ventilation and/or air conditioning duct system. The insulation inspection shall be performed after all other subcode rough inspections and prior to the installation of any interior finish material.
- Installation of all finished materials, sealings of exterior joints, plumbing piping, trim and fixtures; electrical wiring, devices and fixtures; mechanical systems equipment.

Additional required inspections for all subcodes of construction, for other than one- and two-family dwellings, are fire suppression systems, heat producing devices and Barrier Free subcode accessibility, if applicable.

☐ Required special inspections. The applicant by accepting the permit will be deemed to have consented to these requirements:

☒ A final inspection is required for each applicable subcode area before a final Certificate of Occupancy or Approval may be issued. The final inspections include the installation of all interior and exterior finish materials, sealing of exterior joints, mechanical system and other required equipment; electrical wiring, devices and fixtures; plumbing pipes, trim and fixtures; tests required by any provision of the adopted subcodes, Barrier Free accessibility, if applicable; and verification of compliance with NJAC 5:23-3.5, "Posting structures".

☐ A complete copy of released plans must be kept on the job site.

If you do not understand any of this information, please ask.



CHIMNEY VERIFICATION FOR REPLACEMENT OF FUEL-FIRED EQUIPMENT

BLOCK 819 LOT 5 QUALIFICATION CODE _____ PERMIT # _____

WORK SITE ADDRESS 1586 Larsen Street, Brick, NJ 08724

Owner in Fee Francisca Morales

Verifying Individual Karen Heinze

Company Allied Construction LLC

Address 100 Dobbs Lane, Suite 102

Cherry Hill

NJ

08034

Street

City

State

Zip Code

Tel: (856) 856

Fax: (856) 528-2822

Check the Appropriate Box(es):

Type of Replacement:

- ☐ Oil to Gas Conversion
☐ Gas to Oil Conversion
☐ Oil to Oil Replacement
☐ Other _____

Existing Vent/Chimney:

- ☐ "B" Label Vent
☐ "L" Label Vent
☐ Flexible Liner
☐ Other

Size No Longer in Use

- ☐ Chimney-Interior
☐ Chimney-Exterior
☐ Masonry Chimney-Tile Lined
☐ Masonry Chimney-Unlined
☐ Other _____

Type

Appliance 1: Furnace

Appliance 2: Hot Water Heater

Appliance 3: _____

Fuel Type

Oil / Gas / Other: _____

Oil / Gas / Other: _____

Oil / Gas / Other: _____

60,000

40,000

CHIMNEY LINER

If a chimney liner is being installed, all documentation on the liner must accompany the Permit application.

Manufacturer: _____ Model: _____ UL Listing: _____

Material of Liner: Stainless Steel _____ Aluminum _____

Size of Appliance Vent: _____ Size of Liner: _____ Height of Chimney: _____

Length of Connector: _____ Vent Connector Rise: _____

How does the appliance vent? ☐ Natural Draft ☐ Fan-assisted ☐ Other: _____

PLEASE SIGN ONE OF THE FOLLOWING VERIFICATION STATEMENTS

For Oil or Coal to Gas Conversions:

I have verified that the chimney/vent is in good repair and clear of obstruction and is substantially clean of residue from its previous use serving an oil or coal appliance. I have verified that the chimney/vent is appropriately lined and sized for the appliance(s) being installed.

Signature _____

Date _____

Oil to Oil or Gas to Gas Replacements or New/Additional Appliances:

I have verified that the existing chimney/vent is in good repair and clear of obstruction. I have verified that the existing chimney/vent is appropriately lined and sized for the appliance(s) being installed and/or remaining.

Signature _____

Date _____

Direct Vent Appliance:

I hereby verify that the appliance(s) being installed is a direct vent appliance. I further verify that the existing chimney/vent is appropriately lined and sized for any remaining appliances.

Signature [Signature]

Date 2/20/17

Verification Not Submitted:

I choose not to submit verification. I understand that I will be required to be present for the inspection to remove and reinstall the chimney vent connector.

Signature _____

Date _____

FOR MINOR AND EMERGENCY WORK, THIS FORM MUST BE PROVIDED WITH YOUR PERMIT APPLICATION. FOR ALL OTHER WORK, THIS FORM MUST BE PRESENTED TO THE CODE OFFICIAL PRIOR TO FINAL INSPECTION.

