

BLOCK

LOT

QUALIFICATION CODE

ADDRESS (SITE)

PERMIT NO.

15-3588

CALL BEFORE
YOU DIG
1-800-272-1000



CONSTRUCTION PERMIT APPLICATION

Hutchinson

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

I. IDENTIFICATION

1. Proposed Work Site at: 730 Lynwood Ave 4621 Chapel Avenue Cherry Hill NJ 08034

2. Name of Owner in Fee: Church of Visitation NJ Plumbing Lic #6311 Geo Hutchinson III

Tel. (232) 477-7059 e-mail NJ Electrical Contractor Spotlight Electric LLC

Address 730 Lynwood Ave Chris Davis #0484 Exp 2018

3. Ownership in Fee: Public Private Federal Employer Number 223766253

4. Principal Contractor: Home Improvement LIC# 13VH01747500

License No. OR, if new home, Builder Reg. No. Exp. Date

Home Improvement Contractor Registration No. or Exemption Reason (if applicable):

Federal Emp. ID No. FAX: ()

5. Architect or Engineer Contact

Address e-mail

Tel. () FAX: ()

6. Responsible Person in Charge once Work has Begun

Tel. (609) 868-1081 FAX: ()

V. FEE SUMMARY (for office use only)

		Update	Update
1. Building	\$		
2. Electrical	\$		
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 Approval	Rejection	Re-viewer
700	Mauler			7/24/15	PE			
400				10-1-15	SK			
16000				6/6/15	SK			
17100								

TOTAL COST

VII. DESCRIPTION OF BUILDING USE

A. RESIDENTIAL (primary use)

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

B. NON-RESIDENTIAL (primary use)

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

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



Brick Township
401 Chambersbridge Rd
Brick, NJ 08723

Date Issued 7/26/2016
Control Number C-15-004843
Permit Number 15-3588
Permit Issue Date 10/19/2015
Certificate Number 15-3588

Certificate

Construction Code Division

(Certificate of Approval)

Identification

Work Site Location: 730 LYNNWOOD AVE. Brick Township, NJ Block: 664 Lot: 1 Qual: _____
Owner in Fee: CHURCH OF THE VISITATION
Owner Address: 730 LYNNWOOD AVE BRICK NJ 08723
Telephone: _____
Contractor Hutchinson
Address 621 Chapel Avenue Cherry Hill NJ 08034
Telephone: (856) 429-5807 Fax: (856) 429-4995
License Number or Builders Registration Number: 13VH01747500 6311 9484 Federal Emp. Number: _____

Home Warranty Number: _____

Type of Warranty Plan: ☐ State ☐ Private

Use Group: A-3 Construction Classification: _____

Maximum Live Load: 0 Maximum Occupancy Load: 0

Description of Work/Use: HVAC

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 Continued Occupancy**

This serves notice that based on a general inspection of the visible parts of the building there are no imminent hazards and the building is approved for continued occupancy.

☐ **Temporary Certificate of Compliance**

The following conditions must be met no later than or the owner will be subject to fine or order to vacate:
This certificate has an expiration date of:

Conditions to be met:

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

This serves notice that based on written certification, lead abatement was performed as per NJAC5:17 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.

- ☐ Total removal of asbestos hazards in scope of work
☐ Partial or limited time period (years); see file

☐ **Certificate of Compliance**

This serves notice that said potentially hazardous equipment has been installed and/or maintained in accordance with the New Jersey Uniform Construction Code and is approved for use until

☐ **Temporary Certificate of Occupancy**

The following conditions must be met no later than:
or the owner will be subject to fine or order to vacate:
This certificate has an expiration date of:

Conditions to be met:

Construction Official

Date Printed: 7/26/2016

U.C.C. F260 (rev. 08/05)

Fee: \$0.00

Check Number: _____

Collected By: _____

Page 1

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 have been given, including such certification as the construction official may require.

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 have been given, including such certification as the construction official may require.

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.

☒ Check if contractor.

Agent Name _____
Address _____
Telephone (609 568-1081)
Signature [Signature]

Hutchinson
621 Chapel Avenue Cherry Hill NJ 08034
PH: 856-429-5807 FAX: 856-429-4995
NJ Plumbing Lic #6311 Geo Hutchinson III
NJ Electrical Contractor Spotlight Electric LI
Chris Davis #0484 Exp. 2018
Federal Employer Number 223766253
NJ Home Improvement LIC# 13VH0174750

- III. ☐ LEAD HAZARD ABATEMENT: Include Homeowner or Building Owner Affidavit as per N.J.A.C. 5:17.



C. CERTIFICATION IN LIEU OF OATH
I hereby certify that I am the (agent of)

Applicant sign/Contractor *[Signature]*

Print name here: EDWARD P. POWERS

☒ Licensed Elec. Contractor [] Certifd Landscape Irrigation Contr [] Exempt Applicat
D. TECHNICAL SITE DATA *Remove & Replace*

DESCRIPTION OF WORK:	2-4th A/C	2-5th A/C
2-80K Furnace	2-80K	2-80K 1301154

QTY.	SIZE	ITEMS	
		Exact	
		Lighting Fixtures	
			replace
			FEE (Office Use Only)

Receptacles _____
Switches _____

Detectors
Light Poles

Emergency & Exit 1

Communications Points

Alarm Devices/F.A.C. Panel

	\$
TOTAL NUMBERS	
0	

Pool Permit with UV

Storage Pool/Spa/Hot Tub	_____
KW Elec. Range/Receptacle	_____

KW Oven/Surface Unit	_____
KW Elec. Water Heater	_____
KW Elec. Range/Dis. Unit	_____

KW Elec. Dryer/Receptacle	_____
KW Dishwasher	_____
_____	_____
_____	_____

HP Garbage Disposal	4
KW Central A/C Unit	9.6
HP/KW/Steam Heater/Air Handler	3.1

☒	HR/KW Space Heater/Air Handler	
☒	KW Baseboard Heat	
☐	HD Motors 4 1/2 HP	

_____	HP Models 1/4 HP	_____
_____	KW Transformer/Generator	_____
_____	AMD Service	_____

_____ AMP Service _____
 _____ AMP Subpanels _____
 _____ AMP Motor Control Centers _____

_____ AMP/ Motion Control Center
_____ KW Elec. Sign/Outline Light
_____ 31. *80.00 32.12*

Administrative Surcharge \$ 219.00

Minimum Fee \$ _____

State Permit Surcharge Fee \$ _____

TOTAL FEE \$ _____

Brick Township

401 Chambers Bridge Road
Brick, NJ 08723
732-262-1030

CORRECTION NOTICE

ADDRESS 730 LYNNWOOD
PERMIT NUMBER 15 3588 BLOCK 664 LOT 1
OWNER Church of The Visitation

Upon inspection, violations of the ☐ Building ☐ Plumbing ☒ Electric ☐ Fire Code
were in evidence and the following orders are hereby issued for their correction:

- 1) GROUND WIRE TO COMPLY WITH 250 NEC
FOR EQUIPMENT. NOT #16
- 2) WIRE STRETCH TO FURNACE - SUPPORT
WIRE
- 3) BOTTLE ROMEX CONNECTORS WITH
MC WIRE

PLEASE CALL FOR INSPECTION WHEN CORRECTIONS HAVE BEEN COMPLETED. ACCEPTANCE AND
APPROVAL BY AN INSPECTOR OF THIS DEPARTMENT IS REQUIRED.

DATE 3 18 16 INSPECTOR Thos Olsen

3 19 16

4 A/C units - Re placed - 40 Amp Max
Fuse - OK

7 16 GROUND WIRE FROM - EXISTING FEED

SUPPORT FEED FURNACE.

Boiler Rmly connector with MC wire

@tech



PLUMBING 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 664 Lot 1 Qualification Code 400

Work Site Location 230 Lynwood Ave.

Owner in Fee: owner of the visitation

Tel. 732 472-2659 e-mail

Address 730 Lynwood Ave municipality 400 zip code

Contractor: Hutchinson Plumbing Heating Cooling Tel. (856) 429-5807

Address 621 Chapel Avenue, Cherry Hill, NJ 08034 e-mail

Contractor License No. Exp. Date

Home Improvement Contractor Registration No. or Exemption Reason 13VH01747500

Federal Emp. ID No. 223766253 FAX: (856) 429-4995

B. PLUMBING CHARACTERISTICS

Use Group Present Proposed

Building Sewer Size Public Sewer Private Septic

Water Service Size Public Water Private Well

Est. Cost of Plumbing Work \$ 400

JOB SUMMARY (Office Use Only)

PLAN REVIEW

☒ No Plans Required

☐ Partial-Under-slab Utilities Approved

Date: Approved by:

☐ Plumbing Plans Approved

Date: Approved by:

Joint Plan Review Required:

☐ Bldg. ☐ Elec. ☐ Fire. ☐ Elev.

SUBCODE APPROVAL for PERMIT

Date: 10-1-13

Approved by:

SUBCODE APPROVAL for CERTIFICATE

☐ CO ☐ CCO ☐ CA

Date: 3-1-16

Approved by:

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 and perform the work listed on this application.

Applicant sign/Contractor sign and seal here:

Print name here:

D. TECHNICAL SITE DATA

DESCRIPTION OF WORK

2-80,000 800 Furnaces

1-80,000 1301 ea

QTY.

FIXTURE/EQUIPMENT

Water Closet

Urinal/Bidet

Bath Tub

Lavatory

Shower

Floor Drain

Sink

Dishwasher

Drinking Fountain

Washing Machine

Hose Bibb

Water Heater

Fuel Oil Piping

Gas Piping

LP Gas Tank

Steam Boiler

Hot Water Boiler

Sewer Pump

Interceptor/Separator

Backflow Preventer

Greasetrap

Sewer Connection

Water Service Connection

Stacks

Other cond clues

Date Received 10-19-11

Control # 15-3588

Date Issued

Permit #

FEE (Office Use Only)

EXACT replace

Recovered

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



FIRE PROTECTION 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 664 Lot 1 Qualification Code ACE
Work Site Location 730 Lynwood Ave

Owner in Fee: Church of the Visitation

Tel. 232 477-7059 e-mail _____

Address 730 Lynwood Ave street ACE municipality HUTCHINSON zip code 08034

Contractor: _____

Address _____

621 Chapel Avenue Cherry Hill NJ 08034
PH: 856-429-8807 FAX: 856-429-4985
NJ Plumbing Lic #6311 Geo Hutchinson III

Fire Protection Equipment, NJ Div of Fire Safety Permit No. _____
Fire Protection Equipment, NJ Div of Fire Safety Installer: Chris Davis #9484 Exp 2018
Fire Alarm Contractor No. _____
Home Improvement Contractor Registration No. or Exemption: General Employees Number 223766253
Improvement Lic #13VH01747500

Federal Emp. ID No. _____ FAX: _____

B. FIRE PROTECTION CHARACTERISTICS

Use Group: Present _____ Proposed _____
Const. Class: Present _____ Proposed _____
Fuel Storage Tank: _____
Fuel Type: ☐ Flammable or ☐ Combustible
Capacity _____

Heating System: ☐ New or ☒ Modification to Existing
OR ☐ Conversion or ☒ Replacement
Fire Alarm System: ☐ New or ☒ Existing
Location of Panel: _____
Fire Suppression/Standpipe System: _____
☐ New or ☒ Existing
Location of Main Control Valve: _____

Fuel Type: ☒ Gas ☐ Oil ☐ Electric ☐ Solar
☐ Other _____
Location of Main Control Valve: _____

Location: _____
Total Cost of Fire Protection Work \$ 16000

JOB SUMMARY (Office Use Only)

PLAN REVIEW _____ INSPECTIONS _____
Type: _____ Failure _____ Approval _____ Initial _____
☐ No Plans Required
☐ Partial - Underslab Utilities Approved
Suppression Sys. _____
Standpipe _____
Fire Pump _____
Pre-Eng. System _____
Mechanical _____
Smoke Control _____
TCO _____
Flam/Combust Tanks _____
Fireplace Venting _____
Final _____
Other _____

Date: _____ Approved by: _____
Joint Plan Review Required: _____
Bldg. ☐ Elec. ☐ Plumb. ☐ Elev. _____
SUBCODE APPROVAL for PERMIT 181-15
Date: _____ Approved by: ACE
SUBCODE APPROVAL for CERTIFICATE 22115
Date: _____ Approved by: ACE
Other _____

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

Applicant/Contractor sign here: _____

Print name here: _____

D. TECHNICAL SITE DATA

DESCRIPTION OF WORK: 2-80000 350 Furnace
Water Supply Source: 2-80000 350 Furnace
Method of Alarm/Suppression System Supervision: 30112

Flammable/Combustible Tanks _____
Alarm Systems _____
☐ System _____
☐ 110V Interconnected _____
☐ CO Detectors/110V _____
Alarm Devices (i.e., smoke, heat, pulls, water/flow) _____
Supervisory Devices (i.e., tamper, low/high air) _____
Signaling Devices (i.e., horn/strobes, bells) _____
Other Devices _____

Suppression Systems

Fire Pump _____ GPM Type _____
Dry Pipe/Alarm Valves _____
Pre-action Valves _____
Sprinkler Heads (Dry and Wet) _____
Standpipes _____

Pre-engineered Systems

Wet Chemical _____
Dry Chemical _____
CO₂ Suppression _____
Foam Suppression _____
FM200 Suppression _____
Other _____

Other Systems

Kitchen Hood Exhaust System _____
Smoke Control System _____
Fuel-Fired Appliances: ☒ Gas ☐ Oil ☐ Solid _____
Fireplace Venting/Metal Chimney _____
Other _____

Date Received 10-19-15
Control # 15-3588
Date Issued 10-19-15
Permit # 15-3588

FEE (Office Use Only) \$ _____

HUTCHINSON

Mechanical Services



Date: _____

This check is for the permit for:

Name: CHURCH of the Visitation

Address: 730 Lynwood Ave.
419 35600

Please use the self-addressed stamp envelope when mailing the approved/issued permit to me.

Thank you for your cooperation.

Sincerely,

872.00

BRICK

Steve Hastings
609-868-1081



CONSTRUCTION PERMIT

Date Issued
Control #
Permit #

10-19-15
C-15-004843
15-3588

IDENTIFICATION Block: 664 Lot: 1 Qualifier
Work Site Location: 730 LYNNWOOD AVE. Brick Township, NJ Contractor Hutchinson
Address 621 Chapel Avenue Cherry Hill NJ 08034
Owner in Fee CHURCH OF THE VISITATION
730 LYNNWOOD AVE BRICK NJ 08723 Telephone: (856) 429-5807
Lic. No. or Bldrs. Reg. No. 9484
Telephone: Federal Employee No.

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:

HVAC

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 \$17,100

Donna Newman Jr
Construction Official

10/7/15
Date

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

1 WHITE - INSPECTOR

2 CANARY - OFFICE

3 PINK - TAX ASSESSOR

4 GOLD - APPLICANT

PAYMENTS (Office Use Only)

Building	\$0
Electrical	\$210
Plumbing	\$450
Fire Protection	\$180
Elevator Devices	\$0
Other	\$0.00
DCA Training Fee	\$32
CO Fee	
Other	\$0
Total	\$872
Check No.	2558
Cash	\$0
Credit	\$0
Collected By	

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:

1. 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.
2. Foundations and all walls up to grade level prior to back filling.
3. 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.
4. 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.

THIS DOCUMENT IS PRINTED ON WATERMARKED PAPER, WITH A MULTI-COLORED
BACKGROUND AND MULTIPLE SECURITY FEATURES. PLEASE VERIFY AUTHENTICITY.

State Of New Jersey
New Jersey Office of the Attorney General
Division of Consumer Affairs

THIS IS TO CERTIFY THAT THE
Board of Exam. of Master Plumbers

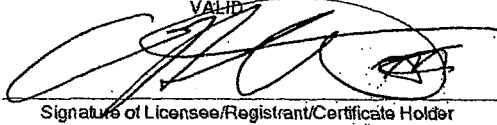
HAS LICENSED

GEORGE H. HUTCHINSON III
T/A HUTCHINSON P and H and COOL LLC
116 NO HADDON AVE - SUITE C
HADDONFIELD NJ 08033

FOR PRACTICE IN NEW JERSEY AS A(N): Master Plumber

05/27/2015 TO 06/30/2017

VALID


Signature of Licensee/Registrant/Certificate Holder

36BI00631100

LICENSE/REGISTRATION/CERTIFICATION #


ACTING DIRECTOR

New Jersey Office of the Attorney General
Division of Consumer Affairs
THIS IS TO CERTIFY THAT THE
Board of Exam. of Master Plumbers
HAS LICENSED
GEORGE H. HUTCHINSON III
Master Plumber

05/27/2015 TO 06/30/2017

VALID

36BI00631100

PLEASE DETACH HERE
IF YOUR LICENSE/REGISTRATION/
CERTIFICATE ID CARD IS LOST
PLEASE NOTIFY:

Board of Exam. of Master Plumbers
P.O. Box 45008
Newark, NJ 07101

PLEASE DETACH HERE



CHRIS CHRISTIE
Governor

KIM GUADAGNO
Lt. Governor

New Jersey Office of the Attorney General

Division of Consumer Affairs
State Board of Examiners of Heating, Ventilating,
Air Conditioning, and Refrigeration (HVACR) Contractors
124 Halsey Street, 6th Floor, Newark, NJ 07102

May 12, 2014



JOHN J. HOFFMAN
Acting Attorney General

STEVE C. LEE
Acting Director

PETER HATTON
35 Aberdeen Drive
Sicklerville NJ 08081

Mailing Address:
P.O. Box 47031
Newark, NJ 07101
973-504-6250

Dear PETER HATTON,

The State Board of Examiners of Heating, Ventilating, Air Conditioning and Refrigeration (HVACR) Contractors has approved your application for a Master HVACR license. You are qualified for licensure by grandfathering, pursuant to N.J.A.C. 13:32A- 2.6, Issuance of license to individuals engaged in the practice for two (2) years preceding the application.

Please review and submit the following items required for your HVACR license, pursuant to N.J.A.C. 13:32A-2.4 Licensure and pressure seal:

- A **surety bond** in the sum of \$3,000;
- A **certificate of general liability insurance** from an insurance company authorized and licensed to do business in New Jersey in the amount of \$500,000 for combined property damage and bodily injury to or death of one or more persons in any one accident or occurrence or proof of self-insurance approved by the Department of Banking and Insurance, obtained by the applicant or the HVACR company or corporation, if the applicant will offer HVACR contracting services to the public, which includes instances when the applicant will act as a bona fide representative for a company or corporation;
- A **Federal Tax Identification number** for the HVACR business if the applicant will be engaging in the business of HVACR contracting, which includes instances when the applicant will act as a bona fide representative for a company or corporation;
- The **\$160.00 initial licensing fee** as set forth in N.J.A.C. 13:32A-6.1; and
- The **\$25.00 initial pressure seal fee** also set forth in N.J.A.C. 13:32A-6.1.
The pressure seal shall remain the property of the State and shall be returned to the Board as guided within the regulations.

Please forward all documents and fees to the State Board of Examiners of Master HVACR Contractors at P.O. Box 47031, Newark, NJ 07101. Should you require any additional assistance in meeting these requirements, you may contact the Board Office at 973-504-6250.

Very truly yours,
The State Board of Examiners of
HVACR Contractors

Rosemarie S. Baccile
Acting Executive Director

rb

HUTCHINSON
Mechanical Services



DATE _____

THIS PERMIT IS FOR THE FOLLOWING:

NAME Church of the Visitation

ADDRESS 730 Lynwood Ave

PLEASE USE THE SELF-ADDRESSED STAMPED ENVELOPE WHEN
MAILING THE APPROVED PERMIT TO ME.

THANK YOU FOR YOUR COOPERATION.

SINCERELY,

STEVE HASTINGS

(609)-868-1081

THIS DOCUMENT IS PRINTED ON WATERMARKED PAPER, WITH A MULTI-COLORED
BACKGROUND AND MULTIPLE SECURITY FEATURES. PLEASE VERIFY AUTHENTICITY.

NOT AN
ELECTRICIAN'S
OR PLUMBER'S
LICENSE

State Of New Jersey
New Jersey Office of the Attorney General
Division of Consumer Affairs

THIS IS TO CERTIFY THAT THE
Division of Consumer Affairs

HAS REGISTERED

HUTCHINSON PLUMBING HEATING COOLING LLC
Fred Hutchinson
621 Chapel Avenue
Cherry Hill NJ 08034

FOR PRACTICE IN NEW JERSEY AS A(N): Home Improvement Contractor

02/05/2015 TO 03/31/2016
VALID

Signature of Licensee/Registrant/Certificate Holder

13VH01747500
LICENSE/REGISTRATION/CERTIFICATION #

ACTING DIRECTOR



CHIMNEY VERIFICATION FOR REPLACEMENT OF FUEL-FIRED EQUIPMENT

BLOCK _____ LOT _____ QUALIFICATION CODE _____ HUTCHINSON, NJ 08054
WORK SITE ADDRESS 730 Lynwood Ave PERMIT # _____
Owner in Fee Church of the Visitation NJ PLUMBING LIC. # 6311 GEO. HUTCHINSON III
Verifying Individual [Signature] NJ ELECTRICAL CONTRACTOR SPOTLIGHT ELECTRIC, LLC
Company CHRIS DAVIS #9484 EXP 2012
Address _____ FEDERAL EMPLOYEE NUMBER 322786253
NJ HOME IMPROVEMENT LIC. # 13VH01747500
Tel: () _____ Fax: () _____

Check the Appropriate Box(es):
Type of Replacement

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

Existing Vent/Chimney: Size _____

- ☐ "B" Label Vent ☐ Chimney-Interior
☐ "L" Label Vent ☐ Chimney-Exterior
☐ Flexible Liner ☐ Masonry Chimney-Tile Lined
☐ Power Vent/Exhauster ☐ Masonry Chimney-Unlined
☐ Other _____

Type	Fuel Type	BTU Rating (input/hour)
Appliance 1: <u>FURNACE</u>	Oil / Gas / Other: <u>Gas</u>	<u>80K</u>
Appliance 2: <u>FURNACE</u>	Oil / Gas / Other: <u>Gas</u>	<u>80K</u>
Appliance 3: <u>BOLLER</u>	Oil / Gas / Other: <u>Gas</u>	<u>80K</u>

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 8-14-15

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.

THIS DOCUMENT IS PRINTED ON WATERMARKED PAPER WITH A MULTI-COLORED
BACKGROUND AND MULTIPLE SECURITY FEATURES. PLEASE VERIFY AUTHENTICITY.