All applicable information requested on this form must be supplied.

This form may not be submitted by a homeowner in lieu of the required inspection.

Project Report

General Project Information

Project Title: Residence Of Morales
Designed By: Allied Energy Efficiency Experts
Project Date: Monday, February 6, 2017
Client Name: Alberto & Francisca Morales
Client Address: 1586 Larsen St
Client City: Brick, NJ 08724
Client Phone: [REDACTED]
Company Name: Allied Energy Efficiency Experts
Company Representative: Mr. Will Doyle
Company Address: 100 Dobbs Ln
Company City: Cherry Hill, NJ 08034
Company Phone: 856-528-2822
Company Fax: 856-528-2823

Design Data

Reference City: Lakehurst, New Jersey
Building Orientation: Front door faces Southeast
Daily Temperature Range: Medium
Latitude: 40 Degrees
Elevation: 103 ft.
Altitude Factor: 0.996

	Outdoor Dry Bulb	Outdoor Wet Bulb	Outdoor Rel.Hum	Indoor Rel.Hum	Indoor Dry Bulb	Grains Difference
Winter:	14	12.83	80%	n/a	70	n/a
Summer:	88	74	52%	50%	75	39

Check Figures

Total Building Supply CFM:	754	CFM Per Square ft.:	0.474
Square ft. of Room Area:	1,590	Square ft. Per Ton:	962
Volume (ft³) of Cond. Space:	12,720		

Building Loads

Total Heating Required Including Ventilation Air:	35,080 Btuh	35.080 MBH
Total Sensible Gain:	16,519 Btuh	83 %
Total Latent Gain:	3,306 Btuh	17 %
Total Cooling Required Including Ventilation Air:	19,825 Btuh	1.65 Tons (Based On Sensible + Latent)

Notes

Rhvac is an ACCA approved Manual J and Manual D computer program.
Calculations are performed per ACCA Manual J 8th Edition, Version 2, and ACCA Manual D.
All computed results are estimates as building use and weather may vary.
Be sure to select a unit that meets both sensible and latent loads according to the manufacturer's performance data at your design conditions.

Miscellaneous Report

System 1 Main	Outdoor	Outdoor	Outdoor	Indoor	Indoor	Grains
Input Data	Dry Bulb	Wet Bulb	Rel. Hum	Rel. Hum	Dry Bulb	Difference
Winter:	14	12.83	80%	n/a	70	n/a
Summer:	88	74	52%	50%	75	39.48

Duct Sizing Inputs

	Main Trunk	Runouts
Calculate:	Yes	Yes
Use Schedule:	Yes	Yes
Roughness Factor:	0.00300	0.01000
Pressure Drop:	0.1000 in.wg./100 ft.	0.1000 in.wg./100 ft.
Minimum Velocity:	650 ft./min	450 ft./min
Maximum Velocity:	900 ft./min	750 ft./min
Minimum Height:	0 in.	0 in.
Maximum Height:	0 in.	0 in.

Outside Air Data

	Winter	Summer
Infiltration Specified:	0.700 AC/hr 148 CFM	0.400 AC/hr 85 CFM
Infiltration Actual:	0.700 AC/hr	0.400 AC/hr
Above Grade Volume:	X 12,720 Cu.ft. 8,904 Cu.ft./hr X 0.0167	X 12,720 Cu.ft. 5,088 Cu.ft./hr X 0.0167
Total Building Infiltration:	148 CFM	85 CFM
Total Building Ventilation:	0 CFM	0 CFM

---System 1---

Infiltration & Ventilation Sensible Gain Multiplier:	14.25	= (1.10 X 0.996 X 13.00 Summer Temp. Difference)
Infiltration & Ventilation Latent Gain Multiplier:	26.74	= (0.68 X 0.996 X 39.48 Grains Difference)
Infiltration & Ventilation Sensible Loss Multiplier:	61.37	= (1.10 X 0.996 X 56.00 Winter Temp. Difference)
Winter Infiltration Specified:	0.700 AC/hr (148 CFM)	
Summer Infiltration Specified:	0.400 AC/hr (85 CFM)	