State Of New Jersey
New Jersey Office of the Attorney General
Division of Consumer Affairs

THIS IS TO CERTIFY THAT THE
Board of Exam. of Electrical Contractors

HAS LICENSED

MORE POWER ELECTRIC INC
EDWARD P POWERS
205 N. White Horse Pike
Magnolia NJ 08049

FOR PRACTICE IN NEW JERSEY AS A(N): Electrical Business Permit

New Jersey Office of the Attorney General
Division of Consumer Affairs

THIS IS TO CERTIFY THAT THE
Board of Exam. of Electrical Contractors
HAS LICENSED
MORE POWER ELECTRIC INC
Electrical Business Permit

03/10/2015 TO 03/31/2018

VALID

SIGNATURE

34EB01325500

03/10/2015 TO 03/31/2018

VALID

Edward P. Powers

Signature of Licensee/Registrant/Certificate Holder

34EB01325500

LICENSE/REGISTRATION/CERTIFICATION #

Kim C. L.

ACTING DIRECTOR

PLEASE DETACH HERE

IF YOUR LICENSE/REGISTRATION/
CERTIFICATE ID CARD IS LOST
PLEASE NOTIFY:

Board of Exam. of Electrical Cont
P.O. Box 45006
Newark, NJ 07101

CONDENSING RESIDENTIAL GAS BOILERS



HEATING BOILER

CON X US

REMOTE CONNECT CAPABLE

SMART SYSTEM

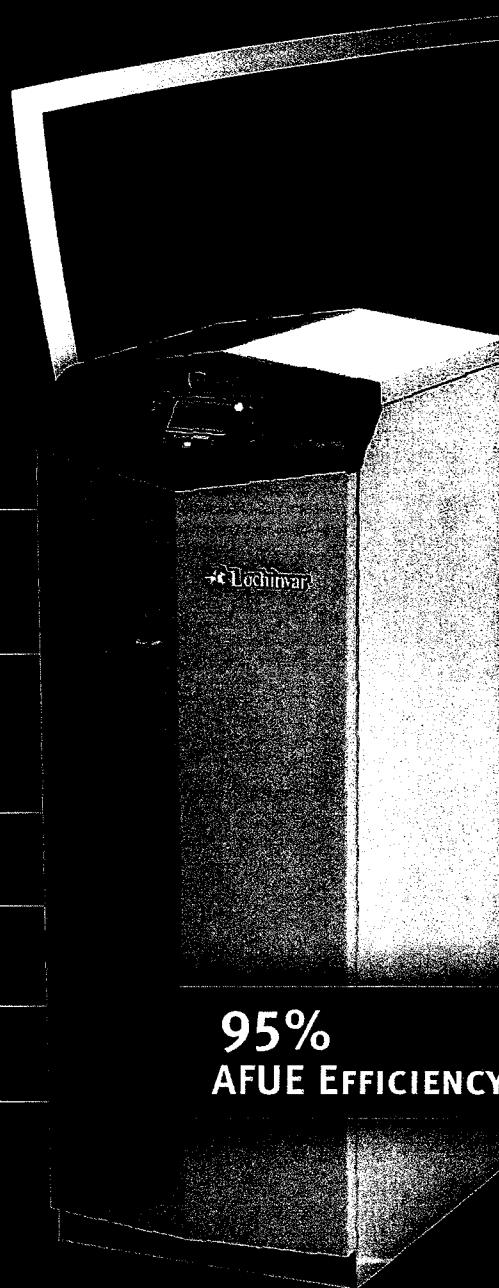
CONTROL WITH ADVANCED USER FEATURES

MODELS FROM 80,000 TO 285,000 BTU/HR

5:1 FIRING RATE MODULATION

LESS THAN 20 ppm NOx

DIRECT VENT FLEXIBILITY TO 100 FEET



**95%
AFUE EFFICIENCY**



25% ENERGY
SAVING



Lochinvar

HIGH EFFICIENCY BOILERS & WATER HEATERS

knightheatingboiler.com



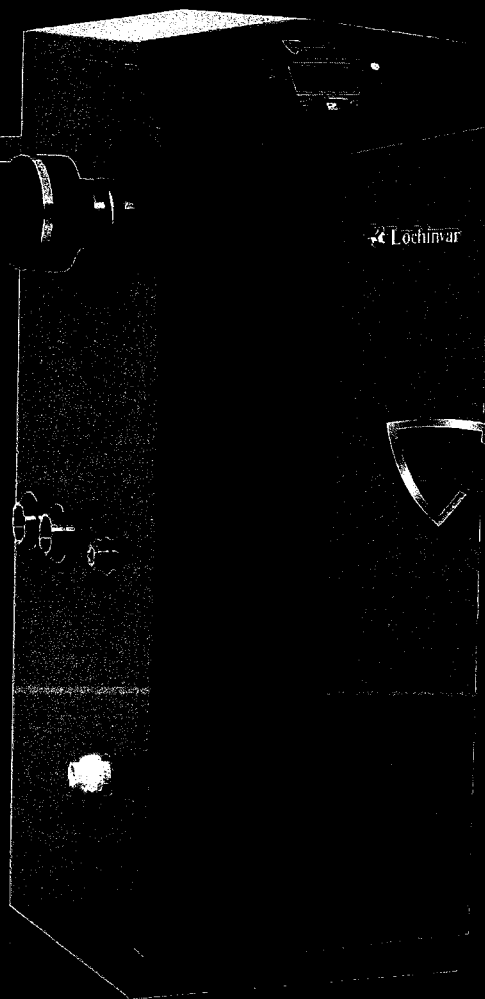
HEATING BOILER

95% DOE AFUE EFFICIENCY

KNIGHT is recognized for its reliable, proven performance and high quality standards. Its award winning design assures contractors and home owners peace of mind and long term savings in operating costs.

Lochinvar has raised the KNIGHT standard to even greater heights. The SMART SYSTEM™ control with color display gives installers and maintenance personnel a greater level of control than ever before. It's easy to access all the information they need to setup, troubleshoot and monitor all boiler functions. Additionally, two cascading options allow the installer to fine-tune sequencing of multiple boiler installations.

More than ever, KNIGHT is the best choice for traditional hydronic space heating, radiant floor heating and indirect domestic hot water applications.



HEATING BOILER

FLOOR STANDING MODELS

The KNIGHT Floor-Standing lineup features 5 small footprint models from 80,000 to 285,000 Btu/hr.

*WALL-MOUNTED FIRE TUBE MODELS AVAILABLE

7 Inputs from 55,000 to 399,999 Btu/hr. See Knight Wall Mount Literature (WHN) for more details.



All KNIGHT Boilers meet or exceed the most stringent requirements, with less than 20 ppm NO_x.



Most Efficient
2015

The KNIGHT Boiler has been designated as one of the Most Efficient ENERGY STAR qualified products in 2015.



KNIGHT XL COMMERCIAL

Need more BTU's? KNIGHT XL Commercial Boilers are available in 5 sizes from 399,999 to 800,000 Btu/hr. See KNIGHT XL literature for more details.



The SMART SYSTEM™ is the most advanced integrated boiler control on the market today.

LARGER LCD SCREEN

Displays more information.

SOFT KEYS

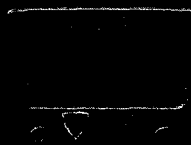
For simple programming.

NAVIGATION DIAL

For fast transitions from screen to screen and easy adjustment of settings.

USB PORT

USB port permits connection to a laptop computer. SMART SYSTEM PC software may be used to troubleshoot and program KNIGHT® functions, set date and time, monitor historical data, including faults, trends and energy consumption.



BLUE SCREEN

Normal system operation.



YELLOW SCREEN

Maintenance due - shows the installer's name and number on the display.

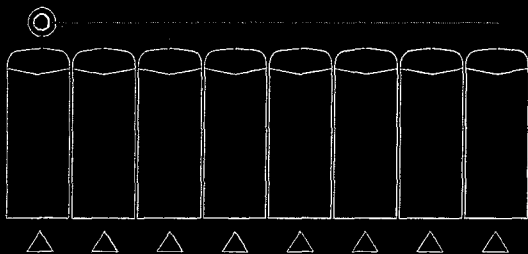


RED SCREEN

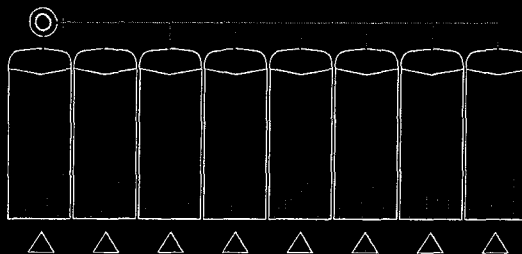
Lockout mode - shows active fault and installer's name and number on the display.

SELECTABLE CASCADE OPTIONS

When multiple KNIGHT boilers are installed together, the SMART SYSTEM built-in sequencer can be set for "Lead-Lag" cascade or "Efficiency Optimized" cascade operation.



The "lead" boiler modulates with demand to capacity. As demand increases, additional boilers fire and modulate to capacity. This continues, with additional boilers firing and modulating to capacity until all units are operating. Every 24 hours, the SMART SYSTEM automatically shifts the lead boiler role to the next in the sequence, distributing lead-lag runtimes equally.



This feature optimizes the modulation capabilities of the Boiler Plant while evenly distributing run time across all cascaded boilers. Every 24 hours the SMART SYSTEM automatically shifts the 1st boiler on role to the next in the sequence, distributing run time equally.

SMART SYSTEM Cascade option allows 2 - 8 boilers to be sequenced.

DIAL IN SYSTEM PERFORMANCE

COMPATIBILITY WITH COPPER FIN II NON-CONDENSING BOILER

Allows you to create a front end loading system.

MULTIPLE SIZED BOILER CASCADE CONTROL

KNIGHTS of one or more sizes can be combined into a single cascade to maximize turndown and meet minimum demands.

INTERNAL CASCADING SEQUENCER WITH MULTIPLE PROGRAMMABLE SYSTEM EFFICIENCY OPTIMIZERS

Fine-tune installations using Lead-Lag or Efficiency Optimization Cascade features.

CONTROLS UP TO THREE SETPOINT TEMPERATURES

Allows three different temperature inputs to be controlled. Boiler can be run at the lowest temperature demand for optimal efficiency.

* OUTDOOR RESET FOR EACH TEMP LOOP

The boiler setpoint temperature responds to changes in outdoor air temperature. Outdoor temperature monitor guides the reset schedule to meet the load.

NIGHT SETBACK

Program a heating loop temperature setback for any time of the day, each day of the week.

DOMESTIC HOT WATER PRIORITIZATION W/PUMP CONTROL

On DHW call, SMART SYSTEM overrides the outdoor reset and starts the DHW pump to the indirect water heater alternating to meet both heating and hot water demands.

* DHW NIGHT SETBACK

Resets DHW setpoint to save water-heating energy during times of low or no usage.

**Exclusive feature, available only from Lochinvar*

DHW MAX FIRING RATE

Allows you to limit the maximum percentage of firing rate when in DHW mode.

* SEPARATELY ADJUSTABLE SH/DHW MODE SWITCHING TIMES

Allows controls to be tailored to meet system demand. Design system setup for flexibility.

INDIRECT WATER HEATER ZONE PUMP CONTROL

All boilers in cascade can be used to meet DHW demand as well as satisfy building load.

SYSTEM & BOILER PUMP CONTROLS

Provides power to system and boiler pumps on a call for heat. Programmable post purge allows pumps to operate after a call has been satisfied. Option for Continuous System Pump Operation.

* PUMP RELAY WITH FREEZE PROTECTION

Parameters adjustable by installer for flexibility in low-temperature applications.

* INSTALLER ACCESS TO BMS AND RAMP DELAY SETTINGS

Set up or change these parameters through the control itself on the front of the boiler; no PC software required.

LOW-WATER FLOW INDICATOR

Uses temperature differential to protect against low flow in heat exchanger by reducing modulation or forcing boiler shutdown.

PASSWORD SECURITY

Allows only qualified personnel to access parameters.

* PRODUCT SERVICE INDICATOR

Program reminders for cycle count, operation hours or last service. Installer's name and number may be displayed.

BUILDING MANAGEMENT INPUTS & OUTPUTS

OPTIONAL MODBUS CAPABILITY

Allows boiler communication through Modbus protocol. Simplifies BMS/boiler interface for status monitoring.

0-10V BUILDING MANAGEMENT SYSTEM (BMS) CONTROL INPUT

BMS-driven input for modulation rate or temperature control.

0-10V CASCADE SETPOINT AND MODULATION CONTROL

BMS-driven input for modulation rate or temperature control of cascade.

0-10V HEAT DEMAND INPUT

Enables thermostat or a 0-10V signal to initiate a call for heat. Gives the BMS options on how to enable boiler or cascade.

0-10V BOILER RATE OUTPUT

Signal output of modulation rate allows BMS to monitor boiler firing rate.

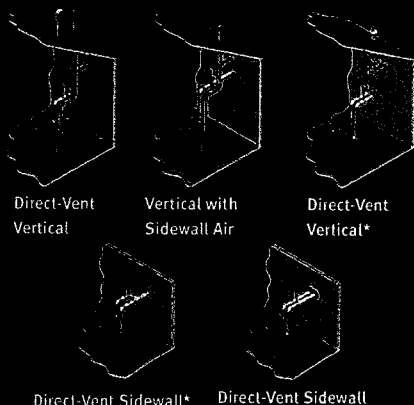
0-10V PUMP SIGNAL INPUT

Input from variable speed system pump allows faster reaction to changes of flow in system, reducing possibility of temperature over-shoot and cycling.

* 0-10V SIGNAL TO CONTROL VARIABLE SPEED BOILER PUMP

Allows control to maintain a higher ΔT at low firing rates and reduces boiler flow when it responds to lower flow rates in the system loop.

Placement of units within a building will never be a problem with KNIGHT. It permits up to 100 feet of air intake and 100 feet of exhaust vent with PVC, CPVC, polypropylene or stainless steel pipe.



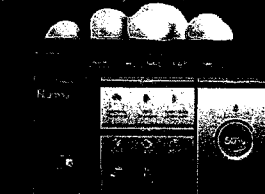
**An optional concentric vent kit is sold separately to allow a single penetration for both combustion air and vent pipes.*

CON X US™

The CON-X-US mobile communication platform allows SMART SYSTEM to go where no other boiler has gone before.¹

CON-X-US provides the ability to monitor and manage multiple Knight heating boilers without ever stepping into the mechanical rooms. CON-X-US will send alerts via text or e-mail notifying of changes in system status, and anytime, from anywhere, a user can check system status and re-program any boiler function. Once downloaded, the free CON-X-US mobile application allows for remote access to all SMART SYSTEM functions using an Internet-capable device.

¹ CON-X-US control board sold separately.



STATE-OF-THE-ART MODULATING COMBUSTION SYSTEM

Advanced Negative Regulation Technology

KNIGHT safely and reliably operates with supply gas pressures as low as 4 inches water column. Plus "Neg/Reg" technology automatically adjusts gas pressure to ensure the correct volume of fuel and air entering the burner.

Direct-Spark Ignition

With each call for heat, two electrodes ignite the fuel/air mixture. A third electrode then senses for flame. The SMART SYSTEM will generate a soft lockout and display a fault if ignition does not occur.

Fully Modulating Burner with 5:1 Turndown

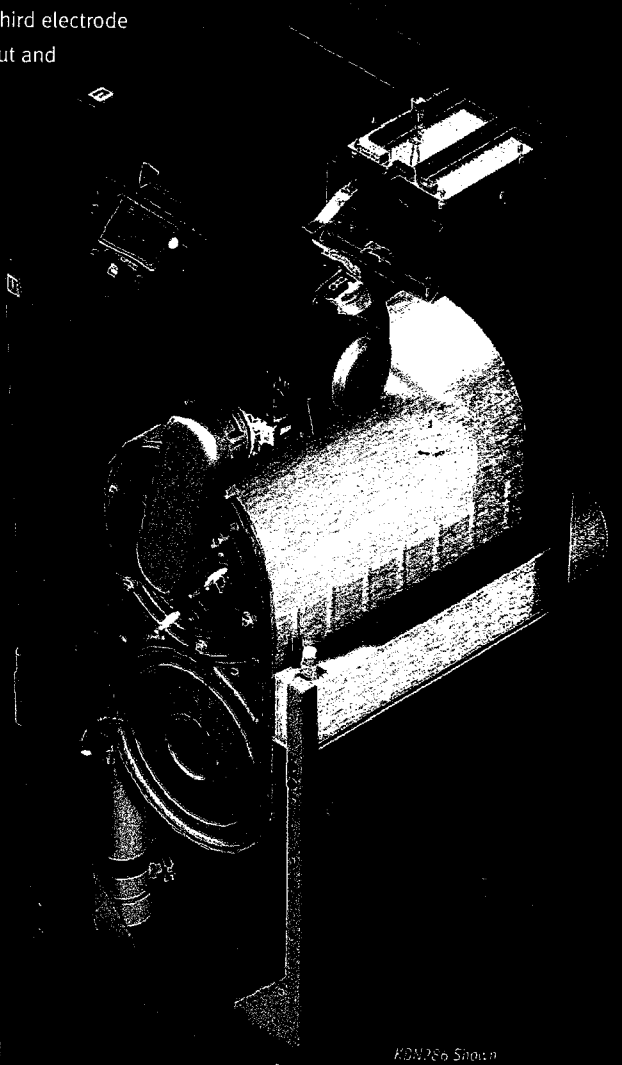
The SMART SYSTEM allows fully modulating combustion with 5:1 turndown. The burner can fire as low as 20% of maximum input and modulate the firing rate up to 100% as demand increases. A woven stainless steel mesh enclosed burner tube fires in a 360° pattern along the entire length of the primary heat exchanger.

Two-in-One Stainless Steel Heat Exchanger

A primary heat exchanger combined with a secondary heat exchanger captures flue gas heat and condenses to utilize available latent energy. The stainless steel, pH-tolerant design features a weld-sealed assembly with no O-rings or gaskets and does not require special glycol. ASME Section IV approved and stamped.

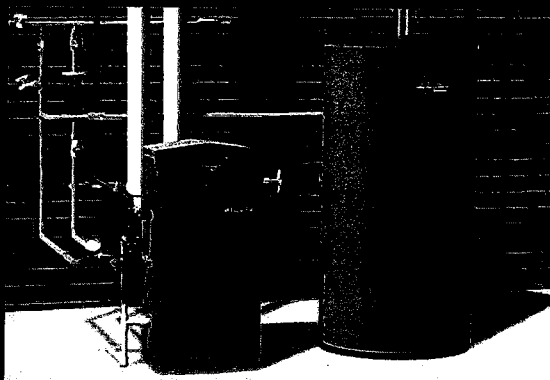
Field Connection Versatility

User-friendly terminal strip allows for 44 low-voltage field connections. Four-line voltage connections supply power to the unit and up to three pumps operated by the SMART SYSTEM.



KNIGHT Squire

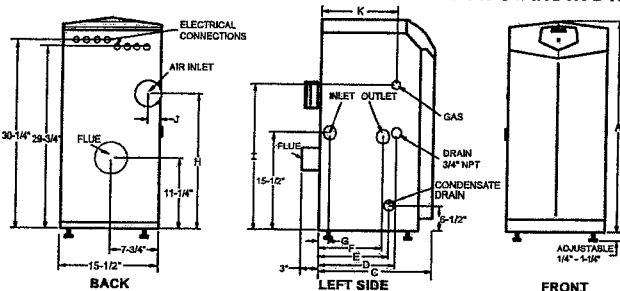
TEAM KNIGHT WITH SQUIRE FOR LOW-COST DOMESTIC HOT WATER!



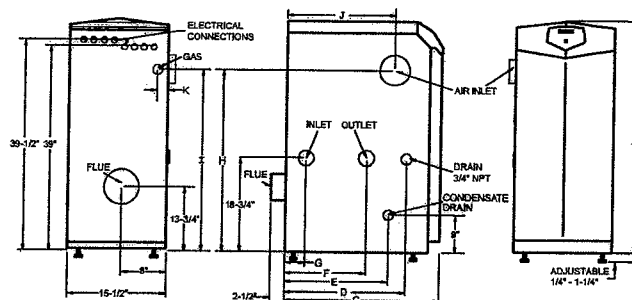
KNIGHT's Domestic Hot Water Prioritization feature means you can easily install it with Lochinvar's SQUIRE indirect water heater, available in 30, 40, 50, 65, 80 and 119 gallons. This combination will give homeowners high-efficiency space heating from KNIGHT, and abundant domestic hot water from SQUIRE. With a stainless steel tank and heat exchanger, SQUIRE provides more hot water and lower water heating costs than standard gas or electric water heaters.

KNIGHT® BOILER DIMENSIONS AND SPECIFICATIONS - FLOOR-STANDING MODELS

Models:
KBN 081-211



Model:
KBN286



KNIGHT HEATING BOILER

Model Number	Input Min. MBH	Input Max. MBH	AFUE %	Heating Capacity MBH	NET AHRI MBH
KBN081	16	80	95.0	74	64
KBN106	21	105	95.0	97	84
KBN151	30	150	95.0	139	121
KBN211	42	210	95.0	196	170
KBN286	57	285	95.0	267	232

DIMENSIONS AND SPECIFICATIONS

A	C	D	E	F	G	H	I	J	K	Gas Conn.	Water Conn.	Air Inlet	Vent Size	Shipping Wt. (lbs.)
33-1/4"	14"	7"	5-3/4"	5"	3"	20-1/2"	22"	1-3/4"	6-1/2"	1/2"	1"	3"	3"	125
33-1/4"	14"	6-1/2"	5-3/4"	4-1/2"	1-1/2"	20-1/2"	22"	1-3/4"	6-1/2"	1/2"	1"	3"	3"	129
33-1/4"	18"	12-1/4"	11-1/2"	10"	1-1/2"	21-1/4"	23"	1-3/4"	12"	1/2"	1"	3"	3"	157
33-1/4"	22-1/4"	16-1/2"	15-3/4"	14-1/4"	5-1/4"	21-1/4"	23"	1-3/4"	16-1/4"	1/2"	1"	3"	3"	172
42-1/4"	19-3/4"	12-3/4"	13-1/2"	6"	2"	34"	31"	11-3/4"	4-1/4"	3/4"	1-1/4"	4"	4"	224

Notes: Indoor installation only. All information subject to change. Change "N" to "L" for LP gas models.