Duct Load Factor Scenarios for System 1

No.	Type	Description	Location	Attic Ceiling	Duct Leakage	Duct Insulation	Surface Area	From ITIMDD
1	Return		Attic	16B	0.24	4	4	No
2	Supply		Closed Crawl B	-	0.12	0	120	No

Total Building Summary Loads

Component Description	Area Quan	Sen Loss	Lat Gain	Sen Gain	Total Gain
1D-cv-o: Glazing-Double pane, operable window, clear, vinyl frame, outdoor insect screen with 50% coverage, medium color blinds at 45° with 50% coverage, u-value 0.57, SHGC 0.56	137	4,375	0	4,451	4,451
1D-cv-d: Glazing-Double pane, sliding glass door, clear, vinyl frame, u-value 0.57, SHGC 0.56	42	1,341	0	1,771	1,771
11D: Door-Wood - Solid Core	21	459	0	197	197
12B-0sw: Wall-Frame, R-11 insulation in 2 x 4 stud cavity, no board insulation, siding finish, wood studs	1624	8,822	0	3,482	3,482
16B-50: Roof/Ceiling-Under Attic with Insulation on Attic Floor (also use for Knee Walls and Partition Ceilings), Vented Attic, No Radiant Barrier, Dark Asphalt Shingles or Dark Metal, Tar and Gravel or Membrane, R-50 insulation	702	786	0	674	674
19A-0cp: Floor-Over enclosed unconditioned crawl space, No insulation on exposed walls, sealed or vented space, passive, no floor insulation, carpet or hardwood	888	5,511	0	1,279	1,279
20P-19: Floor-Over open crawl space or garage, Passive, R-19 blanket insulation, any cover	54	151	0	22	22
Subtotals for structure:		21,445	0	11,876	11,876
People:	4		800	920	1,720
Equipment:			0	1,200	1,200
Lighting:	0			0	0
Ductwork:		4,528	238	1,148	1,387
Infiltration: Winter CFM: 148, Summer CFM: 85		9,107	2,268	1,208	3,476
Ventilation: Winter CFM: 0, Summer CFM: 0		0	0	0	0
AED Excursion:		0	0	167	167
Total Building Load Totals:		35,080	3,306	16,519	19,825

Check Figures

Total Building Supply CFM:	754	CFM Per Square ft.:	0.474
Square ft. of Room Area:	1,590	Square ft. Per Ton:	962
Volume (ft³) of Cond. Space:	12,720		

Building Loads

Total Heating Required Including Ventilation Air:	35,080 Btuh	35.080 MBH
Total Sensible Gain:	16,519 Btuh	83 %
Total Latent Gain:	3,306 Btuh	17 %
Total Cooling Required Including Ventilation Air:	19,825 Btuh	1.65 Tons (Based On Sensible + Latent)

Notes

Rhvac is an ACCA approved Manual J and Manual D computer program.
 Calculations are performed per ACCA Manual J 8th Edition, Version 2, and ACCA Manual D.
 All computed results are estimates as building use and weather may vary.
 Be sure to select a unit that meets both sensible and latent loads according to the manufacturer's performance data at your design conditions.

Detailed Room Loads - Room 1 - Living (Average Load Procedure)

General

Calculation Mode:	Htg. & clg.	Occurrences:	1
Room Length:	37.0 ft.	System Number:	1
Room Width:	24.0 ft.	Zone Number:	1
Area:	888.0 sq.ft.	Supply Air:	522 CFM
Ceiling Height:	8.0 ft.	Supply Air Changes:	4.4 AC/hr
Volume:	7,104.0 cu.ft.	Req. Vent. Clg:	0 CFM
Number of Registers:	5	Actual Winter Vent.:	0 CFM
Runout Air:	104 CFM	Percent of Supply.:	0 %
Runout Duct Size:	6 in.	Actual Summer Vent.:	0 CFM
Runout Air Velocity:	532 ft./min.	Percent of Supply:	0 %
Runout Air Velocity:	532 ft./min.	Actual Winter Infil.:	79 CFM
Actual Loss:	0.181 in.wg./100 ft.	Actual Summer Infil.:	45 CFM