Net ratings based on piping and pick-up allowance of 1.15

SMART SYSTEM™ FEATURES

- ▶ **SMART SYSTEM Digital Operating Control**
 - Multi-Color Graphic LCD Display with Navigation Dial and Soft Keys
- ▶ **Three Setpoint Temperature Inputs**
- ▶ **Built-in Cascading Sequencer for up to 8 Boilers**
 - Cascade Multiple Sized Boilers
 - Lead Lag
 - Efficiency Optimization
 - Front End Loading Capability with Copper Fin II
- ▶ **Outdoor Reset Control with Outdoor Air Sensor**
 - Programmable for Three Reset Temperature Inputs
- ▶ **Programmable System Efficiency Optimizers**
 - Night Setback w/Override Function
 - DHW Night Setback w/Override Function
 - Anti-Cycling
 - Outdoor Air Reset Curve
 - Ramp Delay
 - Boost Temperature & Time
- ▶ **Three Pump Control**
 - System Pump with Parameter for Continuous Operation
 - Boiler Pump with Variable Speed Pump Control*
 - Domestic Hot Water Pump
- ▶ **Domestic Hot Water Prioritization**
 - DHW tank piped with priority in the boiler loop
 - DHW tank piped as a zone in the system with the pumps controlled by the Smart System
 - DHW Modulation Limiting
 - Separately Adjustable SH/DHW Switching Times*
- ▶ **Building Management System Integration**
 - 0-10 VDC Input to Control Modulation or Set Point
 - 0-10 VDC Modulation Rate Output
 - 0-10 VDC Input Signal from Variable Speed System Pump*
 - 0-10 VDC Input to Enable/Disable call for heat
- ▶ **High-Voltage Terminal Strip**
 - 120 VAC / 60 Hertz / 1 Phase Power Supply
 - Three Sets of Pump Contacts
- ▶ **Low Voltage Terminal Strip**
 - 24 VAC Device Relay
 - Proving Switch Contacts
 - Flow Switch Contacts
 - Alarm on Any Failure Contacts
 - Runtime Contacts
 - DHW Thermostat Contacts
 - 3 Space Heat Thermostat Contacts
 - System Sensor Contacts
 - DHW Tank Sensor Contacts
 - Outdoor Air Sensor Contacts
 - Cascade Contacts
 - 0-10 VDC BMS External Control Contact
 - 0-10 VDC Boiler Rate Output Contacts
 - 0-10 VDC Variable Speed System Pump Signal Input
 - 0-10 VDC Signal to Control Variable Speed Boiler Pump
 - Modbus Contacts
- ▶ **Time Clock**
- ▶ **Data Logging**
 - Hours Running, Space Heating
 - Hours Running, Domestic Hot Water
 - Ignition Attempts
 - Last 10 Lockouts
- ▶ **Access to BMS Settings through Graphic LCD Display**
- ▶ **Maintenance Reminder**
 - Custom Maintenance Reminder with Contractor Info
 - Installer Ability to De-activate Service Reminder
- ▶ **Low-Water Flow Safety Control & Indication**
- ▶ **Dual Level Password Security**
- ▶ **Customizable Freeze Protection Parameters**

STANDARD FEATURES

- ▶ **ENERGY STAR Most Efficient Recognition**
- ▶ **95% DOE AFUE Efficiency**
- ▶ **Modulating Burner with 5:1 Turndown**
 - Direct-Spark Ignition
 - Low-NOx Operation
 - Field Convertible from Natural to LP Gas
- ▶ **ASME Stainless Steel Heat Exchanger**
 - 30 psi ASME Relief Valve
- ▶ **Vertical & Horizontal Direct-Vent**
 - PVC, CPVC, Polypropylene or SS Venting up to 100 feet
- ▶ **Smart System Control**
- ▶ **Condensate Trap**
- ▶ **Other Features**
 - Automatic Reset High Limit
 - Adjustable High Limit w/Manual Reset
 - Boiler Circulating Pump
 - Adjustable Leveling Legs
 - Zero Clearances to Combustible Materials
 - 12-Year Limited Warranty (See Warranty for Details)
 - 2-Year Parts Warranty

OPTIONAL EQUIPMENT

- CON-X-US Remote Connectivity
- Modbus Communication
- Condensate Neutralization Kit
- Multi Temperature Loop Control
- Flow Switch
- Low-Water Cutoff w/Manual Reset & Test
- Alarm Bell
- Concentric Vent Kit
- SMART SYSTEM PC Software
- Stack Frame
- BMS Gateway to LON or BacNet
- Sidewall Vent Termination
- Wireless Outdoor Sensor

FIRING CODES

- ▶ M9 Standard Construction
- ▶ M7 California Code



Lochinvar, LLC
300 Maddox Simpson Parkway
Lebanon, Tennessee 37090
P: 615.889.8900 / F: 615.547.1000
Lochinvar.com

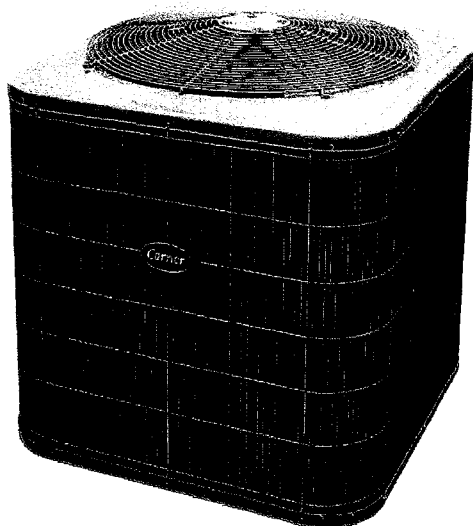
Patent Pending



**24ABC6
Base™ 16 Air Conditioner
with Puron® Refrigerant
1-1/2 Through 5 Tons**



Product Data



Carrier's Air Conditioners with Puron® refrigerant provide a collection of features unmatched by any other family of equipment. The 24ABC has been designed utilizing Carrier's Puron refrigerant. The environmentally sound refrigerant allows you to make a responsible decision in the protection of the earth's ozone layer.

As an Energy Star® Partner, Carrier Corporation has determined that this product meets the Energy Star® guidelines for energy efficiency. Refer to the combination ratings in the Product Data for system combinations that meet Energy Star® guidelines.

NOTE: Ratings contained in this document are subject to change at any time. Always refer to the AHRI directory (www.ahridirectory.org) for the most up-to-date ratings information.

INDUSTRY LEADING FEATURES / BENEFITS

Efficiency

- 14 - 16.5 SEER/11.0- 13.5 EER
- Microtube Technology™ refrigeration system
- Indoor air quality accessories available

Sound

- Sound level as low as 76 dBA
- Sound level as low as 74 dBA with accessory sound blanket

Comfort

- System supports Edge® Thermostat™ or standard thermostat controls

Reliability

- Puron® refrigerant - environmentally sound, won't deplete the ozone layer and low lifetime service cost.
- Scroll compressor
- Internal pressure relief valve
- Internal thermal overload
- Filter drier
- Balanced refrigeration system for maximum reliability

Durability

WeatherArmor™ protection package:

- Solid, durable sheet metal construction
- Dense wire coil guard standard
- Baked-on, complete outer coverage, powder paint

Applications

- Long-line - up to 250 feet (76.20 m) total equivalent length, up to 200 feet (60.96 m) condenser above evaporator, or up to 80 ft. (24.38 m) evaporator above condenser (See Longline Guide for more information.)
- Low ambient (down to -20°F/-28.9°C) with accessory kit

MODEL NUMBER NOMENCLATURE

1	2	3	4	5	6	7	8	9	10	11	12	13
N	N	A	A	A/N	N	N	N	A/N	A/N	A/N	N	N
2	4	A	B	C	6	3	6	A	0	0	3	0
Product Series	Product Family	Tier	Major Series	SEER	Cooling Capacity	Grille Variations	Open	Open	Voltage	Series		
24=AC	A=RES AC	B=Base	C=Puron	6=16 SEER		A = Dense W = Standard	0=Not Defined	0=Not Defined	3=208/230-1	0 = Original Series		



Use of the AHRI Certified TM Mark indicates a manufacturer's participation in the program. For verification of certification for individual products, go to www.ahridirectory.org.



This product has been designed and manufactured to meet Energy Star® criteria for energy efficiency when matched with appropriate coil components. However, proper refrigerant charge and proper air flow are critical to achieve rated capacity and efficiency. Installation of this product should follow all manufacturing refrigerant charging and air flow instructions. Failure to confirm proper charge and air flow may reduce energy efficiency and shorten equipment life.

STANDARD FEATURES

Feature	18	24	30	36	42	48 / 49	60 / 61
Puron Refrigerant	X	X	X	X	X	X	X
Maximum SEER *	16.0	16.0	16.5	16.5	16.0	16.0	16.0
Scroll Compressor	X	X	X	X	X	X	X
Field Installed Filter Drier	X	X	X	X	X	X	X
Front Seating Service Valves	X	X	X	X	X	X	X
Internal Pressure Relief Valve	X	X	X	X	X	X	X
Internal Thermal Overload	X	X	X	X	X	X	X
Long Line capability	X	X	X	X	X	X	X
Low Ambient capability with Kit	X	X	X	X	X	X	X
Dense Grille	X	X	X	X	X	X	X

* With approved combinations

X = Standard

PHYSICAL DATA

UNIT SIZE - VOLTAGE, SERIES	18-31	24-30	30-30	36-30	42-30	48-31	49-30	60-30	61-30
Operating Weight lb (kg)	125 (56.7)	147 (66.5)	153 (69.3)	165 (74.8)	213 (96.4)	264 (119.7)	231 (104.8)	272 (123.4)	272 (123.4)
Shipping Weight lb (kg)	154 (69.9)	183 (82.8)	188 (85.2)	204 (92.5)	254 (115.2)	317 (143.8)	269 (222.0)	310 (140.6)	310 (140.6)
Compressor Type	Scroll								
REFRIGERANT	Puron® (R-410A)								
Control	TXV (Puron® Hard Shutoff)								
Charge lb (kg)	4.60 (2.09)	6.00 (2.72)	6.81 (3.09)	7.00 (3.18)	8.62 (3.91)	13.0 (5.90)	9.00 (4.08)	14.50 (6.58)	14.50 (6.58)
COND FAN	Propeller Type, Direct Drive								
Air Discharge	Vertical								Vertical
Air Qty (CFM)	1881	2614	2614	3223	3810	4046	4046	4046	4046
Motor HP	1/12	1/10	1/10	1/12	1/5	1/4	1/4	1/4	1/4
Motor RPM	1100	1100	1100	800	800	800	800	800	800
COND COIL									
Face Area (Sq ft)	11.50	15.10	17.20	17.60	25.15	25.15	25.15	30.15	30.15
Fins per In.	25	25	25	25	25	20	20	20	20
Rows	1	1	1	1	1	2	1	2	2
Circuits	3	4	4	4	6	7	7	8	8
VALVE CONNECT. (In. ID)									
Vapor	3/4	3/4	3/4	7/8	7/8	7/8	7/8	7/8	7/8
Liquid	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8
REFRIGERANT TUBES (In. OD)									
Rated Vapor*	3/4			7/8			1-1/8		
Max Liquid Line †				3/8					

* Units are rated with 25 ft (7.6 m) of lineset length. See Vapor Line Sizing and Cooling Capacity Loss table when using other sizes and lengths of lineset.

Note: See unit Installation Instruction for proper installation.

† See Liquid Line Sizing For Cooling Only Systems with Puron Refrigerant tables.

REFRIGERANT PIPING LENGTH LIMITATIONS

Liquid Line Sizing and Maximum Total Equivalent Lengths† for Cooling Only Systems with Puron® Refrigerant:

The maximum allowable length of a residential split system depends on the liquid line diameter and vertical separation between indoor and outdoor units.

See Table below for liquid line sizing and maximum lengths :

**Maximum Total Equivalent Length
Outdoor Unit BELOW Indoor Unit**

Size	Liquid Line Connection	Liquid Line Diam. w/ TXV	AC with Puron Refrigerant Maximum Total Equivalent Length†: Outdoor unit BELOW Indoor Vertical Separation ft (m)								
			0-5 (0-1.5)	6-10 (1.8-3.0)	11-20 (3.4-6.1)	21-30 (6.4-9.1)	31-40 (9.4-12.2)	41-50 (12.5-15.2)	51-60 (15.5-18.3)	61-70 (18.6-21.3)	71-80 (21.6-24.4)
18000 AC with Puron	3/8	1/4	150	150	125	100	100	75	---	---	---
		5/16	250*	250*	250*	250*	250*	250*	250*	225*	150
		3/8	250*	250*	250*	250*	250*	250*	250*	250*	250*
24000 AC with Puron	3/8	1/4	75	75	75	50	50	---	---	---	---
		5/16	250*	250*	250*	250*	250*	225*	175	125	100
		3/8	250*	250*	250*	250*	250*	250*	250*	250*	250*
30000 AC with Puron	3/8	1/4	30	---	---	---	---	---	---	---	---
		5/16	175	225*	200	175	125	100	75	---	---
		3/8	250*	250*	250*	250*	250*	250*	250*	250*	250*
36000 AC with Puron	3/8	5/16	175	150	150	100	100	100	75	---	---
		3/8	250*	250*	250*	250*	250*	250*	250*	250*	250*
42000 AC with Puron	3/8	5/16	125	100	100	75	75	50	---	---	---
		3/8	250*	250*	250*	250*	250*	250*	250*	250*	150
48000 AC with Puron	3/8	3/8	250*	250*	250*	250*	250*	250*	230	160	---
49000 AC with Puron	3/8	3/8	250*	250*	250*	250*	250*	250*	230	160	---
60000 AC with Puron	3/8	3/8	250*	250*	250*	225*	190	150	110	---	---
61000 AC with Puron	3/8	3/8	250*	250*	250*	225*	190	150	110	---	---

* Maximum actual length not to exceed 200 ft (61 m)

† Total equivalent length accounts for losses due to elbows or fitting. See the Long Line Guideline for details.

--- = outside acceptable range

**Maximum Total Equivalent Length
Outdoor Unit ABOVE Indoor Unit**

Size	Liquid Line Connection	Liquid Line Diam. w/ TXV	AC with Puron Refrigerant Maximum Total Equivalent Length†: Outdoor unit ABOVE Indoor Vertical Separation ft (m)							
			25 (7.6)	26-50 (7.9-15.2)	51-75 (15.5-22.9)	76-100 (23.2-30.5)	101-125 (30.8-38.1)	126-150 (38.4-45.7)	151-175 (46.0-53.3)	176-200 (53.6-61.0)
18000 AC with Puron	3/8	1/4	175	250*	250*	250*	250*	250*	250*	250*
		5/16	250*	250*	250*	250*	250*	250*	250*	250*
		3/8	250*	250*	250*	250*	250*	250*	250*	250*
24000 AC with Puron	3/8	1/4	100	125	175	200	225*	250*	250*	250*
		5/16	250*	250*	250*	250*	250*	250*	250*	250*
		3/8	250*	250*	250*	250*	250*	250*	250*	250*
30000 AC with Puron	3/8	1/4	30	---	---	---	---	---	---	---
		5/16	250*	250*	250*	250*	250*	250*	250*	250*
		3/8	250*	250*	250*	250*	250*	250*	250*	250*
36000 AC with Puron	3/8	5/16	225*	250*	250*	250*	250*	250*	250*	250*
		3/8	250*	250*	250*	250*	250*	250*	250*	250*
42000 AC with Puron	3/8	5/16	175	200	250*	250*	250*	250*	250*	250*
		3/8	250*	250*	250*	250*	250*	250*	250*	250*
48000 AC with Puron	3/8	3/8	250*	250*	250*	250*	250*	250*	250*	250*
49000 AC with Puron	3/8	3/8	250*	250*	250*	250*	250*	250*	250*	250*
60000 AC with Puron	3/8	3/8	250*	250*	250*	250*	250*	250*	250*	250*
61000 AC with Puron	3/8	3/8	250*	250*	250*	250*	250*	250*	250*	250*

* Maximum actual length not to exceed 200 ft (61 m)

† Total equivalent length accounts for losses due to elbows or fitting. See the Long Line Guideline for details.

--- = outside acceptable range

24ABC6

REFRIGERANT CHARGE ADJUSTMENTS

Liquid Line Size	Puron Charge oz/ft
3/8	0.60 (Factory charge for lineset = 9 oz)
5/16	0.40
1/4	0.27

Units are factory charged for 15 ft (4.6 m) of 3/8" liquid line. The factory charge for 3/8" lineset 9 oz. When using other length or diameter liquid lines, charge adjustments are required per the chart above.

Charging Formula:

[(Lineset oz/ft x total length) – (factory charge for lineset)] = charge adjustment

Example 1: System has 15 ft of line set using existing 1/4" liquid line. What charge adjustment is required?

Formula: (.27 oz/ft x 15ft) – (9 oz) = (-4.95) oz.

Net result is to remove 4.95 oz of refrigerant from the system

Example 2: System has 45 ft of existing 5/16" liquid line. What is the charge adjustment?

Formula: (.40 oz/ft. x 45ft) – (9 oz.) = 9 oz.

Net result is to add 9 oz of refrigerant to the system

LONG LINE APPLICATIONS

An application is considered Long Line, when the refrigerant level in the system requires the use of accessories to maintain acceptable refrigerant management for systems reliability. See Accessory Usage Guideline table for required accessories. Defining a system as long line depends on the liquid line diameter, actual length of the tubing, and vertical separation between the indoor and outdoor units.

For Air Conditioner systems, the chart below shows when an application is considered Long Line.

AC WITH PURON® REFRIGERANT LONG LINE DESCRIPTION ft (m)

Beyond these lengths, long line accessories are required

Liquid Line Size	Units On Same Level	Outdoor Below Indoor	Outdoor Above Indoor
1/4	No accessories needed within allowed lengths	No accessories needed within allowed lengths	175 (53.3)
5/16	120 (36.6)	50 (15.2)	120 (36.6)
3/8	80 (24.4)	35 (10.7)	80 (24.4)

Note: See Long Line Guideline for details

VAPOR LINE SIZING AND COOLING CAPACITY LOSS

Acceptable vapor line diameters provide adequate oil return to the compressor while avoiding excessive capacity loss. The suction line diameters shown in the chart below are acceptable for AC systems with Puron refrigerant:

Unit Nominal Size (Btuh)	Maximum Liquid Line Diameters (In. OD)	Vapor Line Diameters (In. OD)	Cooling Capacity Loss (%) Total Equivalent Line Length ft. (m)								
			26–50 (7.9–15.2)	51–80 (15.5–24.4)	81–100 (24.7–30.5)	101–125 (30.8–38.1)	126–150 (38.4–45.7)	151–175 (46.0–53.3)	176–200 (53.6–61.0)	201–225 (61.3–68.6)	226–250 (68.9–76.2)
18000 1 Stage AC with Puron	3/8	1/2	1	2	3	5	6	7	8	9	11
		5/8	0	1	1	1	2	2	2	3	3
		3/4	0	0	0	0	1	1	1	1	1
24000 1 Stage AC with Puron	3/8	5/8	0	1	2	2	3	3	4	5	5
		3/4	0	0	1	1	1	1	1	2	2
		7/8	0	0	0	0	0	1	1	1	1
30000 1 Stage AC with Puron	3/8	5/8	1	2	3	3	4	5	6	7	8
		3/4	0	0	1	1	1	2	2	2	3
		7/8	0	0	0	0	1	1	1	1	1
36000 1 Stage AC with Puron	3/8	5/8	1	2	4	5	6	8	9	10	12
		3/4	0	1	1	2	2	3	3	4	4
		7/8	0	0	0	1	1	1	1	2	2
42000 1 Stage AC with Puron	3/8	3/4	0	1	2	2	3	4	4	5	6
		7/8	0	0	1	1	1	2	2	2	3
		1 1/8	0	0	0	0	0	0	0	0	0
48000, 49000 1 Stage AC with Puron	3/8	3/4	0	1	2	3	4	5	5	6	7
		7/8	0	0	1	1	2	2	2	3	3
		1 1/8	0	0	0	0	0	0	0	1	1
60000, 61000 1 Stage AC with Puron	3/8	3/4	1	2	4	5	6	7	9	10	11
		7/8	0	1	2	2	3	4	4	5	5
		1 1/8	0	0	0	1	1	1	1	1	1

Applications in this area may be long line and may have height restrictions. See the Residential Piping and Long Line Guideline

ACCESSORY THERMOSTATS

THERMOSTAT / SUBBASE PKG.	DESCRIPTION
TP-PRH01-A	Programmable Thermidistat
TP-NRH01-A	Non-programmable Thermidistat
TP-PAC01	Performance Series Programmable AC Stat
TP-NAC01	Performance Series Non-programmable AC Stat
TC-PAC01	Comfort Series Programmable AC Stat
TC-NAC01	Comfort Series Non-programmable AC Stat
TB-PAC01	Base Series Programmable AC Stat
TB-NAC01	Base Series Non-programmable AC Stat
TSTATCCSEN01-B	Outdoor Air Temperature Sensor
TSTATXXBBP01	Backplate for Builder's Thermostat
TSTATXXNBP01	Backplate for Non-Programmable Thermostat
TSTATXXBP01	Backplate for Programmable Thermostat
TSTATXXCNV10	Thermostat Conversion Kit (4 to 5 wires) – 10 Pack

ACCESSORIES

KIT NUMBER	DESCRIPTION	Unit Sizes -- Series								
		18-31	24-30	30-30	36-30	42-30	48-31	49-30	60-30	61-30
KAAFT0101AAA	FREEZE THERMOSTAT	X	X	X	X	X	X	X	X	X
KAATD0101TDR	TIME DELAY RELAY	X	X	X	X	X	X	X	X	X
KSALA0301410	LOW AMBIENT PSW	X	X	X	X	X	X	X	X	X
KSALA0601AAA†	MOTORMASTER 230V	X	X	X	X	X	X	X	X	X
HC32GE234	MOTOR FAN BALL BEARING	X								
HC34GE240	MOTOR FAN BALL BEARING		X	X						
HC32GE229	MOTOR FAN BALL BEARING				X					
HC38GE228	MOTOR FAN BALL BEARING					X				
HC40GE228	MOTOR FAN BALL BEARING						X	X	X	X
KSAHS1701AAA	HARD START (CAP / RELAY)	X	X	X	X	X	X	X	X	X
KSACY0101AAA	CYCLE PROTECTOR	X	X	X	X	X	X	X	X	X
KSASF0101AAA	SUPPORT FEET	X	X	X	X	X	X	X	X	X
KAACS0201PTC	START ASSIST PTC	X	X	X	X	X	X	X	X	X
KAALS0201LLS	LIQUID LINE SOLENOID	X	X	X	X	X	X	X	X	X
KAAWS0101AAA	WINTER START	X	X	X	X	X	X	X	X	X
KAACH1701AAA	CRANKCASE HTR	X	X	X	X					
KAACH1601AAA	CRANKCASE HTR					X	S	S	S	S
KSATX0201PUR	TXV PURON HSO	X	X	X						
KSATX0301PUR	TXV PURON HSO				X					
KSATX0401PUR	TXV PURON HSO					X		X		
KSATX0501PUR	TXV PURON HSO						X		X	X
KSASH0601COP	SOUND HOOD	X	X	X	X			X		
KSASH2101COP	SOUND HOOD					X	X		X	X
KAALP0401PUR	LOW PRESSURE SWITCH	X	X	X	X	X	X	X	X	X
KAAHI0501PUR	HIGH PRESSURE SWITCH	X	X	X	X	X	X	X	X	X

† Required accessories include ball bearing fan motor, compressor start assist (CAP / Relay), crankcase heater, evaporator freeze stat, hard shut-off TXV.

X = Accessory / S -- Standard

ACCESSORY USAGE GUIDELINE

ACCESSORY	REQUIRED FOR LOW-AMBI- ENT COOLING APPLICATIONS (Below 55°F/12.8°C)	REQUIRED FOR LONG LINE APPLICATIONS* (Over 80 ft./24.38 m)	REQUIRED FOR SEA COAST APPLICATIONS (Within 2 miles/3.22 km)
Ball Bearing Fan Motor	Yes†	No	No
Compressor Start Assist Capacitor and Relay	Yes	Yes	No
Crankcase Heater	Yes	Yes	No
Evaporator Freeze Thermostat	Yes	No	No
Hard Shut-Off TXV	Yes	Yes	Yes
Liquid Line Solenoid Valve	No	No	No
Motor Master® Control or Low-ambient Pressure Switch	Yes	No	No
Support Feet	Recommended	No	Recommended
Winter Start Control	Yes	No	No

* For tubing line sets between 80 and 200 ft. (24.38 and 60.96 m) and/or 20 ft. (6.09 m) vertical differential, refer to Residential Split-System Longline Application Guideline.

† Required for Low-Ambient Controller (full modulation feature) MotorMaster® Control.

Accessory Description and Usage (Listed Alphabetically)

1. Ball-Bearing Fan Motor

A fan motor with ball bearings which permits speed reduction while maintaining bearing lubrication.

Usage Guideline:

Required on all units when MotorMaster® is used.

2. Compressor Start Assist - Capacitor and Relay

Start capacitor and relay gives a "hard" boost to compressor motor at each start up.

Usage Guideline:

Required for reciprocating compressors in the following applications:

- Long line
- Low ambient cooling
- Hard shut off expansion valve on indoor coil
- Liquid line solenoid on indoor coil

Required for single-phase scroll compressors in the following applications:

- Long line
- Low ambient cooling

Suggested for all compressors in areas with a history of low voltage problems.

3. Compressor Start Assist — PTC Type

Solid state electrical device which gives a "soft" boost to the compressor at each start-up.

Usage Guideline:

Suggested in installations with marginal power supply.

4. Crankcase Heater

An electric resistance heater which mounts to the base of the compressor to keep the lubricant warm during off cycles. Improves compressor lubrication on restart and minimizes the chance of liquid slugging.

Usage Guideline:

- Required in low ambient cooling applications.
- Required in long line applications.
- Suggested in all commercial applications.

5. Cycle Protector

The cycle protector is designed to prevent compressor short cycling. This control provides an approximate 5-minute delay after power to the compressor has been interrupted for any reason, including power outage, protector control trip, thermostat jiggling, or normal cycling.

6. Evaporator Freeze Thermostat

An SPST temperature-actuated switch that stops unit operation when evaporator reaches freeze-up conditions.

Usage Guideline:

Required when low ambient kit has been added.

7. Low-Ambient Pressure Switch Kit

A long life pressure switch which is mounted to outdoor unit service valve. It is designed to cycle the outdoor fan motor in order to maintain head pressure within normal operating limits (approximately 100 psig to 225 psig). The control will maintain working head pressure at low-ambient temperatures down to 0°F (-18°C) when properly installed.

Usage Guideline:

A Low-Ambient Pressure Switch or MotorMaster® Low-Ambient Controller must be used when cooling operation is used at outdoor temperatures below 55°F (12.8°C).

8. MotorMaster® Low-Ambient Controller

A fan-speed control device activated by a temperature sensor, designed to control condenser fan motor speed in response to the saturated, condensing temperature during operation in cooling mode only. For outdoor temperatures down to -20°F (-28.9°C), it maintains condensing temperature at 100°F ±10°F (37.8°C ± 5.5°C).

Usage Guideline:

A MotorMaster® Low Ambient Controller or Low-Ambient Pressure Switch must be used when cooling operation is used at outdoor temperatures below 55°F (12.8°C).

Suggested for all commercial applications.

9. Outdoor Air Temperature Sensor

Designed for use with Carrier Thermostats listed in this publication. This device enables the thermostat to display the outdoor temperature. This device also is required to enable special thermostat features such as auxiliary heat lock out.

Usage Guideline:

Suggested for all Carrier thermostats listed in this publication.

Accessory Description and Usage (Listed Alphabetically) (Continued)

10. Sound Hood

Wraparound sound reducing cover for the compressor. Reduces the sound level by about 2 dBA.

Usage Guideline:

Suggested when unit is installed closer than 15 ft (4.57 m) to quiet areas, bedrooms, etc.

Suggested when unit is installed between two houses less than 10 ft (3.05 m) apart.

11. Support Feet

Four stick-on plastic feet that raise the unit 4 in. (101.6 mm) above the mounting pad. This allows sand, dirt, and other debris to be flushed from the unit base, minimizing corrosion.

Usage Guideline:

Suggested in the following applications:

Coastal installations.

Windy areas or where debris is normally circulating.

Rooftop installations.

For improved sound ratings.

12. Thermostatic Expansion Valve (TXV)

A modulating flow-control valve which meters refrigerant liquid flow rate into the evaporator in response to the superheat of the refrigerant gas leaving the evaporator.

Kit includes valve, adapter tubes, and external equalizer tube. Hard shut off types are available.

NOTE: When using a hard shut off TXV with single phase reciprocating compressors, a Compressor Start Assist Capacitor and Relay is required.

Usage Guideline:

Required to achieve AHRI ratings in certain equipment combinations. Refer to combination ratings.

Hard shut off TXV or LLS required in air conditioner long line applications.

Required for use on all zoning systems.

13. Time-Delay Relay

An SPST delay relay which briefly continues operation of indoor blower motor to provide additional cooling after the compressor cycles off.

NOTE: Most indoor unit controls include this feature. For those that do not, use the guideline below.

Usage Guideline:

For improved efficiency ratings for certain combinations of indoor and outdoor units. Refer to AHRI Unitary Directory.

14. Winter Start Control

This control is designed to alleviate nuisance opening of the low-pressure switch by bypassing it for the first 3 minutes of operation.

ELECTRICAL DATA

UNIT SIZE	V/PH	OPER VOLTS*		COMPR		FAN	MCA	MIN WIRE SIZE† 60° C	MIN WIRE SIZE† 75° C	MAX LENGTH ft. (m)‡ 60° C	MAX LENGTH ft. (m)‡ 75° C	MAX FUSE** or CKT BRK AMPS
		MAX	MIN	LRA	RLA	FLA						
18-31	208/230/1-60	253	197	48.0	9.0	0.50	11.8	14	14	67 (20.4)	64 (19.5)	20
24-30				58.3	13.5	0.75	17.7	14	14	46 (14.0)	43 (13.1)	25
30-30				64.0	12.8	0.75	16.8	14	14	44 (13.4)	41 (12.5)	25
36-30				77.0	14.1	0.50	18.1	12	12	57 (17.4)	54 (16.5)	30
42-30				112.0	17.9	1.20	23.6	10	10	85 (25.9)	81 (24.7)	40
48-31				109.0	19.9	1.20	26.1	10	10	70 (21.3)	67 (20.4)	40
49-30				117.0	21.8	1.20	26.1	10	10	70 (21.3)	67 (20.4)	40
60-30				135.0	21.4	1.20	28.0	8	10	91 (27.7)	56 (17.1)	40
61-30				134.0	25.0	1.20	32.5	8	10	94 (28.7)	58 (17.7)	50

* Permissible limits of the voltage range at which the unit will operate satisfactorily

† If wire is applied at ambient greater than 30°C, consult table 310-16 of the NEC (NFPA 70). The ampacity of non-metallic-sheathed cable (NM), trade name ROMEX, shall be that of 60°C conditions, per the NEC (NFPA 70) Article 334-80. If other than uncoated (no-plated), 60 or 75°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 (NFPA 70).

‡ Length shown is as measured one 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.

Complies with 2007 requirements of ASHRAE Standards 90.1

A-WEIGHTED SOUND POWER LEVEL (dBA)

Unit Size - Voltage, Series	Standard Rating (dBA)	TYPICAL OCTAVE BAND SPECTRUM (dBA without tone adjustment)						
		125	250	500	1000	2000	4000	8000
018-31	76	52.5	59.0	65.5	70.5	64.5	59.0	54.5
024-30	76	57.5	64.0	69.0	71.0	69.0	64.5	60.0
030-30	76	55.0	63.5	68.0	69.5	67.0	63.5	58.5
036-30	76	50.5	59.5	64.5	70.5	62.0	59.5	54.5
042-30	78	52.5	62.0	66.0	73.5	68.0	62.0	55.5
048-31	78	57.5	61.5	66.0	70.5	65.5	59.5	53.5
049-30	78	51.5	62.0	67.5	73.5	69.0	64.5	62.0
060-30	78	55.0	62.5	67.5	70.5	65.0	61.0	53.5
061-30	78	56.5	63.0	65.5	69.0	67.0	61.5	56.0

NOTE: Tested in accordance with AHRI Standard 270-08 (not listed in AHRI).

A-WEIGHTED SOUND POWER LEVEL (dBA) WITH SOUND SHIELD

Unit Size - Voltage, Series	Standard Rating (dBA)	TYPICAL OCTAVE BAND SPECTRUM (dBA without tone adjustment)						
		125	250	500	1000	2000	4000	8000
018-31	74	55.5	59.0	65.0	68.5	63.5	58.0	52.0
024-30	75	58.0	64.0	69.0	70.5	68.5	64.5	59.5
030-30	75	55.5	63.0	68.0	69.0	67.0	63.0	58.5
036-30	74	51.5	58.5	62.0	65.0	61.0	58.0	52.0
042-30	76	53.0	62.0	65.5	72.0	65.0	61.0	54.0
048-31	76	58.5	61.5	66.0	69.0	64.0	58.5	51.0
049-30	76	53.0	61.5	67.5	72.0	68.0	61.5	59.0
060-30	75	56.5	62.5	66.5	68.0	63.0	59.5	51.5
061-30	75	57.0	63.0	65.5	67.0	65.5	59.0	52.5

NOTE: Tested in accordance with AHRI Standard 270-08 (not listed in AHRI).

CHARGING SUBCOOLING (TXV-TYPE EXPANSION DEVICE)

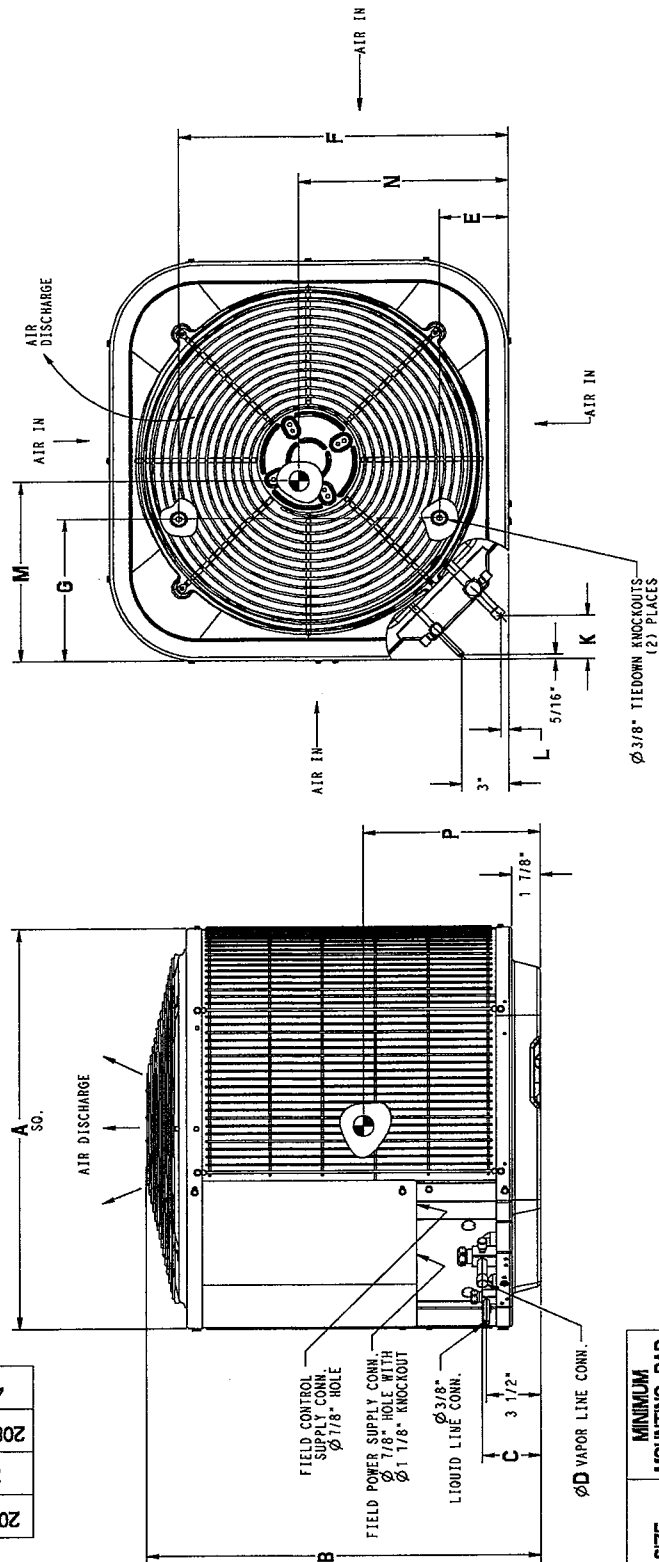
UNIT SIZE - VOLTAGE, SERIES	REQUIRED SUBCOOLING °F (°C)
18-31	10 (5.6)
24-30	10 (5.6)
30-30	10 (5.6)
36-30	10 (5.6)
42-30	9 (5.0)
48-31	10 (5.6)
49-30	8 (4.4)
60-30	9 (5.0)
61-30	9 (5.0)

DIMENSIONS - ENGLISH

UNIT	SERIES	ELECTRICAL CHARACTERISTICS				A	B	C	D	E	F	G	K	L	M	N	P	OPERATING WEIGHT (lbs)	SHIPPING WEIGHT (lbs)	SHIPPING DIMENSIONS (L x W x H)	
24ABC618	0	X	0	0	0	23 1/8"	28 11/16"	3 3/4"	3/4"	4 7/16"	18 1/16"	7 13/16"	2 13/16"	1/2"	13"	12"	13"	118	141	24 1/4" X 27 3/8" X 32 9/16"	
24ABC624	0	X	0	0	0	31 3/16"	28 5/16"	3 3/4"	3/4"	6 9/16"	24 11/16"	9 1/8"	2 13/16"	1/2"	16"	16"	13"	147	183	32 3/8" X 35 1/2" X 32 9/16"	
24ABC630	0	X	0	0	0	31 3/16"	32 5/16"	3 3/4"	3/4"	6 9/16"	24 11/16"	9 1/8"	2 13/16"	1/2"	15 1/2"	16"	14 1/4"	153	188	32 3/8" X 35 1/2" X 35 15/16"	
24ABC636	0	X	0	0	0	35"	28 5/16"	3 7/8"	7/8"	6 9/16"	28 7/16"	9 1/8"	2 15/16"	5/8"	16"	16"	13"	165	204	36 1/8" X 39 5/16" X 32 9/16"	
24ABC642	0	X	0	0	0	35"	39 1/8"	3 7/8"	7/8"	6 9/16"	28 7/16"	9 1/8"	2 15/16"	5/8"	16 1/2"	17 1/2"	17 1/2"	213	254	38 1/8" X 39 5/16" X 42 3/4"	
24ABC648	0	X	0	0	0	35"	32 5/16"	3 7/8"	7/8"	6 9/16"	28 7/16"	9 1/8"	2 15/16"	5/8"	17"	17 1/2"	14 1/4"	231	274	36 1/8" X 39 5/16" X 35 15/16"	
24ABC660	0	X	0	0	0	35"	45 15/16"	3 7/8"	7/8"	6 9/16"	28 7/16"	9 1/8"	2 15/16"	5/8"	16 1/2"	17"	16 1/4"	272	310	36 1/8" X 39 5/16" X 49 9/16"	
24ABC618	1	X	0	0	0	25 3/4"	28 11/16"	3 3/4"	3/4"	4 7/16"	21 1/4"	7 13/16"	2 13/16"	1/2"	13 5/8"	13 1/2"	12 3/4"	125	154	26 7/8" X 30 1/16" X 32 9/16"	
24ABC661	0	X	0	0	0	35"	45 15/16"	3 7/8"	7/8"	6 9/16"	28 7/16"	9 1/8"	2 15/16"	5/8"	16 1/2"	17"	16 1/4"	272	310	36 1/8" X 39 5/16" X 49 9/16"	
24ABC648	1	X	0	0	0	35"	39 1/8"	3 7/8"	7/8"	6 9/16"	28 7/16"	9 1/8"	2 15/16"	5/8"	17 1/2"	16 1/2"	15"	264	317	36 1/8" X 39 5/16" X 42 3/4"	
24ABC649	0	X	0	0	0	35"	39 1/8"	3 7/8"	7/8"	6 9/16"	28 7/16"	9 1/8"	2 15/16"	5/8"	17 1/2"	16 1/2"	15"	231	261	36 1/8" X 39 5/16" X 42 3/4"	

X = YES
O = NO

208-230-160	230-160	208/230-3-60	460-3-60
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UNIT SIZE	MINIMUM MOUNTING PAD DIMENSIONS
18	26" X 28"
24, 30	31 1/2" X 31 1/2"
36, 48, 49, 60, 61	35" X 35"

24ABC6

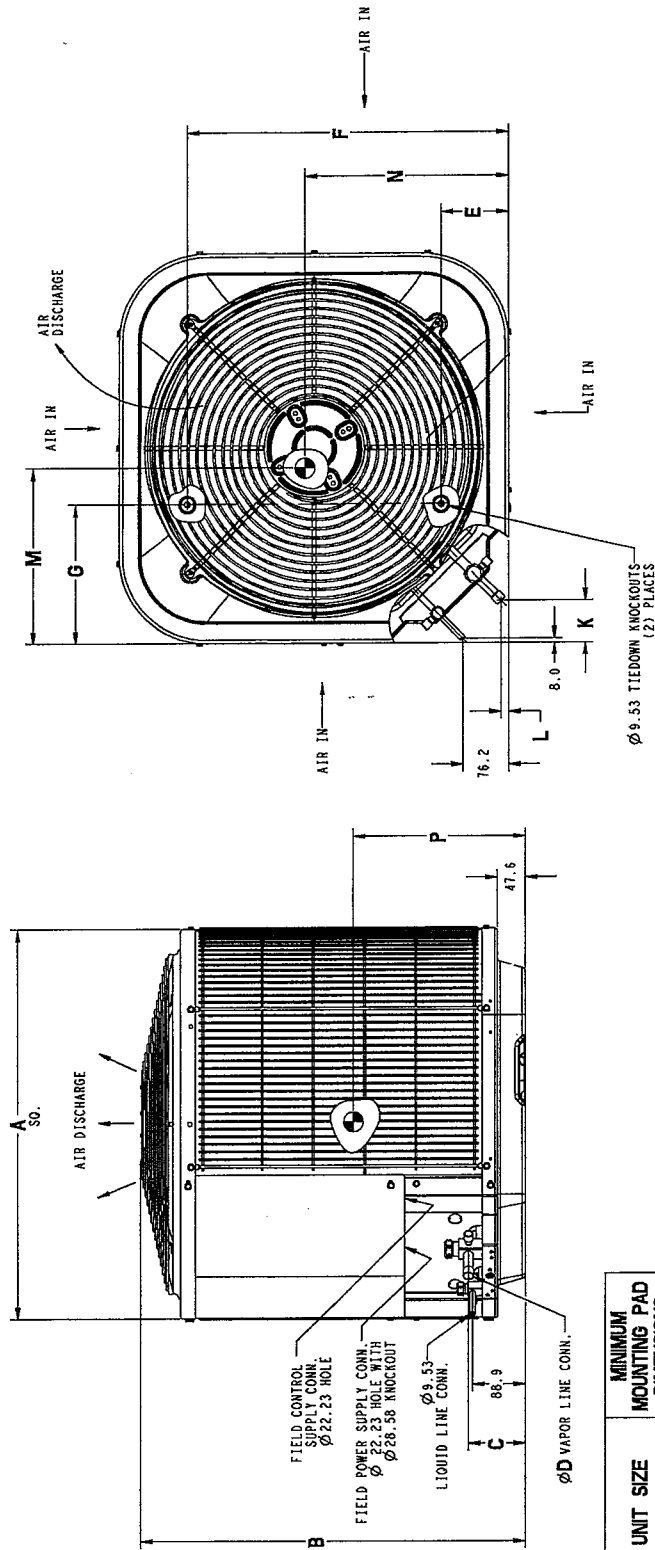
24ABC6

DIMENSIONS - SI

UNIT	SERIES	ELECTRICAL CHARACTERISTICS		A	B	C	D	E	F	G	K	L	M	N	P	OPERATING WEIGHT (Kgs)	SHIPPING WEIGHT (Kgs)	SHIPPING DIMENSIONS (L x W x H)	
24ABC618	0	X	0	0	587.3	728.7	95.2	19.0	112.7	458.8	198.4	71.4	330.2	304.8	330.2	53.4	64.0	616.0	X 695.3 X 827.1
24ABC624	0	X	0	0	792.2	719.2	95.2	19.0	166.7	527.1	231.8	71.4	406.4	406.4	330.2	66.5	82.8	822.3	X 901.7 X 827.1
24ABC630	0	X	0	0	792.2	820.8	95.2	19.0	166.7	527.1	231.8	71.4	393.7	405.4	362.0	69.3	85.2	822.3	X 901.7 X 912.8
24ABC636	0	X	0	0	889.0	719.2	98.6	22.2	166.7	722.3	231.8	74.6	406.4	405.4	330.2	74.8	92.5	917.6	X 998.6 X 827.1
24ABC642	0	X	0	0	889.0	993.8	98.6	22.2	166.7	722.3	231.8	74.6	419.1	444.5	444.5	96.4	115.2	917.6	X 998.6 X 1085.8
24ABC648	0	X	0	0	889.0	820.8	98.6	22.2	166.7	722.3	231.8	74.6	431.8	444.5	362.0	104.8	124.3	917.6	X 998.6 X 912.8
24ABC660	0	X	0	0	889.0	1166.8	98.6	22.2	166.7	722.3	231.8	74.6	419.1	431.8	412.6	123.4	140.6	917.6	X 998.6 X 1258.9
24ABC618	1	X	0	0	654.0	728.7	95.2	19.0	112.7	539.8	198.4	71.4	346.1	342.9	323.9	58.7	69.9	682.6	X 763.6 X 827.1
24ABC661	0	X	0	0	889.0	1166.8	98.6	22.2	166.7	722.3	231.8	74.6	419.1	431.8	412.6	123.4	140.6	917.6	X 998.6 X 1258.9
24ABC648	1	X	0	0	889.0	993.8	98.6	22.2	166.7	722.3	231.8	74.6	444.5	419.1	381.0	119.7	143.8	917.6	X 998.6 X 1085.8
24ABC649	0	X	0	0	889.0	993.8	98.6	22.2	166.7	722.3	231.8	74.6	444.5	419.1	381.0	104.8	122.0	917.6	X 998.6 X 1085.8