Item Description	Area Quantity	-U- Value	Htg HTM	Sen Loss	Clg HTM	Lat Gain	Sen Gain
SE-Wall-12B-0sw 37 X 8	210	0.097	5.4	1,141	2.1	0	450
NE-Wall-12B-0sw 24 X 8	192	0.097	5.4	1,043	2.1	0	412
NW-Wall-12B-0sw 37 X 8	236	0.097	5.4	1,282	2.1	0	506
SW-Wall-12B-0sw 24 X 8	192	0.097	5.4	1,043	2.1	0	412
SE-Door-11D 3 X 7	21	0.390	21.8	459	9.4	0	197
SE-Gls-1D-cv-o shgc-0.56 0%S (2)	30	0.570	31.9	958	34.5	0	1,036
SE-Gls-1D-cv-o shgc-0.56 0%S	35	0.570	31.9	1,117	34.5	0	1,209
NW-Gls-1D-cv-o shgc-0.56 0%S	6	0.570	31.9	192	27.8	0	167
NW-Gls-1D-cv-o shgc-0.56 0%S	3	0.570	31.9	96	28.0	0	84
NW-Gls-1D-cv-o shgc-0.56 0%S	9	0.570	31.9	287	27.9	0	251
NW-Gls-1D-cv-d shgc-0.56 0%S	42	0.570	31.9	1,341	42.2	0	1,771
Floor-19A-0cp 24 X 37	888	0.295	6.2	5,511	1.4	0	1,279
Subtotals for Structure:				14,470		0	7,774
Infil.: Win.: 79.4, Sum.: 45.4	976		4.993	4,873	0.662	1,214	646
Ductwork:				2,867			796
AED Excursion:							116
People: 200 lat/per, 230 sen/per:	4					800	920
Equipment:						0	1,200
Room Totals:				22,210		2,014	11,452

Detailed Room Loads - Room 2 - Bedroom 1 (Average Load Procedure)

General

Calculation Mode:	Htg. & clg.	Occurrences:	1
Room Length:	27.0 ft.	System Number:	1
Room Width:	26.0 ft.	Zone Number:	1
Area:	702.0 sq.ft.	Supply Air:	231 CFM
Ceiling Height:	8.0 ft.	Supply Air Changes:	2.5 AC/hr
Volume:	5,616.0 cu.ft.	Req. Vent. Clg:	0 CFM
Number of Registers:	3	Actual Winter Vent.:	0 CFM
Runout Air:	77 CFM	Percent of Supply.:	0 %
Runout Duct Size:	5 in.	Actual Summer Vent.:	0 CFM
Runout Air Velocity:	565 ft./min.	Percent of Supply:	0 %
Runout Air Velocity:	565 ft./min.	Actual Winter Infil.:	69 CFM
Actual Loss:	0.262 in.wg./100 ft.	Actual Summer Infil.:	39 CFM

Item Description	Area Quantity	-U- Value	Htg HTM	Sen Loss	Clg HTM	Lat Gain	Sen Gain
SE-Wall-12B-0sw 27 X 8	186	0.097	5.4	1,010	2.1	0	399
NE-Wall-12B-0sw 26 X 8	202	0.097	5.4	1,097	2.1	0	433
NW-Wall-12B-0sw 27 X 8	198	0.097	5.4	1,076	2.1	0	424
SW-Wall-12B-0sw 26 X 8	208	0.097	5.4	1,130	2.1	0	446
SE-Gls-1D-cv-o shgc-0.56 0%S (2)	30	0.570	31.9	958	34.5	0	1,036
NE-Gls-1D-cv-o shgc-0.56 0%S	6	0.570	31.9	192	27.8	0	167
NW-Gls-1D-cv-o shgc-0.56 0%S	12	0.570	31.9	383	27.8	0	334
NW-Gls-1D-cv-o shgc-0.56 0%S	6	0.570	31.9	192	27.8	0	167
UP-Ceil-16B-50 27 X 26	702	0.020	1.1	786	1.0	0	674
Floor-20P-19 2 X 27	54	0.050	2.8	151	0.4	0	22
Subtotals for Structure:				6,975		0	4,102
Infil.: Win.: 69.0, Sum.: 39.4	848		4.993	4,234	0.663	1,054	562
Ductwork:				1,661			352
AED Excursion:							51
Room Totals:				12,870		1,054	5,067