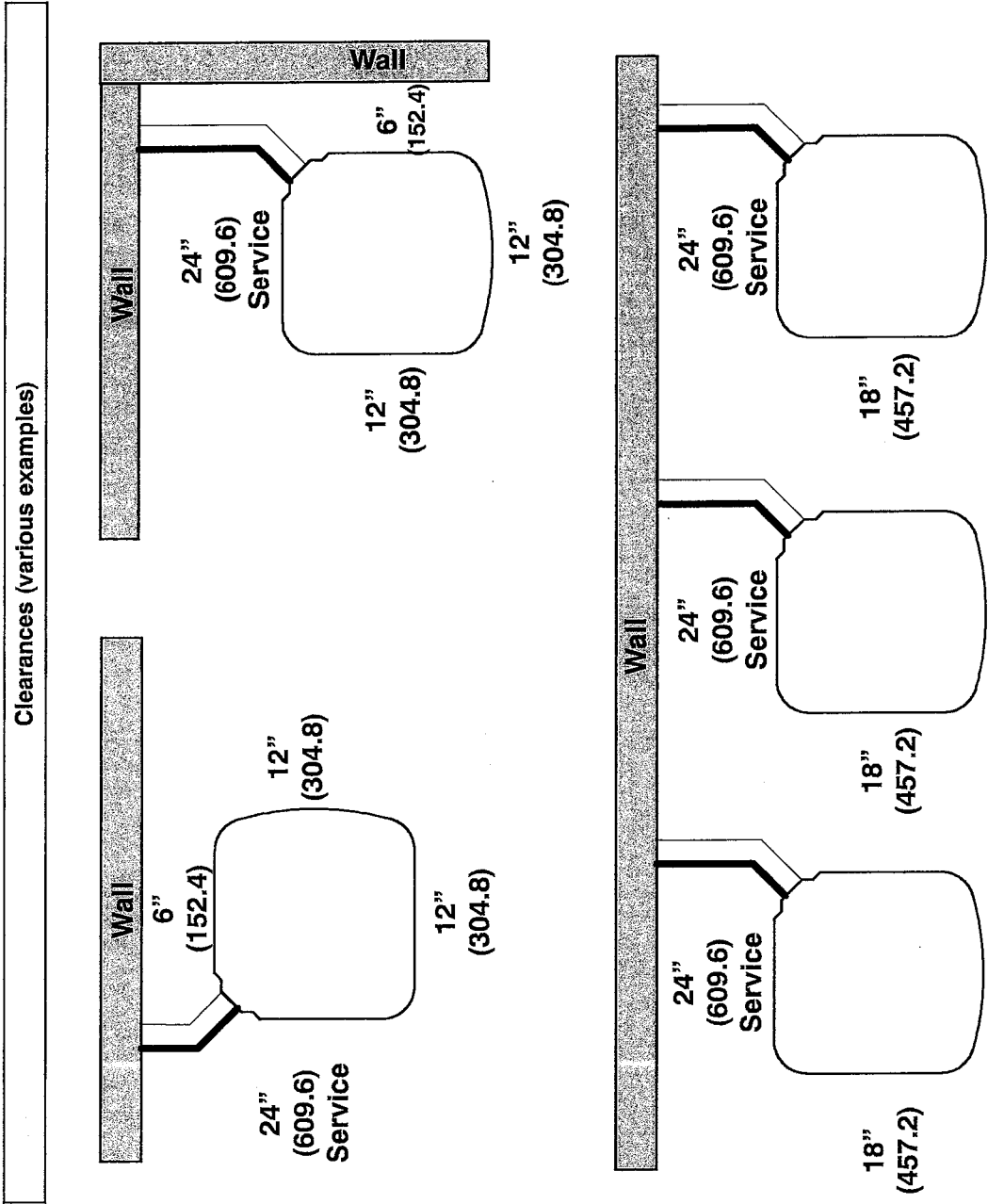
X = YES
O = NO

208-230-160	230-160	208/230-3-60	460-3-60
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UNIT SIZE	MINIMUM MOUNTING PAD DIMENSIONS
18	560.4 X 560.4
24, 30	800.1 X 800.1
36, 48, 60, 81	889.0 X 889.0

CLEARANCES



Note: Numbers in () = mm

IMPORTANT: When installing multiple units in an alcove, roof well, or partially enclosed area, ensure there is adequate ventilation to prevent re-circulation of discharge air.

COMBINATION RATINGS

24ABC6

AHRI Ref. No.	Model Number	Indoor Model	Furnace Model	Capacity	EER	SEER
3632294	24ABC618A**31	†CNPV*1917A**+TDR		18,000	12.0	14.5
3630458	24ABC618A**31	CAP**1814A**	58CV(A,X)070-12	18,000	12.5	15.5
3631465	24ABC618A**31	CAP**1814A**	58PH*045-08	18,000	13.0	15.5
3631699	24ABC618A**31	CAP**1814A**+TDR		18,000	11.5	13.5
3630459	24ABC618A**31	CAP**2414A**	58CV(A,X)070-12	18,000	13.0	16.0
3631466	24ABC618A**31	CAP**2414A**	58PH*045-08	18,000	13.0	16.0
3631700	24ABC618A**31	CAP**2414A**+TDR		18,000	11.5	14.0
3630460	24ABC618A**31	CAP**2417A**	58CV(A,X)070-12	18,000	13.0	16.0
3630520	24ABC618A**31	CAP**2417A**	58CV(A,X)090-16	18,000	13.0	16.0
3630806	24ABC618A**31	CAP**2417A**	58ME(B,C)040-12	18,000	13.0	16.0
3630872	24ABC618A**31	CAP**2417A**	58ME(B,C)060-12	18,000	13.0	16.0
3631136	24ABC618A**31	CAP**2417A**	58MV(B,C)060-14	18,000	13.0	16.0
3631467	24ABC618A**31	CAP**2417A**	58PH*045-08	18,000	13.0	16.0
3631926	24ABC618A**31	CAP**2417A**	58UVB060-14	18,000	13.0	16.0
3644907	24ABC618A**31	CAP**2417A**	58VLR105-12	18,000	13.0	16.0
3644906	24ABC618A**31	CAP**2417A**	58VMR105-12	18,000	13.0	16.0
3631701	24ABC618A**31	CAP**2417A**+TDR		18,000	11.5	14.0
3901699	24ABC618A**31	CAP**3014A**	58CV(A,X)070-12	18,000	13.0	16.0
3901700	24ABC618A**31	CAP**3014A**	58PH*045-08	18,000	13.0	16.0
3901698	24ABC618A**31	CAP**3014A**+TDR		18,000	12.0	14.0
3901703	24ABC618A**31	CAP**3017A**	58CV(A,X)090-16	18,000	13.0	16.0
3901705	24ABC618A**31	CAP**3017A**	58ME(B,C)060-12	18,000	13.0	16.0
3901704	24ABC618A**31	CAP**3017A**	58MEB040-12	18,000	13.0	16.0
3901702	24ABC618A**31	CAP**3017A**	58MV(B,C)060-14	18,000	13.0	16.0
3901707	24ABC618A**31	CAP**3017A**	58VLR105-12	18,000	13.0	16.0
3901706	24ABC618A**31	CAP**3017A**	58VMR105-12	18,000	13.0	16.0
3901701	24ABC618A**31	CAP**3017A**+TDR		18,000	12.0	14.0
3901709	24ABC618A**31	CAP**3614A**	58CV(A,X)070-12	18,000	13.0	16.0
3901710	24ABC618A**31	CAP**3614A**	58PH*045-08	18,000	13.0	16.0
3901708	24ABC618A**31	CAP**3614A**+TDR		18,000	12.0	14.5
3901713	24ABC618A**31	CAP**3617A**	58CV(A,X)090-16	18,000	13.0	16.0
3901715	24ABC618A**31	CAP**3617A**	58ME(B,C)060-12	18,000	13.0	16.0
3901714	24ABC618A**31	CAP**3617A**	58MEB040-12	18,000	13.0	16.0
3901712	24ABC618A**31	CAP**3617A**	58MV(B,C)060-14	18,000	13.0	16.0
3901717	24ABC618A**31	CAP**3617A**	58VLR105-12	18,000	13.0	16.0
3901716	24ABC618A**31	CAP**3617A**	58VMR105-12	18,000	13.0	16.0
3901711	24ABC618A**31	CAP**3617A**+TDR		18,000	12.0	14.5
3901718	24ABC618A**31	CAP**3619A**+TDR		18,000	12.0	14.5
3901720	24ABC618A**31	CAP**3621A**	58MV(B,C)080-14	18,000	13.0	16.0
3901719	24ABC618A**31	CAP**3621A**+TDR		18,000	12.0	14.5
3631706	24ABC618A**31	CNPF*2418A**+TDR		18,000	11.5	14.0
3630464	24ABC618A**31	CNPH*2417A**	58CV(A,X)070-12	18,000	13.0	16.0
3630522	24ABC618A**31	CNPH*2417A**	58CV(A,X)090-16	18,000	13.0	16.0
3630808	24ABC618A**31	CNPH*2417A**	58ME(B,C)040-12	18,000	13.0	16.0
3630874	24ABC618A**31	CNPH*2417A**	58ME(B,C)060-12	18,000	13.0	16.0
3631138	24ABC618A**31	CNPH*2417A**	58MV(B,C)060-14	18,000	13.0	16.0
3631202	24ABC618A**31	CNPH*2417A**	58MV(B,C)080-14	18,000	13.0	16.0
3631429	24ABC618A**31	CNPH*2417A**	58MV(B,C)040-14	18,000	13.0	16.0
3631471	24ABC618A**31	CNPH*2417A**	58PH*045-08	18,000	13.0	16.0
3644913	24ABC618A**31	CNPH*2417A**	58VLR105-12	18,000	13.0	16.0
3644912	24ABC618A**31	CNPH*2417A**	58VMR105-12	18,000	13.0	16.0
3631705	24ABC618A**31	CNPH*2417A**+TDR		18,000	12.0	14.5
3630461	24ABC618A**31	CNPV*1814A**	58CV(A,X)070-12	18,000	13.0	15.5
3631468	24ABC618A**31	CNPV*1814A**	58PH*045-08	18,000	13.0	15.5
3631702	24ABC618A**31	CNPV*1814A**+TDR		18,000	11.5	14.0
3632247	24ABC618A**31	CNPV*1917A**	58CV(A,X)070-12	18,000	13.0	16.0
3632250	24ABC618A**31	CNPV*1917A**	58CV(A,X)090-16	18,000	13.0	16.0
3632259	24ABC618A**31	CNPV*1917A**	58ME(B,C)040-12	18,000	13.0	16.0
3632262	24ABC618A**31	CNPV*1917A**	58ME(B,C)060-12	18,000	13.0	16.0
3632272	24ABC618A**31	CNPV*1917A**	58MV(B,C)060-14	18,000	13.0	16.0
3632285	24ABC618A**31	CNPV*1917A**	58PH*045-08	18,000	13.0	16.0
3632316	24ABC618A**31	CNPV*1917A**	58UVB060-14	18,000	13.0	16.0
3644909	24ABC618A**31	CNPV*1917A**	58VLR105-12	18,000	13.0	16.0
3644908	24ABC618A**31	CNPV*1917A**	58VMR105-12	18,000	13.0	16.0
3630462	24ABC618A**31	CNPV*2414A**	58CV(A,X)070-12	18,000	13.0	16.0
3631469	24ABC618A**31	CNPV*2414A**	58PH*045-08	18,000	13.0	16.0
3631703	24ABC618A**31	CNPV*2414A**+TDR		18,000	11.5	14.0
3630463	24ABC618A**31	CNPV*2417A**	58CV(A,X)070-12	18,000	13.0	16.0
3630521	24ABC618A**31	CNPV*2417A**	58CV(A,X)090-16	18,000	13.0	16.0
3630807	24ABC618A**31	CNPV*2417A**	58ME(B,C)040-12	18,000	13.0	16.0
3630873	24ABC618A**31	CNPV*2417A**	58ME(B,C)060-12	18,000	13.0	16.0
3631137	24ABC618A**31	CNPV*2417A**	58MV(B,C)060-14	18,000	13.0	16.0
3631470	24ABC618A**31	CNPV*2417A**	58PH*045-08	18,000	13.0	16.0

See notes on page 42

COMBINATION RATINGS

AHRI Ref. No.	Model Number	Indoor Model	Furnace Model	Capacity	EER	SEER
3631927	24ABC618A**31	CNPV*2417A**	58UVB060-14	18,000	13.0	16.0
3644911	24ABC618A**31	CNPV*2417A**	58VLR105-12	18,000	13.0	16.0
3644910	24ABC618A**31	CNPV*2417A**	58VMR105-12	18,000	13.0	16.0
3631704	24ABC618A**31	CNPV*2417A**+TDR		18,000	11.5	14.0
3630465	24ABC618A**31	CSPH*2412A**	58CV(A,X)070-12	18,000	13.0	16.0
3630523	24ABC618A**31	CSPH*2412A**	58CV(A,X)090-16	18,000	13.0	16.0
3630768	24ABC618A**31	CSPH*2412A**	58HDV040--12	18,000	13.0	15.5
3630777	24ABC618A**31	CSPH*2412A**	58HDV060--12	18,000	13.0	15.5
3630809	24ABC618A**31	CSPH*2412A**	58ME(B,C)040-12	18,000	13.0	16.0
3630875	24ABC618A**31	CSPH*2412A**	58ME(B,C)060-12	18,000	13.0	16.0
3631139	24ABC618A**31	CSPH*2412A**	58MV(B,C)060-14	18,000	13.0	16.0
3631203	24ABC618A**31	CSPH*2412A**	58MV(B,C)080-14	18,000	13.0	16.0
3631430	24ABC618A**31	CSPH*2412A**	58MV(B,C)040-14	18,000	13.0	16.0
3631472	24ABC618A**31	CSPH*2412A**	58PH*045-08	18,000	13.0	16.0
3644915	24ABC618A**31	CSPH*2412A**	58VLR105-12	18,000	13.0	16.0
3644914	24ABC618A**31	CSPH*2412A**	58VMR105-12	18,000	13.0	16.0
3631707	24ABC618A**31	CSPH*2412A**+TDR		18,000	12.0	14.0
3804392	24ABC618A**31	FB4CNF018		18,000	12.5	14.5
3693276	24ABC618A**31	FB4CNF018+TXV		18,000	13.0	15.5
3804393	24ABC618A**31	FB4CNF024		18,000	12.5	14.5
3693277	24ABC618A**31	FB4CNF024+TXV		18,000	13.0	15.5
3631720	24ABC618A**31	FE4ANF002+UI		18,000	13.0	16.0
3631750	24ABC618A**31	FF1ENP018		18,000	11.5	14.0
3631751	24ABC618A**31	FF1ENP019		18,000	12.5	15.5
3631752	24ABC618A**31	FF1ENP024		18,000	11.5	14.0
3631754	24ABC618A**31	FF1ENP025		18,000	13.0	16.0
3631800	24ABC618A**31	FV4BNF002		18,000	13.0	16.0
3631816	24ABC618A**31	FV4CNF002		18,000	13.0	16.0
3631857	24ABC618A**31	FX4CNF018		18,000	13.0	15.5
3631858	24ABC618A**31	FX4CNF024		18,000	13.0	16.0
3632311	24ABC618A**31	FX4DNF019		18,000	13.0	16.0
3632312	24ABC618A**31	FX4DNF025		18,000	13.0	16.0
3631887	24ABC618A**31	FY4ANF018		18,000	11.5	14.0
3631888	24ABC618A**31	FY4ANF024		18,000	11.5	13.5
3804394	24ABC618A**31	FY5BNF018		18,000	12.0	14.0
3693289	24ABC618A**31	FY5BNF018+TXV		18,000	12.0	14.5
3804395	24ABC618A**31	FY5BNF024		18,000	12.0	14.0
3693290	24ABC618A**31	FY5BNF024+TXV		18,000	12.0	14.5
3631725	24ABC624A**30	†CNPV*3117A**+TDR		23,600	12.0	14.5
3630467	24ABC624A**30	CAP**2414A**	58CV(A,X)070-12	22,800	12.5	15.5
3631474	24ABC624A**30	CAP**2414A**	58PH*045-08	23,000	12.5	15.5
3631726	24ABC624A**30	CAP**2414A**+TDR		23,000	11.5	14.0
3630468	24ABC624A**30	CAP**2417A**	58CV(A,X)070-12	22,800	12.5	15.5
3630525	24ABC624A**30	CAP**2417A**	58CV(A,X)090-16	22,800	13.0	16.0
3630811	24ABC624A**30	CAP**2417A**	58ME(B,C)040-12	23,400	13.0	16.0
3630877	24ABC624A**30	CAP**2417A**	58ME(B,C)060-12	23,400	13.0	16.0
3630939	24ABC624A**30	CAP**2417A**	58ME(B,C)080-12	23,200	13.0	16.0
3631141	24ABC624A**30	CAP**2417A**	58MV(B,C)060-14	23,200	13.0	16.0
3631475	24ABC624A**30	CAP**2417A**	58PH*045-08	23,000	12.5	15.5
3631931	24ABC624A**30	CAP**2417A**	58UVB060-14	23,200	13.0	16.0
3644917	24ABC624A**30	CAP**2417A**	58VLR105-12	24,000	13.0	16.0
3644916	24ABC624A**30	CAP**2417A**	58VMR105-12	23,800	13.0	16.0
3631727	24ABC624A**30	CAP**2417A**+TDR		23,000	11.5	14.0
3630469	24ABC624A**30	CAP**3014A**	58CV(A,X)070-12	22,800	13.0	16.0
3631476	24ABC624A**30	CAP**3014A**	58PH*045-08	23,200	12.5	15.5
3631728	24ABC624A**30	CAP**3014A**+TDR		23,200	11.5	14.0
3630470	24ABC624A**30	CAP**3017A**	58CV(A,X)070-12	23,000	13.0	16.0
3630526	24ABC624A**30	CAP**3017A**	58CV(A,X)090-16	23,000	13.0	16.0
3630812	24ABC624A**30	CAP**3017A**	58ME(B,C)040-12	23,600	13.0	16.0
3630878	24ABC624A**30	CAP**3017A**	58ME(B,C)060-12	23,600	13.0	16.0
3630940	24ABC624A**30	CAP**3017A**	58ME(B,C)080-12	23,400	13.0	16.0
3631142	24ABC624A**30	CAP**3017A**	58MV(B,C)060-14	23,200	13.0	16.0
3631477	24ABC624A**30	CAP**3017A**	58PH*045-08	23,200	13.0	16.0
3631932	24ABC624A**30	CAP**3017A**	58UVB060-14	23,200	13.0	16.0
3644919	24ABC624A**30	CAP**3017A**	58VLR105-12	24,000	13.0	16.0
3644918	24ABC624A**30	CAP**3017A**	58VMR105-12	23,800	13.0	16.0
3631729	24ABC624A**30	CAP**3017A**+TDR		23,200	11.5	14.0
3630471	24ABC624A**30	CAP**3614A**	58CV(A,X)070-12	23,000	13.0	16.0
3631478	24ABC624A**30	CAP**3614A**	58PH*045-08	23,200	13.0	16.0
3631730	24ABC624A**30	CAP**3614A**+TDR		23,200	11.5	14.0
3630472	24ABC624A**30	CAP**3617A**	58CV(A,X)070-12	23,000	13.0	16.0
3630527	24ABC624A**30	CAP**3617A**	58CV(A,X)090-16	23,000	13.0	16.0

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AHRI Ref. No.	Model Number	Indoor Model	Furnace Model	Capacity	EER	SEER
3630813	24ABC624A**30	CAP**3617A**	58ME(B,C)040-12	23,600	13.0	16.0
3630879	24ABC624A**30	CAP**3617A**	58ME(B,C)060-12	23,800	13.0	16.0
3630941	24ABC624A**30	CAP**3617A**	58ME(B,C)080-12	23,600	13.0	16.0
3631143	24ABC624A**30	CAP**3617A**	58MV(B,C)060-14	23,400	13.0	16.0
3631479	24ABC624A**30	CAP**3617A**	58PH*045-08	23,400	13.0	16.0
3631933	24ABC624A**30	CAP**3617A**	58UVB060-14	23,400	13.0	16.0
3644921	24ABC624A**30	CAP**3617A**	58VLR105-12	24,000	13.0	16.0
3644920	24ABC624A**30	CAP**3617A**	58VMR105-12	24,000	13.0	16.0
3631731	24ABC624A**30	CAP**3617A**+TDR		23,200	11.5	14.0
3630769	24ABC624A**30	CAP**3619A**	58HVD040--12	23,400	12.5	15.5
3630778	24ABC624A**30	CAP**3619A**	58HVD060--12	23,600	12.5	15.5
3631733	24ABC624A**30	CAP**3619A**+TDR		23,200	11.5	14.0
3630528	24ABC624A**30	CAP**3621A**	58CV(A,X)090-16	23,000	13.0	16.0
3630595	24ABC624A**30	CAP**3621A**	58CV(A,X)110-20	23,200	13.0	16.0
3630814	24ABC624A**30	CAP**3621A**	58ME(B,C)040-12	23,800	13.0	16.0
3630880	24ABC624A**30	CAP**3621A**	58ME(B,C)060-12	23,800	13.0	16.0
3630942	24ABC624A**30	CAP**3621A**	58ME(B,C)080-12	23,600	13.0	16.0
3631144	24ABC624A**30	CAP**3621A**	58MV(B,C)060-14	23,400	13.0	16.0
3631204	24ABC624A**30	CAP**3621A**	58MV(B,C)080-14	23,000	13.0	16.0
3631255	24ABC624A**30	CAP**3621A**	58MV(B,C)080-20	22,800	13.0	16.0
3631319	24ABC624A**30	CAP**3621A**	58MV(B,C)100-20	23,000	13.0	16.0
3631934	24ABC624A**30	CAP**3621A**	58UVB060-14	23,400	13.0	16.0
3631994	24ABC624A**30	CAP**3621A**	58UVB080-14	23,000	13.0	16.0
3632046	24ABC624A**30	CAP**3621A**	58UVB080-20	22,800	13.0	16.0
3632110	24ABC624A**30	CAP**3621A**	58UVB100-20	23,000	13.0	16.0
3644923	24ABC624A**30	CAP**3621A**	58VLR105-12	24,000	13.0	16.0
3644922	24ABC624A**30	CAP**3621A**	58VMR105-12	24,000	13.0	16.0
3631732	24ABC624A**30	CAP**3621A**+TDR		23,200	11.5	14.0
3901725	24ABC624A**30	CAP**4221A**	58CV(A,X)110-20	24,000	13.0	16.0
3901722	24ABC624A**30	CAP**4221A**	58MV(B,C)080-14	24,000	13.0	16.0
3901723	24ABC624A**30	CAP**4221A**	58MV(B,C)080-20	24,000	13.0	16.0
3901724	24ABC624A**30	CAP**4221A**	58MV(B,C)100-20	24,000	13.0	16.0
3901721	24ABC624A**30	CAP**4221A**+TDR		24,000	12.0	14.5
3901729	24ABC624A**30	CAP**4224A**	58CV(A,X)135-22	24,000	13.0	16.0
3901730	24ABC624A**30	CAP**4224A**	58CV(A,X)155-22	24,000	13.0	16.0
3901728	24ABC624A**30	CAP**4224A**	58MV(B,C)120-20	24,000	13.0	16.0
3901727	24ABC624A**30	CAP**4224A**	58MVB040-14	24,000	13.0	16.0
3901726	24ABC624A**30	CAP**4224A**+TDR		24,000	12.0	14.5
3631743	24ABC624A**30	CNPF*2418A**+TDR		23,000	11.5	14.0
3631744	24ABC624A**30	CNPF*3618A**+TDR		23,200	11.5	14.0
3630478	24ABC624A**30	CNPH*2417A**	58CV(A,X)070-12	22,800	12.5	15.5
3630533	24ABC624A**30	CNPH*2417A**	58CV(A,X)090-16	22,800	13.0	16.0
3630597	24ABC624A**30	CNPH*2417A**	58CV(A,X)110-20	22,800	12.5	15.5
3630666	24ABC624A**30	CNPH*2417A**	58CV(A,X)135-22	22,800	12.5	15.5
3630717	24ABC624A**30	CNPH*2417A**	58CV(A,X)155-22	22,800	12.5	15.5
3630819	24ABC624A**30	CNPH*2417A**	58ME(B,C)040-12	23,200	13.0	16.0
3630885	24ABC624A**30	CNPH*2417A**	58ME(B,C)060-12	23,200	13.0	16.0
3630947	24ABC624A**30	CNPH*2417A**	58ME(B,C)080-12	23,000	13.0	16.0
3631149	24ABC624A**30	CNPH*2417A**	58MV(B,C)060-14	23,000	12.5	15.5
3631206	24ABC624A**30	CNPH*2417A**	58MV(B,C)080-14	22,800	12.5	15.5
3631257	24ABC624A**30	CNPH*2417A**	58MV(B,C)080-20	22,600	12.5	15.5
3631321	24ABC624A**30	CNPH*2417A**	58MV(B,C)100-20	22,800	12.5	15.5
3631383	24ABC624A**30	CNPH*2417A**	58MV(B,C)120-20	23,000	13.0	16.0
3631431	24ABC624A**30	CNPH*2417A**	58MVB040-14	22,800	12.5	15.5
3631485	24ABC624A**30	CNPH*2417A**	58PH*045-08	23,000	12.5	15.5
3644935	24ABC624A**30	CNPH*2417A**	58VLR105-12	24,000	13.0	16.0
3644934	24ABC624A**30	CNPH*2417A**	58VMR105-12	23,800	13.0	15.5
3631740	24ABC624A**30	CNPH*2417A**+TDR		23,000	11.5	14.0
3630479	24ABC624A**30	CNPH*3017A**	58CV(A,X)070-12	23,000	13.0	16.0
3630534	24ABC624A**30	CNPH*3017A**	58CV(A,X)090-16	23,000	13.0	16.0
3630598	24ABC624A**30	CNPH*3017A**	58CV(A,X)110-20	23,000	13.0	16.0
3630667	24ABC624A**30	CNPH*3017A**	58CV(A,X)135-22	23,000	13.0	16.0
3630718	24ABC624A**30	CNPH*3017A**	58CV(A,X)155-22	23,000	13.0	16.0
3630820	24ABC624A**30	CNPH*3017A**	58ME(B,C)040-12	23,600	13.0	16.0
3630886	24ABC624A**30	CNPH*3017A**	58ME(B,C)060-12	23,600	13.0	16.0
3630948	24ABC624A**30	CNPH*3017A**	58ME(B,C)080-12	23,400	13.0	16.0
3631150	24ABC624A**30	CNPH*3017A**	58MV(B,C)060-14	23,200	13.0	16.0
3631207	24ABC624A**30	CNPH*3017A**	58MV(B,C)080-14	23,000	13.0	16.0
3631258	24ABC624A**30	CNPH*3017A**	58MV(B,C)080-20	22,800	13.0	16.0
3631322	24ABC624A**30	CNPH*3017A**	58MV(B,C)100-20	23,000	13.0	16.0
3631384	24ABC624A**30	CNPH*3017A**	58MV(B,C)120-20	23,200	13.0	16.0
3631432	24ABC624A**30	CNPH*3017A**	58MVB040-14	23,000	13.0	16.0
3631486	24ABC624A**30	CNPH*3017A**	58PH*045-08	23,200	13.0	16.0

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AHRI Ref. No.	Model Number	Indoor Model	Furnace Model	Capacity	EER	SEER
3644937	24ABC624A**30	CNPH*3017A**	58VLR105-12	24,000	13.0	16.0
3644936	24ABC624A**30	CNPH*3017A**	58VMR105-12	24,000	13.0	16.0
3631741	24ABC624A**30	CNPH*3017A**+TDR		23,200	11.5	14.0
3630480	24ABC624A**30	CNPH*3117A**	58CV(A,X)070-12	23,400	13.0	16.0
3630535	24ABC624A**30	CNPH*3117A**	58CV(A,X)090-16	23,400	13.0	16.0
3630599	24ABC624A**30	CNPH*3117A**	58CV(A,X)110-20	23,400	13.0	16.0
3630668	24ABC624A**30	CNPH*3117A**	58CV(A,X)135-22	23,400	13.0	16.0
3630719	24ABC624A**30	CNPH*3117A**	58CV(A,X)155-22	23,400	13.0	16.0
3630821	24ABC624A**30	CNPH*3117A**	58ME(B,C)040-12	24,000	13.0	16.0
3630887	24ABC624A**30	CNPH*3117A**	58ME(B,C)060-12	24,000	13.0	16.0
3630949	24ABC624A**30	CNPH*3117A**	58ME(B,C)080-12	24,000	13.0	16.0
3631151	24ABC624A**30	CNPH*3117A**	58MV(B,C)080-14	23,800	13.0	16.0
3631208	24ABC624A**30	CNPH*3117A**	58MV(B,C)080-14	23,400	13.0	16.0
3631259	24ABC624A**30	CNPH*3117A**	58MV(B,C)080-20	23,200	13.0	16.0
3631323	24ABC624A**30	CNPH*3117A**	58MV(B,C)100-20	23,400	13.0	16.0
3631385	24ABC624A**30	CNPH*3117A**	58MV(B,C)120-20	23,600	13.0	16.0
3631433	24ABC624A**30	CNPH*3117A**	58MV(B,C)040-14	23,400	13.0	16.0
3631487	24ABC624A**30	CNPH*3117A**	58PH*045-08	23,800	13.0	16.0
3644939	24ABC624A**30	CNPH*3117A**	58VLR105-12	24,000	13.0	16.0
3644938	24ABC624A**30	CNPH*3117A**	58VMR105-12	24,000	13.0	16.0
3632296	24ABC624A**30	CNPH*3117A**+TDR		23,600	12.0	14.5
3630481	24ABC624A**30	CNPH*3617A**	58CV(A,X)070-12	23,000	13.0	16.0
3630536	24ABC624A**30	CNPH*3617A**	58CV(A,X)090-16	23,000	13.0	16.0
3630600	24ABC624A**30	CNPH*3617A**	58CV(A,X)110-20	23,000	13.0	16.0
3630669	24ABC624A**30	CNPH*3617A**	58CV(A,X)135-22	23,000	13.0	16.0
3630720	24ABC624A**30	CNPH*3617A**	58CV(A,X)155-22	23,000	13.0	16.0
3630822	24ABC624A**30	CNPH*3617A**	58ME(B,C)040-12	23,600	13.0	16.0
3630888	24ABC624A**30	CNPH*3617A**	58ME(B,C)060-12	23,600	13.0	16.0
3630950	24ABC624A**30	CNPH*3617A**	58ME(B,C)080-12	23,400	13.0	16.0
3631152	24ABC624A**30	CNPH*3617A**	58MV(B,C)060-14	23,200	13.0	16.0
3631209	24ABC624A**30	CNPH*3617A**	58MV(B,C)080-14	23,000	13.0	16.0
3631260	24ABC624A**30	CNPH*3617A**	58MV(B,C)080-20	22,800	13.0	16.0
3631324	24ABC624A**30	CNPH*3617A**	58MV(B,C)100-20	23,000	13.0	16.0
3631386	24ABC624A**30	CNPH*3617A**	58MV(B,C)120-20	23,200	13.0	16.0
3631434	24ABC624A**30	CNPH*3617A**	58MV(B,C)040-14	23,000	13.0	16.0
3631488	24ABC624A**30	CNPH*3617A**	58PH*045-08	23,200	13.0	16.0
3644941	24ABC624A**30	CNPH*3617A**	58VLR105-12	24,000	13.0	16.0
3644940	24ABC624A**30	CNPH*3617A**	58VMR105-12	24,000	13.0	16.0
3631742	24ABC624A**30	CNPH*3617A**+TDR		23,200	11.5	14.0
3632248	24ABC624A**30	CNPV*1917A**	58CV(A,X)070-12	23,000	13.0	16.0
3632251	24ABC624A**30	CNPV*1917A**	58CV(A,X)090-16	23,000	13.0	16.0
3632260	24ABC624A**30	CNPV*1917A**	58ME(B,C)040-12	23,600	13.0	16.0
3632263	24ABC624A**30	CNPV*1917A**	58ME(B,C)060-12	23,600	13.0	16.0
3632273	24ABC624A**30	CNPV*1917A**	58MV(B,C)060-14	23,400	13.0	16.0
3632286	24ABC624A**30	CNPV*1917A**	58PH*045-08	23,200	13.0	16.0
3632317	24ABC624A**30	CNPV*1917A**	58UVB060-14	23,400	13.0	16.0
3632295	24ABC624A**30	CNPV*1917A**+TDR		23,200	11.5	14.0
3630473	24ABC624A**30	CNPV*2414A**	58CV(A,X)070-12	22,800	12.5	15.5
3631480	24ABC624A**30	CNPV*2414A**	58PH*045-08	23,000	12.5	15.5
3631734	24ABC624A**30	CNPV*2414A**+TDR		23,000	11.5	14.0
3630474	24ABC624A**30	CNPV*2417A**	58CV(A,X)070-12	22,800	12.5	15.5
3630529	24ABC624A**30	CNPV*2417A**	58CV(A,X)090-16	22,800	13.0	16.0
3630815	24ABC624A**30	CNPV*2417A**	58ME(B,C)040-12	23,200	13.0	16.0
3630881	24ABC624A**30	CNPV*2417A**	58ME(B,C)060-12	23,200	13.0	16.0
3630943	24ABC624A**30	CNPV*2417A**	58ME(B,C)080-12	23,000	13.0	16.0
3631145	24ABC624A**30	CNPV*2417A**	58MV(B,C)060-14	23,000	12.5	15.5
3631481	24ABC624A**30	CNPV*2417A**	58PH*045-08	23,000	12.5	15.5
3631935	24ABC624A**30	CNPV*2417A**	58UVB060-14	23,000	12.5	15.5
3644925	24ABC624A**30	CNPV*2417A**	58VLR105-12	24,000	13.0	16.0
3644924	24ABC624A**30	CNPV*2417A**	58VMR105-12	24,000	13.0	15.5
3631735	24ABC624A**30	CNPV*2417A**+TDR		23,000	11.5	14.0
3630475	24ABC624A**30	CNPV*3014A**	58CV(A,X)070-12	23,000	13.0	16.0
3631482	24ABC624A**30	CNPV*3014A**	58PH*045-08	23,200	12.5	15.5
3631736	24ABC624A**30	CNPV*3014A**+TDR		23,200	11.5	14.0
3630476	24ABC624A**30	CNPV*3017A**	58CV(A,X)070-12	23,000	13.0	16.0
3630530	24ABC624A**30	CNPV*3017A**	58CV(A,X)090-16	23,000	13.0	16.0
3630816	24ABC624A**30	CNPV*3017A**	58ME(B,C)040-12	23,600	13.0	16.0
3630882	24ABC624A**30	CNPV*3017A**	58ME(B,C)060-12	23,600	13.0	16.0
3630944	24ABC624A**30	CNPV*3017A**	58ME(B,C)080-12	23,400	13.0	16.0
3631146	24ABC624A**30	CNPV*3017A**	58MV(B,C)060-14	23,200	13.0	16.0
3631483	24ABC624A**30	CNPV*3017A**	58PH*045-08	23,200	13.0	16.0
3631936	24ABC624A**30	CNPV*3017A**	58UVB060-14	23,200	13.0	16.0
3644927	24ABC624A**30	CNPV*3017A**	58VLR105-12	24,000	13.0	16.0

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AHRI Ref. No.	Model Number	Indoor Model	Furnace Model	Capacity	EER	SEER
3644926	24ABC624A**30	CNPV*3017A**	58VMR105-12	24,000	13.0	16.0
3631737	24ABC624A**30	CNPV*3017A**+TDR		23,200	11.5	14.0
3630466	24ABC624A**30	CNPV*3117A**	58CV(A,X)070-12	23,400	13.0	16.0
3630524	24ABC624A**30	CNPV*3117A**	58CV(A,X)090-16	23,400	13.0	16.0
3630810	24ABC624A**30	CNPV*3117A**	58ME(B,C)040-12	24,000	13.0	16.0
3630876	24ABC624A**30	CNPV*3117A**	58ME(B,C)060-12	24,000	13.0	16.0
3630938	24ABC624A**30	CNPV*3117A**	58ME(B,C)080-12	24,000	13.0	16.0
3631140	24ABC624A**30	CNPV*3117A**	58MV(B,C)060-14	23,800	13.0	16.0
3631473	24ABC624A**30	CNPV*3117A**	58PH*045-08	23,800	13.0	16.0
3631930	24ABC624A**30	CNPV*3117A**	58UVB060-14	23,800	13.0	16.0
3644929	24ABC624A**30	CNPV*3117A**	58VLR105-12	24,000	13.0	16.0
3644928	24ABC624A**30	CNPV*3117A**	58VMR105-12	24,000	13.0	16.0
3630477	24ABC624A**30	CNPV*3617A**	58CV(A,X)070-12	23,000	13.0	16.0
3630531	24ABC624A**30	CNPV*3617A**	58CV(A,X)090-16	23,000	13.0	16.0
3630817	24ABC624A**30	CNPV*3617A**	58ME(B,C)040-12	23,600	13.0	16.0
3630883	24ABC624A**30	CNPV*3617A**	58ME(B,C)060-12	23,600	13.0	16.0
3630945	24ABC624A**30	CNPV*3617A**	58ME(B,C)080-12	23,400	13.0	16.0
3631147	24ABC624A**30	CNPV*3617A**	58MV(B,C)060-14	23,200	13.0	16.0
3631484	24ABC624A**30	CNPV*3617A**	58PH*045-08	23,200	13.0	16.0
3631937	24ABC624A**30	CNPV*3617A**	58UVB060-14	23,200	13.0	16.0
3644931	24ABC624A**30	CNPV*3617A**	58VLR105-12	24,000	13.0	16.0
3644930	24ABC624A**30	CNPV*3617A**	58VMR105-12	24,000	13.0	16.0
3631738	24ABC624A**30	CNPV*3617A**+TDR		23,200	11.5	14.0
3630532	24ABC624A**30	CNPV*3621A**	58CV(A,X)090-16	23,000	13.0	16.0
3630596	24ABC624A**30	CNPV*3621A**	58CV(A,X)110-20	23,000	13.0	16.0
3630818	24ABC624A**30	CNPV*3621A**	58ME(B,C)040-12	23,600	13.0	16.0
3630884	24ABC624A**30	CNPV*3621A**	58ME(B,C)060-12	23,600	13.0	16.0
3630946	24ABC624A**30	CNPV*3621A**	58ME(B,C)080-12	23,400	13.0	16.0
3631148	24ABC624A**30	CNPV*3621A**	58MV(B,C)060-14	23,200	13.0	16.0
3631205	24ABC624A**30	CNPV*3621A**	58MV(B,C)080-14	23,000	13.0	16.0
3631256	24ABC624A**30	CNPV*3621A**	58MV(B,C)080-20	22,800	13.0	16.0
3631320	24ABC624A**30	CNPV*3621A**	58MV(B,C)100-20	23,000	13.0	16.0
3631938	24ABC624A**30	CNPV*3621A**	58UVB060-14	23,200	13.0	16.0
3631995	24ABC624A**30	CNPV*3621A**	58UVB080-14	23,000	13.0	16.0
3632047	24ABC624A**30	CNPV*3621A**	58UVB080-20	22,800	13.0	16.0
3632111	24ABC624A**30	CNPV*3621A**	58UVB100-20	23,000	13.0	16.0
3644933	24ABC624A**30	CNPV*3621A**	58VLR105-12	24,000	13.0	16.0
3644932	24ABC624A**30	CNPV*3621A**	58VMR105-12	24,000	13.0	16.0
3631739	24ABC624A**30	CNPV*3621A**+TDR		23,200	11.5	14.0
3630770	24ABC624A**30	CSPH*2412A**	58HDV040--12	23,200	12.8	15.2
3630779	24ABC624A**30	CSPH*2412A**	58HDV060--12	23,200	12.8	15.2
3644943	24ABC624A**30	CSPH*2412A**	58VLR105-12	24,000	13.0	16.0
3644942	24ABC624A**30	CSPH*2412A**	58VMR105-12	24,000	13.0	15.5
3631745	24ABC624A**30	CSPH*2412A**+TDR		23,200	11.5	14.0
3630482	24ABC624A**30	CSPH*3012A**	58CV(A,X)070-12	23,000	13.0	16.0
3630537	24ABC624A**30	CSPH*3012A**	58CV(A,X)090-16	23,200	13.0	16.0
3630601	24ABC624A**30	CSPH*3012A**	58CV(A,X)110-20	23,200	13.0	16.0
3630670	24ABC624A**30	CSPH*3012A**	58CV(A,X)135-22	23,200	13.0	16.0
3630721	24ABC624A**30	CSPH*3012A**	58CV(A,X)155-22	23,200	13.0	16.0
3630823	24ABC624A**30	CSPH*3012A**	58ME(B,C)040-12	23,600	13.0	16.0
3630889	24ABC624A**30	CSPH*3012A**	58ME(B,C)060-12	23,600	13.0	16.0
3630951	24ABC624A**30	CSPH*3012A**	58ME(B,C)080-12	23,400	13.0	16.0
3631153	24ABC624A**30	CSPH*3012A**	58MV(B,C)060-14	23,400	13.0	16.0
3631210	24ABC624A**30	CSPH*3012A**	58MV(B,C)080-14	23,000	13.0	16.0
3631261	24ABC624A**30	CSPH*3012A**	58MV(B,C)080-20	22,800	13.0	16.0
3631325	24ABC624A**30	CSPH*3012A**	58MV(B,C)100-20	23,000	13.0	16.0
3631387	24ABC624A**30	CSPH*3012A**	58MV(B,C)120-20	23,200	13.0	16.0
3631435	24ABC624A**30	CSPH*3012A**	58MVB040-14	23,000	13.0	16.0
3631489	24ABC624A**30	CSPH*3012A**	58PH*045-08	23,200	13.0	16.0
3644945	24ABC624A**30	CSPH*3012A**	58VLR105-12	24,000	13.0	16.0
3644944	24ABC624A**30	CSPH*3012A**	58VMR105-12	24,000	13.0	16.0
3631746	24ABC624A**30	CSPH*3012A**+TDR		23,200	11.5	14.0
3630483	24ABC624A**30	CSPH*3612A**	58CV(A,X)070-12	23,400	13.0	16.0
3630538	24ABC624A**30	CSPH*3612A**	58CV(A,X)090-16	23,400	13.0	16.0
3630602	24ABC624A**30	CSPH*3612A**	58CV(A,X)110-20	23,400	13.0	16.0
3630671	24ABC624A**30	CSPH*3612A**	58CV(A,X)135-22	23,400	13.0	16.0
3630722	24ABC624A**30	CSPH*3612A**	58CV(A,X)155-22	23,400	13.0	16.0
3630824	24ABC624A**30	CSPH*3612A**	58ME(B,C)040-12	24,000	13.0	16.0
3630890	24ABC624A**30	CSPH*3612A**	58ME(B,C)060-12	24,000	13.0	16.0
3630952	24ABC624A**30	CSPH*3612A**	58ME(B,C)080-12	23,800	13.0	16.0
3631154	24ABC624A**30	CSPH*3612A**	58MV(B,C)060-14	23,800	13.0	16.0
3631211	24ABC624A**30	CSPH*3612A**	58MV(B,C)080-14	23,400	13.0	16.0
3631262	24ABC624A**30	CSPH*3612A**	58MV(B,C)080-20	23,200	13.0	16.0

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AHRI Ref. No.	Model Number	Indoor Model	Furnace Model	Capacity	EER	SEER
3631326	24ABC624A**30	CSPH*3612A**	58MV(B,C)100-20	23,400	13.0	16.0
3631388	24ABC624A**30	CSPH*3612A**	58MV(B,C)120-20	23,600	13.0	16.0
3631436	24ABC624A**30	CSPH*3612A**	58MVB040-14	23,400	13.0	16.0
3631490	24ABC624A**30	CSPH*3612A**	58PH*045-08	23,600	13.0	16.0
3644947	24ABC624A**30	CSPH*3612A**	58VLR105-12	24,000	13.0	16.0
3644946	24ABC624A**30	CSPH*3612A**	58VMR105-12	24,000	13.0	16.0
3631747	24ABC624A**30	CSPH*3612A**+TDR		23,600	12.0	14.5
3804396	24ABC624A**30	FB4CNF024		22,800	12.0	14.5
3693278	24ABC624A**30	FB4CNF024+TXV		22,800	12.0	15.0
3804397	24ABC624A**30	FB4CNF030		23,400	12.5	15.0
3693279	24ABC624A**30	FB4CNF030+TXV		23,400	13.0	16.0
3631708	24ABC624A**30	FE4AN(B,F)003+UI		23,200	13.0	16.0
3631721	24ABC624A**30	FE4ANF002+UI		23,200	13.0	16.0
3631753	24ABC624A**30	FF1ENP024		22,800	11.5	13.5
3631755	24ABC624A**30	FF1ENP025		23,200	12.5	15.0
3631756	24ABC624A**30	FF1ENP030		22,800	11.5	13.5
3631758	24ABC624A**30	FF1ENP031		23,200	12.5	15.0
3631760	24ABC624A**30	FF1ENP036		23,000	11.0	13.5
3631763	24ABC624A**30	FF1ENP037		23,400	12.5	15.5
3631766	24ABC624A**30	FV4BN(B,F)003		23,200	13.0	16.0
3631801	24ABC624A**30	FV4BNF002		23,200	13.0	16.0
3631804	24ABC624A**30	FV4CN(B,F)003		23,200	13.0	16.0
3631817	24ABC624A**30	FV4CNF002		23,200	13.0	16.0
3631845	24ABC624A**30	FX4CN(B,F)036		23,200	12.0	14.5
3631859	24ABC624A**30	FX4CNF024		23,200	12.5	15.0
3631860	24ABC624A**30	FX4CNF030		23,400	13.0	16.0
3632298	24ABC624A**30	FX4DN(B,F)031		23,600	12.5	15.5
3632313	24ABC624A**30	FX4DNF025		23,400	13.0	16.0
3631889	24ABC624A**30	FY4ANF024		22,800	11.5	14.0
3631890	24ABC624A**30	FY4ANF030		23,000	12.0	14.5
3631892	24ABC624A**30	FY4ANF036		23,000	11.0	13.5
3804398	24ABC624A**30	FY5BNF024		23,200	12.0	14.0
3693291	24ABC624A**30	FY5BNF024+TXV		23,200	12.0	15.0
3804399	24ABC624A**30	FY5BNF030		23,400	12.0	14.0
3693292	24ABC624A**30	FY5BNF030+TXV		23,400	12.0	15.0
3631772	24ABC630A**30	†CNPV*3117A**+TDR		28,600	12.0	14.5
3630485	24ABC630A**30	CAP**3014A**	58CV(A,X)070-12	27,600	13.0	15.2
3631773	24ABC630A**30	CAP**3014A**+TDR		28,000	12.0	14.0
3630486	24ABC630A**30	CAP**3017A**	58CV(A,X)070-12	27,800	12.5	15.5
3630540	24ABC630A**30	CAP**3017A**	58CV(A,X)090-16	27,800	13.0	16.0
3630826	24ABC630A**30	CAP**3017A**	58ME(B,C)040-12	28,200	13.0	16.0
3630892	24ABC630A**30	CAP**3017A**	58ME(B,C)060-12	28,200	13.0	15.5
3630954	24ABC630A**30	CAP**3017A**	58ME(B,C)080-12	28,000	13.0	16.0
3631001	24ABC630A**30	CAP**3017A**	58ME(B,C)080-16	28,200	13.0	15.5
3631156	24ABC630A**30	CAP**3017A**	58MV(B,C)060-14	28,000	13.0	15.5
3631504	24ABC630A**30	CAP**3017A**	58PH*070-16	28,000	12.5	15.0
3631946	24ABC630A**30	CAP**3017A**	58UVB060-14	28,000	13.0	15.5
3644949	24ABC630A**30	CAP**3017A**	58VLR105-12	27,800	13.0	15.5
3644948	24ABC630A**30	CAP**3017A**	58VMR105-12	27,600	13.0	15.5
3631774	24ABC630A**30	CAP**3017A**+TDR		28,000	12.0	14.0
3630487	24ABC630A**30	CAP**3614A**	58CV(A,X)070-12	27,800	12.5	15.5
3631775	24ABC630A**30	CAP**3614A**+TDR		28,000	12.0	14.0
3630488	24ABC630A**30	CAP**3617A**	58CV(A,X)070-12	27,800	12.5	15.5
3630541	24ABC630A**30	CAP**3617A**	58CV(A,X)090-16	27,800	13.0	16.0
3630827	24ABC630A**30	CAP**3617A**	58ME(B,C)040-12	28,200	13.0	16.0
3630893	24ABC630A**30	CAP**3617A**	58ME(B,C)060-12	28,200	13.0	16.0
3630955	24ABC630A**30	CAP**3617A**	58ME(B,C)080-12	28,200	13.0	16.0
3631002	24ABC630A**30	CAP**3617A**	58ME(B,C)080-16	28,400	13.0	16.0
3631157	24ABC630A**30	CAP**3617A**	58MV(B,C)060-14	28,000	13.0	16.0
3631505	24ABC630A**30	CAP**3617A**	58PH*070-16	28,000	12.5	15.2
3631947	24ABC630A**30	CAP**3617A**	58UVB060-14	28,000	13.0	16.0
3644951	24ABC630A**30	CAP**3617A**	58VLR105-12	28,000	13.0	15.5
3644950	24ABC630A**30	CAP**3617A**	58VMR105-12	27,600	13.0	15.5
3631776	24ABC630A**30	CAP**3617A**+TDR		28,000	12.0	14.0
3630771	24ABC630A**30	CAP**3619A**	58HDV040-12	28,000	12.5	15.0
3630780	24ABC630A**30	CAP**3619A**	58HDV060-12	28,200	12.5	15.2
3631780	24ABC630A**30	CAP**3619A**+TDR		28,000	11.5	14.0
3630542	24ABC630A**30	CAP**3621A**	58CV(A,X)090-16	27,800	13.0	16.0
3630603	24ABC630A**30	CAP**3621A**	58CV(A,X)110-20	27,800	13.0	16.0
3630828	24ABC630A**30	CAP**3621A**	58ME(B,C)040-12	28,200	13.0	16.0
3630894	24ABC630A**30	CAP**3621A**	58ME(B,C)060-12	28,200	13.0	16.0
3630956	24ABC630A**30	CAP**3621A**	58ME(B,C)080-12	28,200	13.0	16.0

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AHRI Ref. No.	Model Number	Indoor Model	Furnace Model	Capacity	EER	SEER
3631003	24ABC630A**30	CAP**3621A**	58ME(B,C)080-16	28,400	13.0	16.0
3631158	24ABC630A**30	CAP**3621A**	58MV(B,C)060-14	28,200	13.0	16.0
3631212	24ABC630A**30	CAP**3621A**	58MV(B,C)080-14	27,600	13.0	16.0
3631263	24ABC630A**30	CAP**3621A**	58MV(B,C)080-20	27,800	13.0	16.0
3631327	24ABC630A**30	CAP**3621A**	58MV(B,C)100-20	27,600	13.0	15.5
3631506	24ABC630A**30	CAP**3621A**	58PH*070-16	28,000	13.0	15.2
3631550	24ABC630A**30	CAP**3621A**	58PH*090-16	28,200	13.0	16.0
3631948	24ABC630A**30	CAP**3621A**	58UVB060-14	28,200	13.0	16.0
3632002	24ABC630A**30	CAP**3621A**	58UVB080-14	27,600	13.0	16.0
3632054	24ABC630A**30	CAP**3621A**	58UVB080-20	27,800	13.0	16.0
3632118	24ABC630A**30	CAP**3621A**	58UVB100-20	27,600	13.0	15.5
3644953	24ABC630A**30	CAP**3621A**	58VLR105-12	28,000	13.0	15.5
3644952	24ABC630A**30	CAP**3621A**	58VLR105-12	27,600	13.0	16.0
3631777	24ABC630A**30	CAP**3621A**+TDR		28,000	12.0	14.0
3630543	24ABC630A**30	CAP**4221A**	58CV(A,X)090-16	28,000	13.0	16.0
3630604	24ABC630A**30	CAP**4221A**	58CV(A,X)110-20	28,000	13.0	16.0
3630829	24ABC630A**30	CAP**4221A**	58ME(B,C)040-12	28,400	13.0	16.0
3630895	24ABC630A**30	CAP**4221A**	58ME(B,C)060-12	28,600	13.0	16.0
3630957	24ABC630A**30	CAP**4221A**	58ME(B,C)080-12	28,400	13.0	16.0
3631004	24ABC630A**30	CAP**4221A**	58ME(B,C)080-16	28,600	13.0	16.0
3631159	24ABC630A**30	CAP**4221A**	58MV(B,C)060-14	28,200	13.0	16.0
3631213	24ABC630A**30	CAP**4221A**	58MV(B,C)080-14	28,000	13.0	16.0
3631264	24ABC630A**30	CAP**4221A**	58MV(B,C)080-20	28,000	13.0	16.0
3631328	24ABC630A**30	CAP**4221A**	58MV(B,C)100-20	27,800	13.0	16.0
3631507	24ABC630A**30	CAP**4221A**	58PH*070-16	28,200	12.5	15.5
3631551	24ABC630A**30	CAP**4221A**	58PH*090-16	28,400	13.0	16.0
3631949	24ABC630A**30	CAP**4221A**	58UVB060-14	28,200	13.0	16.0
3632003	24ABC630A**30	CAP**4221A**	58UVB080-14	28,000	13.0	16.0
3632055	24ABC630A**30	CAP**4221A**	58UVB080-20	28,000	13.0	16.0
3632119	24ABC630A**30	CAP**4221A**	58UVB100-20	27,800	13.0	16.0
3644955	24ABC630A**30	CAP**4221A**	58VLR105-12	28,200	13.0	16.0
3644954	24ABC630A**30	CAP**4221A**	58VLR105-12	27,800	13.0	16.0
3631778	24ABC630A**30	CAP**4221A**+TDR		28,200	11.5	14.0
3630605	24ABC630A**30	CAP**4224A**	58CV(A,X)110-20	28,200	13.0	16.0
3630672	24ABC630A**30	CAP**4224A**	58CV(A,X)135-22	28,200	13.0	16.0
3630723	24ABC630A**30	CAP**4224A**	58CV(A,X)155-22	28,200	13.0	16.0
3631214	24ABC630A**30	CAP**4224A**	58MV(B,C)080-14	28,000	13.0	16.0
3631265	24ABC630A**30	CAP**4224A**	58MV(B,C)080-20	28,000	13.0	16.0
3631329	24ABC630A**30	CAP**4224A**	58MV(B,C)100-20	27,800	13.0	16.0
3631389	24ABC630A**30	CAP**4224A**	58MV(B,C)120-20	28,000	13.0	16.0
3631437	24ABC630A**30	CAP**4224A**	58MVB040-14	28,000	13.0	16.0
3631552	24ABC630A**30	CAP**4224A**	58PH*090-16	28,400	13.0	16.0
3632004	24ABC630A**30	CAP**4224A**	58UVB080-14	28,000	13.0	16.0
3632056	24ABC630A**30	CAP**4224A**	58UVB080-20	28,000	13.0	16.0
3632120	24ABC630A**30	CAP**4224A**	58UVB100-20	27,800	13.0	16.0
3632180	24ABC630A**30	CAP**4224A**	58UVB120-20	28,000	13.0	16.0
3631779	24ABC630A**30	CAP**4224A**+TDR		28,200	11.5	14.0
3901733	24ABC630A**30	CAP**4817A**	58CV(A,X)090-16	29,000	13.0	16.0
3901736	24ABC630A**30	CAP**4817A**	58ME(B,C)060-12	29,000	13.0	16.0
3901737	24ABC630A**30	CAP**4817A**	58ME(B,C)080-12	29,000	13.0	16.0
3901738	24ABC630A**30	CAP**4817A**	58ME(B,C)080-16	29,000	13.0	16.0
3901735	24ABC630A**30	CAP**4817A**	58MEB040-12	29,000	13.0	16.0
3901732	24ABC630A**30	CAP**4817A**	58MV(B,C)060-14	29,000	13.0	16.0
3901734	24ABC630A**30	CAP**4817A**	58PH*070-16	29,000	13.0	16.0
3901740	24ABC630A**30	CAP**4817A**	58VLR105-12	29,000	13.0	16.0
3901739	24ABC630A**30	CAP**4817A**	58VLR105-12	28,800	13.0	16.0
3901731	24ABC630A**30	CAP**4817A**+TDR		29,000	12.0	14.5
3901745	24ABC630A**30	CAP**4821A**	58CV(A,X)110-20	29,000	13.0	16.0
3901742	24ABC630A**30	CAP**4821A**	58MV(B,C)080-14	28,800	13.0	16.0
3901743	24ABC630A**30	CAP**4821A**	58MV(B,C)080-20	28,800	13.0	16.0
3901744	24ABC630A**30	CAP**4821A**	58MV(B,C)100-20	28,600	13.0	16.0
3901746	24ABC630A**30	CAP**4821A**	58PH*090-16	29,000	13.0	16.0
3901741	24ABC630A**30	CAP**4821A**+TDR		29,000	12.0	14.5
3901754	24ABC630A**30	CAP**4823A**	58HDV080-20	29,600	13.0	16.0
3901753	24ABC630A**30	CAP**4823A**+TDR		29,000	12.0	14.5
3901750	24ABC630A**30	CAP**4824A**	58CV(A,X)135-22	29,000	13.0	16.0
3901751	24ABC630A**30	CAP**4824A**	58CV(A,X)155-22	29,000	13.0	16.0
3901752	24ABC630A**30	CAP**4824A**	58HDV100-20	29,000	13.0	16.0
3901749	24ABC630A**30	CAP**4824A**	58MV(B,C)120-20	29,000	13.0	16.0
3901748	24ABC630A**30	CAP**4824A**	58MVB040-14	28,800	13.0	16.0
3901747	24ABC630A**30	CAP**4824A**+TDR		29,000	12.0	14.5
3631790	24ABC630A**30	CNPF*3618A**+TDR		28,000	11.5	13.5
3630493	24ABC630A**30	CNPH*3017A**	58CV(A,X)070-12	27,800	12.5	15.5

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AHRI Ref. No.	Model Number	Indoor Model	Furnace Model	Capacity	EER	SEER
3630549	24ABC630A**30	CNPH*3017A**	58CV(A,X)090-16	27,800	13.0	15.5
3630608	24ABC630A**30	CNPH*3017A**	58CV(A,X)110-20	27,800	13.0	15.5
3630673	24ABC630A**30	CNPH*3017A**	58CV(A,X)135-22	27,800	13.0	16.0
3630724	24ABC630A**30	CNPH*3017A**	58CV(A,X)155-22	27,800	13.0	16.0
3630835	24ABC630A**30	CNPH*3017A**	58ME(B,C)040-12	28,200	13.0	16.0
3630901	24ABC630A**30	CNPH*3017A**	58ME(B,C)060-12	28,200	13.0	15.5
3630963	24ABC630A**30	CNPH*3017A**	58ME(B,C)080-12	28,000	13.0	16.0
3631010	24ABC630A**30	CNPH*3017A**	58ME(B,C)080-16	28,200	13.0	15.5
3631165	24ABC630A**30	CNPH*3017A**	58MV(B,C)060-14	28,000	13.0	15.5
3631217	24ABC630A**30	CNPH*3017A**	58MV(B,C)080-14	27,600	12.5	15.5
3631268	24ABC630A**30	CNPH*3017A**	58MV(B,C)080-20	27,800	12.5	15.5
3631332	24ABC630A**30	CNPH*3017A**	58MV(B,C)100-20	27,600	12.5	15.5
3631390	24ABC630A**30	CNPH*3017A**	58MV(B,C)120-20	27,800	13.0	16.0
3631438	24ABC630A**30	CNPH*3017A**	58MVB040-14	27,800	12.5	15.5
3631513	24ABC630A**30	CNPH*3017A**	58PH*070-16	28,000	12.5	15.0
3631555	24ABC630A**30	CNPH*3017A**	58PH*090-16	28,000	12.5	15.5
3644969	24ABC630A**30	CNPH*3017A**	58VLR105-12	28,000	13.0	15.5
3644968	24ABC630A**30	CNPH*3017A**	58VLR105-12	27,600	13.0	15.5
3631787	24ABC630A**30	CNPH*3017A**+TDR		28,000	12.0	14.0
3630494	24ABC630A**30	CNPH*3117A**	58CV(A,X)070-12	28,400	13.0	16.0
3630550	24ABC630A**30	CNPH*3117A**	58CV(A,X)090-16	28,400	13.0	16.0
3630609	24ABC630A**30	CNPH*3117A**	58CV(A,X)110-20	28,400	13.0	16.0
3630674	24ABC630A**30	CNPH*3117A**	58CV(A,X)135-22	28,400	13.0	16.0
3630725	24ABC630A**30	CNPH*3117A**	58CV(A,X)155-22	28,400	13.0	16.0
3630836	24ABC630A**30	CNPH*3117A**	58ME(B,C)040-12	28,800	13.0	16.0
3630902	24ABC630A**30	CNPH*3117A**	58ME(B,C)060-12	28,800	13.0	16.0
3630964	24ABC630A**30	CNPH*3117A**	58ME(B,C)080-12	28,800	13.0	16.0
3631011	24ABC630A**30	CNPH*3117A**	58ME(B,C)080-16	29,000	13.0	16.0
3631166	24ABC630A**30	CNPH*3117A**	58MV(B,C)060-14	28,600	13.0	16.0
3631218	24ABC630A**30	CNPH*3117A**	58MV(B,C)080-14	28,200	13.0	16.0
3631269	24ABC630A**30	CNPH*3117A**	58MV(B,C)080-20	28,400	13.0	16.0
3631333	24ABC630A**30	CNPH*3117A**	58MV(B,C)100-20	28,200	13.0	16.0
3631391	24ABC630A**30	CNPH*3117A**	58MV(B,C)120-20	28,400	13.0	16.0
3631439	24ABC630A**30	CNPH*3117A**	58MVB040-14	28,400	13.0	16.0
3631514	24ABC630A**30	CNPH*3117A**	58PH*070-16	28,600	13.0	16.0
3631556	24ABC630A**30	CNPH*3117A**	58PH*090-16	28,600	13.0	16.0
3632297	24ABC630A**30	CNPH*3117A**+TDR		28,600	12.0	14.5
3630495	24ABC630A**30	CNPH*3617A**	58CV(A,X)070-12	27,800	12.5	15.5
3630551	24ABC630A**30	CNPH*3617A**	58CV(A,X)090-16	27,800	13.0	15.5
3630610	24ABC630A**30	CNPH*3617A**	58CV(A,X)110-20	27,800	13.0	15.5
3630675	24ABC630A**30	CNPH*3617A**	58CV(A,X)135-22	27,800	13.0	16.0
3630726	24ABC630A**30	CNPH*3617A**	58CV(A,X)155-22	27,800	13.0	16.0
3630837	24ABC630A**30	CNPH*3617A**	58ME(B,C)040-12	28,200	13.0	16.0
3630903	24ABC630A**30	CNPH*3617A**	58ME(B,C)060-12	28,200	13.0	15.5
3630965	24ABC630A**30	CNPH*3617A**	58ME(B,C)080-12	28,000	13.0	16.0
3631012	24ABC630A**30	CNPH*3617A**	58ME(B,C)080-16	28,200	13.0	15.5
3631167	24ABC630A**30	CNPH*3617A**	58MV(B,C)060-14	28,000	13.0	15.5
3631219	24ABC630A**30	CNPH*3617A**	58MV(B,C)080-14	27,600	12.5	15.5
3631270	24ABC630A**30	CNPH*3617A**	58MV(B,C)080-20	27,800	12.5	15.5
3631334	24ABC630A**30	CNPH*3617A**	58MV(B,C)100-20	27,600	12.5	15.5
3631392	24ABC630A**30	CNPH*3617A**	58MV(B,C)120-20	27,800	13.0	16.0
3631440	24ABC630A**30	CNPH*3617A**	58MVB040-14	27,800	12.5	15.5
3631515	24ABC630A**30	CNPH*3617A**	58PH*070-16	28,000	12.5	15.0
3631557	24ABC630A**30	CNPH*3617A**	58PH*090-16	28,000	12.5	15.5
3644971	24ABC630A**30	CNPH*3617A**	58VLR105-12	28,000	13.0	15.5
3644970	24ABC630A**30	CNPH*3617A**	58VLR105-12	27,600	13.0	15.5
3631788	24ABC630A**30	CNPH*3617A**+TDR		28,000	12.0	14.0
3630496	24ABC630A**30	CNPH*4221A**	58CV(A,X)070-12	28,000	13.0	15.5
3630552	24ABC630A**30	CNPH*4221A**	58CV(A,X)090-16	28,000	13.0	16.0
3630611	24ABC630A**30	CNPH*4221A**	58CV(A,X)110-20	28,200	13.0	16.0
3630676	24ABC630A**30	CNPH*4221A**	58CV(A,X)135-22	28,200	13.0	16.0
3630727	24ABC630A**30	CNPH*4221A**	58CV(A,X)155-22	28,200	13.0	16.0
3630838	24ABC630A**30	CNPH*4221A**	58ME(B,C)040-12	28,400	13.0	16.0
3630904	24ABC630A**30	CNPH*4221A**	58ME(B,C)060-12	28,400	13.0	16.0
3630966	24ABC630A**30	CNPH*4221A**	58ME(B,C)080-12	28,400	13.0	16.0
3631013	24ABC630A**30	CNPH*4221A**	58ME(B,C)080-16	28,600	13.0	16.0
3631168	24ABC630A**30	CNPH*4221A**	58MV(B,C)060-14	28,200	13.0	16.0
3631220	24ABC630A**30	CNPH*4221A**	58MV(B,C)080-14	28,000	13.0	15.5
3631271	24ABC630A**30	CNPH*4221A**	58MV(B,C)080-20	28,000	13.0	16.0
3631335	24ABC630A**30	CNPH*4221A**	58MV(B,C)100-20	27,800	13.0	15.5
3631393	24ABC630A**30	CNPH*4221A**	58MV(B,C)120-20	28,200	13.0	16.0
3631441	24ABC630A**30	CNPH*4221A**	58MVB040-14	28,000	13.0	15.5
3631516	24ABC630A**30	CNPH*4221A**	58PH*070-16	28,200	12.5	15.5

See notes on page 42

24ABC6

COMBINATION RATINGS

24ABC6

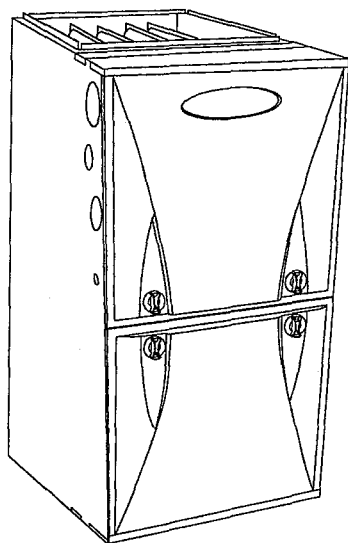
AHRI Ref. No.	Model Number	Indoor Model	Furnace Model	Capacity	EER	SEER
3631558	24ABC630A**30	CNPH*4221A**	58PH*090-16	28,400	13.0	16.0
3644973	24ABC630A**30	CNPH*4221A**	58VLR105-12	28,200	13.0	15.5
3644972	24ABC630A**30	CNPH*4221A**	58VMR105-12	27,800	13.0	15.5
3631789	24ABC630A**30	CNPH*4221A**+TDR		28,200	11.5	14.0
3630489	24ABC630A**30	CNPV*3014A**	58CV(A,X)070-12	27,800	12.5	15.0
3631781	24ABC630A**30	CNPV*3014A**+TDR		28,000	12.0	14.0
3630490	24ABC630A**30	CNPV*3017A**	58CV(A,X)070-12	27,800	12.5	15.5
3630544	24ABC630A**30	CNPV*3017A**	58CV(A,X)090-16	27,800	13.0	15.5
3630830	24ABC630A**30	CNPV*3017A**	58ME(B,C)040-12	28,200	13.0	16.0
3630896	24ABC630A**30	CNPV*3017A**	58ME(B,C)060-12	28,200	13.0	15.5
3630958	24ABC630A**30	CNPV*3017A**	58ME(B,C)080-12	28,000	13.0	16.0
3631005	24ABC630A**30	CNPV*3017A**	58ME(B,C)080-16	28,200	13.0	15.5
3631160	24ABC630A**30	CNPV*3017A**	58MV(B,C)060-14	28,000	13.0	15.5
3631508	24ABC630A**30	CNPV*3017A**	58PH*070-16	28,000	12.5	15.0
3631950	24ABC630A**30	CNPV*3017A**	58UVB060-14	28,000	13.0	15.5
3644957	24ABC630A**30	CNPV*3017A**	58VLR105-12	28,000	13.0	15.5
3644956	24ABC630A**30	CNPV*3017A**	58VMR105-12	27,600	13.0	15.5
3631782	24ABC630A**30	CNPV*3017A**+TDR		28,000	12.0	14.0
3630484	24ABC630A**30	CNPV*3117A**	58CV(A,X)070-12	28,400	13.0	16.0
3630539	24ABC630A**30	CNPV*3117A**	58CV(A,X)090-16	28,400	13.0	16.0
3630825	24ABC630A**30	CNPV*3117A**	58ME(B,C)040-12	28,800	13.0	16.0
3630891	24ABC630A**30	CNPV*3117A**	58ME(B,C)060-12	28,800	13.0	16.0
3630953	24ABC630A**30	CNPV*3117A**	58ME(B,C)080-12	28,800	13.0	16.0
3631000	24ABC630A**30	CNPV*3117A**	58ME(B,C)080-16	29,000	13.0	16.0
3631155	24ABC630A**30	CNPV*3117A**	58MV(B,C)060-14	28,600	13.0	16.0
3631503	24ABC630A**30	CNPV*3117A**	58PH*070-16	28,600	13.0	16.0
3631945	24ABC630A**30	CNPV*3117A**	58UVB060-14	28,600	13.0	16.0
3644959	24ABC630A**30	CNPV*3117A**	58VLR105-12	28,600	13.0	16.0
3644958	24ABC630A**30	CNPV*3117A**	58VMR105-12	28,200	13.0	16.0
3630491	24ABC630A**30	CNPV*3617A**	58CV(A,X)070-12	27,800	12.5	15.5
3630545	24ABC630A**30	CNPV*3617A**	58CV(A,X)090-16	27,800	13.0	15.5
3630831	24ABC630A**30	CNPV*3617A**	58ME(B,C)040-12	28,200	13.0	16.0
3630897	24ABC630A**30	CNPV*3617A**	58ME(B,C)060-12	28,200	13.0	15.5
3630959	24ABC630A**30	CNPV*3617A**	58ME(B,C)080-12	28,000	13.0	16.0
3631006	24ABC630A**30	CNPV*3617A**	58ME(B,C)080-16	28,200	13.0	15.5
3631161	24ABC630A**30	CNPV*3617A**	58MV(B,C)060-14	28,000	13.0	15.5
3631509	24ABC630A**30	CNPV*3617A**	58PH*070-16	28,000	12.5	15.0
3631951	24ABC630A**30	CNPV*3617A**	58UVB060-14	28,000	13.0	15.5
3644961	24ABC630A**30	CNPV*3617A**	58VLR105-12	28,000	13.0	15.5
3644960	24ABC630A**30	CNPV*3617A**	58VMR105-12	27,600	13.0	15.5
3631783	24ABC630A**30	CNPV*3617A**+TDR		28,000	12.0	14.0
3630546	24ABC630A**30	CNPV*3621A**	58CV(A,X)090-16	27,800	13.0	16.0
3630606	24ABC630A**30	CNPV*3621A**	58CV(A,X)110-20	27,800	13.0	15.5
3630832	24ABC630A**30	CNPV*3621A**	58ME(B,C)040-12	28,200	13.0	16.0
3630898	24ABC630A**30	CNPV*3621A**	58ME(B,C)060-12	28,200	13.0	15.5
3630960	24ABC630A**30	CNPV*3621A**	58ME(B,C)080-12	28,000	13.0	16.0
3631007	24ABC630A**30	CNPV*3621A**	58ME(B,C)080-16	28,200	13.0	15.5
3631162	24ABC630A**30	CNPV*3621A**	58MV(B,C)060-14	28,000	13.0	15.5
3631215	24ABC630A**30	CNPV*3621A**	58MV(B,C)080-14	27,600	12.5	15.5
3631266	24ABC630A**30	CNPV*3621A**	58MV(B,C)080-20	27,800	12.5	15.5
3631330	24ABC630A**30	CNPV*3621A**	58MV(B,C)100-20	27,600	12.5	15.5
3631510	24ABC630A**30	CNPV*3621A**	58PH*070-16	28,000	12.5	15.0
3631553	24ABC630A**30	CNPV*3621A**	58PH*090-16	28,000	12.5	15.5
3631952	24ABC630A**30	CNPV*3621A**	58UVB060-14	28,000	13.0	15.5
3632005	24ABC630A**30	CNPV*3621A**	58UVB080-14	27,600	12.5	15.5
3632057	24ABC630A**30	CNPV*3621A**	58UVB080-20	27,800	12.5	15.5
3632121	24ABC630A**30	CNPV*3621A**	58UVB100-20	27,600	12.5	15.5
3644963	24ABC630A**30	CNPV*3621A**	58VLR105-12	28,000	13.0	15.5
3644962	24ABC630A**30	CNPV*3621A**	58VMR105-12	27,600	13.0	15.5
3631784	24ABC630A**30	CNPV*3621A**+TDR		28,000	12.0	14.0
3630492	24ABC630A**30	CNPV*4217A**	58CV(A,X)070-12	28,200	13.0	16.0
3630547	24ABC630A**30	CNPV*4217A**	58CV(A,X)090-16	28,200	13.0	16.0
3630833	24ABC630A**30	CNPV*4217A**	58ME(B,C)040-12	28,600	13.0	16.0
3630899	24ABC630A**30	CNPV*4217A**	58ME(B,C)060-12	28,600	13.0	16.0
3630961	24ABC630A**30	CNPV*4217A**	58ME(B,C)080-12	28,600	13.0	16.0
3631008	24ABC630A**30	CNPV*4217A**	58ME(B,C)080-16	28,800	13.0	16.0
3631163	24ABC630A**30	CNPV*4217A**	58MV(B,C)060-14	28,400	13.0	16.0
3631511	24ABC630A**30	CNPV*4217A**	58PH*070-16	28,400	13.0	15.5
3631953	24ABC630A**30	CNPV*4217A**	58UVB060-14	28,400	13.0	16.0
3644965	24ABC630A**30	CNPV*4217A**	58VLR105-12	28,400	13.0	16.0
3644964	24ABC630A**30	CNPV*4217A**	58VMR105-12	28,000	13.0	16.0
3631785	24ABC630A**30	CNPV*4217A**+TDR		28,400	11.5	14.0
3630548	24ABC630A**30	CNPV*4221A**	58CV(A,X)090-16	28,000	13.0	16.0

See notes on page 42

59SP5A
Performance™ Boost, Single-Stage
4-Way Multipoise
Condensing Gas Furnace
Series 120



Product Data



A11263

The 59SP5A Multipoise Performance™ Boost Condensing Gas Furnace features SEER-boosting year-round electrical efficiency when paired with a compatible condensing unit. Energy efficiency is at the heart of this furnace with up to 96.5% AFUE gas efficiency and the electrically-efficient basic ECM blower motor. This gas furnace also features 4-way multipoise installation flexibility, and is available in six model sizes. The 59SP5A can be vented for direct vent/two-pipe, ventilated combustion air, or single-pipe applications. All units meet California Air Quality Management District emission requirements, are design certified in Canada, and are certified for mobile/manufactured home use.

STANDARD FEATURES

- Quiet operation. Compare for yourself at HVACpartners.com.
- Most sizes meet ENERGY STAR® Version 4.0 criteria for gas furnaces: 95+ AFUE; AMACF electrical rating; 2% or less cabinet airflow leakage. *See table on Page 2.*
- High-efficiency basic ECM multiple-speed blower motor for electrically efficient operation all year long in heating, cooling and continuous fan operation.

- Humidistat™ Control compatible; dehumidification input for better comfort.
- SmartEvap™ technology helps control humidity levels in the home when used with a compatible humidity control system.
- ComfortFan™ technology allows control of continuous fan speed from a compatible thermostat.
- Ideal height 35" (889 mm) cabinet: short enough for taller coils, but still allows enough room for service.
- Silicon Nitride Power Heat™ Hot Surface Igniter.
- External Media Filter Cabinet included.
- 4-way multipoise design for upflow, downflow or horizontal installation, with unique vent elbow and optional venting through-the-cabinet downflow venting capability.
- Single-speed inducer motor, and single-stage gas valve.
- Self diagnostics with SuperBrite LED.
- Approved for Twinning applications with accessory kit (60-14 through 120-22 models, only).
- Approved for Manufactured Housing/Mobile Home applications with MH accessory kit.
- Adjustable blower speed for heating, cooling and continuous fan
- Aluminized-steel primary heat exchanger.
- Stainless-steel condensing secondary heat exchanger.
- Propane convertible (see Accessory list).
- Factory-configured ready for upflow applications.
- Fully-insulated casing including blower section.
- Convenient Air Purifier and Humidifier connections.
- Direct-vent/sealed combustion, single-pipe venting or ventilated combustion air.
- Installation flexibility: (sidewall or vertical vent).
- Residential installations may be eligible for consumer financing through the Retail Credit Program.
- Certified to leak 2% or less of nominal air conditioning CFM delivered when pressurized to 1-in. water column with all present air inlets, air outlets, and condensate drain port(s) sealed.

Performance
SERIES



Select Models



SAP ORDERING NO.	CASING DIMENSIONS (IN.)			RATED HEATING OUTPUT†			HEATING AIRFLOW		COOLING CFM @ 0.5 ESP (in. W.C.)	MOTOR HP SPEED	MEDIA CABINET SUPPLIED (#)
	H	D	W	BTUH	AFUE	ENERGY STAR	HEATING CFM	HEATING ESP (in. W.C.)			
59SP5A040E14-10	35	29.5	14.2	39,000	96.5%	✓	695	0.1	925	1/2 - 5	16
59SP5A040E17-12	35	29.5	17.5	39,000	96.5%	✓	705	0.1	1085	1/2 - 5	16
59SP5A060E14-12	35	29.5	14.2	58,000	95.5%	✓	940	0.12	1090	1/2 - 5	16
59SP5A060E17-14	35	29.5	17.5	58,000	96.5%	✓	1000	0.12	1505	3/4 - 5	16
59SP5A080E17-16	35	29.5	17.5	78,000	96.5%	✓	1360	0.15	1610	3/4 - 5	16
59SP5A080E21-20	35	29.5	21.0	78,000	96.5%	✓	1360	0.15	2015	1 - 5	20
59SP5A100E21-20	35	29.5	21.0	97,000	96.3%	-	1700	0.2	2110	1 - 5	20
59SP5A120E24-22	35	29.5	24.0	117,000	96.5%	-	2125	0.2	2055	1 - 5	24

† Capacity in accordance with DOE test procedures. Ratings are position dependent. See rating plate.

‡ Heating CFM at factory default blower motor heating tap settings.

ESP — External Static Pressure

✓ Meets ENERGY STAR criteria

FEATURES AND BENEFITS

SmartEvap™ Technology — When paired with a compatible thermostat, this dehumidification feature overrides the cooling blower off-delay when there is a call for dehumidification. By deactivating the blower off-delay, SmartEvap technology prevents condensate that remains on the coil after a dehumidification cycle from re-humidifying throughout the home. This results in reduced humidity and a more comfortable indoor environment for the homeowner.

Unlike competitive systems, SmartEvap technology only overrides the cooling blower off-delay when humidity control is needed. Once humidity is back in control, SmartEvap re-enables the energy-saving cooling blower off-delay.

ComfortFan™ Technology — Sometimes the constant fan setting on a standard furnace system can actually reduce homeowner comfort by providing too much or too little air! Comfort Fan technology improves comfort all year long by allowing the homeowner to select the continuous fan speed of their choice using a compatible thermostat.

HYBRID HEAT® Dual Fuel System — This system can provide more control over your monthly energy bills by automatically selecting the most economical method of heating. With HYBRID HEAT components, our system automatically switches between the gas furnace and the electric heat pump as outside temperatures change to maintain greater efficiency and comfort than with any traditional single-source heating system. The heat pump also delivers high-efficiency cooling in the summer.

Power Heat™ Igniter — Carrier's unique SiN igniter is not only physically robust but it is also electrically robust. It is capable of running at line voltage and does not require complex voltage regulators as do other brands. This unique feature further enhances the gas furnace reliability and continues Carrier's tradition of technology leadership and innovation in providing a reliable and durable product.

Performance™ ECM Blower Motor — This basic ECM, or electronically commutated motor, can provide an efficiency enhancement for select Carrier air conditioner or heat pump systems. It uses less electrical power than its PSC counterpart and also has a wider range of speeds.

Reliable Heat Exchanger Design — The aluminized steel, clam shell primary heat exchanger was re-engineered to achieve greater efficiency out of a smaller size. The first two passes of the heat exchanger are based on the current 80% product, a design with more than ten years of field-proven performance and success. These innovations, paired with the continuation of a crimped, no-weld seam create an efficient, robust design for this essential component.

The condensing heat exchanger, a stainless steel fin and tube design, is positioned in the furnace to extract additional heat. Stainless steel coupling box componentry between heat exchangers has exceptional corrosion resistance in both natural gas and propane applications.

Media Filter Cabinet — Enhanced indoor air quality in the home is made easier with our media filter cabinet—a standard accessory on all deluxe furnaces. When installed as a part of the system, this cabinet allows for easy and convenient addition of a Carrier high efficiency air filter.

4-Way Multipoise Design — One model for all applications — there is no need to stock special downflow or horizontal models when one unit will do it all. The new heat exchanger design allows these units to achieve the certified AFUE in all positions.

Direct or Single-pipe Venting, or Optional Ventilated Combustion Air — This furnace can be installed as a 2-pipe (Direct Vent) furnace, in an optional ventilated combustion air application, or in single-pipe, non-direct vent applications. This provides added flexibility to meet diverse installation needs.

Sealed Combustion System — This furnace brings in combustion air from outside the furnace, which results in especially quiet operation. By sealing the entire combustion vestibule, the entire furnace can be made quieter, not just the burners.

Insulated Casing — Foil-faced insulation in the heat exchanger section of the casing minimizes heat loss. The acoustical insulation in the blower compartment reduces air and motor noise for quiet operation.

Monoport Burners — The burners are specially designed and finely tuned for smooth, quiet combustion and economical operation.

Bottom Closure — Factory-installed for side return; easily removable for bottom return. The multi-use bottom closure can also serve for roll-out protection in horizontal applications, and act as the bottom closure for the optional return air base accessory.

Blower Access Panel Switch — Automatically shuts off 115-v power to furnace whenever blower access panel is opened.

Quality Registration — Our furnaces are engineered and manufactured under an ISO 9001 registered quality system.

Certifications — This furnace is CSA (AGA and CGA) design certified for use with natural and propane gases. The furnace is factory-shipped for use with natural gas. A CSA listed gas conversion kit is required to convert furnace for use with propane gas. The efficiency is AHRI efficiency rating certified. This furnace meets California Air Quality Management District emission requirements.

SPECIFICATIONS

Heating Capacity and Efficiency		040-10	040-12	060-12	060-14	080-16	080-20	100-20	120-22
Input	High Heat (BTUH)	40,000	40,000	60,000	60,000	80,000	80,000	100,000	120,000
Output	High Heat (BTUH)	39,000	39,000	58,000	58,000	78,000	78,000	97,000	117,000
Certified Temperature Rise Range °F (°C)	High Heat	40 - 70 (22 - 39)	40 - 70 (22 - 39)	45 - 75 (25 - 42)	40 - 70 (22 - 39)	40 - 70 (22 - 39)	40 - 70 (22 - 39)	40 - 70 (22 - 39)	40 - 70 (22 - 39)
Airflow Capacity and Blower Data		040-10	040-12	060-12	060-14	080-16	080-20	100-20	120-22
Rated External Static Pressure (in. w.c.)	Heating	0.10	0.10	0.12	0.12	0.15	0.15	0.20	0.20
	Cooling	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Airflow Delivery @ Rated ESP (CFM)	High Heat	695	705	940	1000	1360	1360	1700	2125
	Cooling	925	1085	1090	1505	1610	2015	2110	2055
Cooling Capacity (tons) @ 400, 350 CFM/ton	CFM/ton	2	2.5	2.5	3.5	4	5	5	5
	CFM/ton	2.5	3	3	4	4.5	5.5	6	6
Direct-Drive Motor Type		Electronically Commutated Motor (ECM)							
Direct-Drive Motor HP		1/2	1/2	1/2	3/4	3/4	1	1	1
Motor Full Load Amps		6.8	6.8	6.8	9.9	9.3	12.3	12.6	11.1
RPM Range		600 - 1200							
Speed Selections		5							
Blower Wheel Dia x Width		in. 11 x 7	11 x 8	11 x 7	11 x 8	11 x 8	11 x 10	11 x 10	11 x 11
Air Filtration System		Factory Supplied Media Cabinet Field Supplied Filter							
Filter Used for Certified Watt Data		KGAWF1506UFR							
Electrical Data		040-10	040-12	060-12	060-14	080-16	080-20	100-20	120-22
Input Voltage		Volts-Hertz-Phase 115-60-1							
Operating Voltage Range		Min-Max 104-127							
Maximum Input Amps		Amps 7.4	7.4	7.5	10.6	10.0	13.0	13.4	11.9
Unit Ampacity		Amps 10.3	10.3	10.4	14.2	13.5	17.2	17.7	15.8
Minimum Wire Size		AWG 14	14	14	14	14	12	12	12
Maximum Wire Length @ Minimum Wire Size	Feet	36	36	35	26	27	33	32	36
	(M)	(11.0)	(11.0)	(10.7)	(7.9)	(8.2)	(10.1)	(9.8)	(11.0)
Maximum Fuse/Ckt Bkr (Time-Delay Type Recommended)		Amps 15	15	15	15	15	20	20	20
Transformer Capacity (24vac output)		40 VA							
External Control Power Available	Heating	27.9 VA							
	Cooling	34.6 VA							
Controls		040-10	040-12	060-12	060-14	080-16	080-20	100-20	120-22
Gas Connection Size		1/2" - NPT							
Burners (Monoport)		2	2	3	3	4	4	5	6
Gas Valve (Redundant)		Manufacturer White Rodgers							
Minimum Inlet Gas pressure (in. wc)		4.5							
Maximum Inlet Gas pressure (in. wc)		13.6							
Gas Conversion Kit - Natural to Propane		KGBNP50011SP							
Gas Conversion Kit - Propane to Natural		KGBPN42011SP							
Manufactured (Mobile) Home Kit		KGBMH0601KIT							
Ignition Device		Silicon Nitride							
Limit Control		165	180	165	180	170	200	180	160
Heating Blower Control (Heating Off-Delay)		Adjustable: 90, 120, 150, 180 seconds							
Cooling Blower Control (Time Delay Relay)		90 seconds							
Communication System		none							
Thermostat Connections		Com 24V, R, W, G, Y/Y2, DHUM, Y1							
Accessory Connections		EAC (115vac); HUM (24vac); 1-stg AC (via Y/Y2)							

* See Accessory List for part numbers available.

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MODEL NUMBER NOMENCLATURE

Example of Model Number

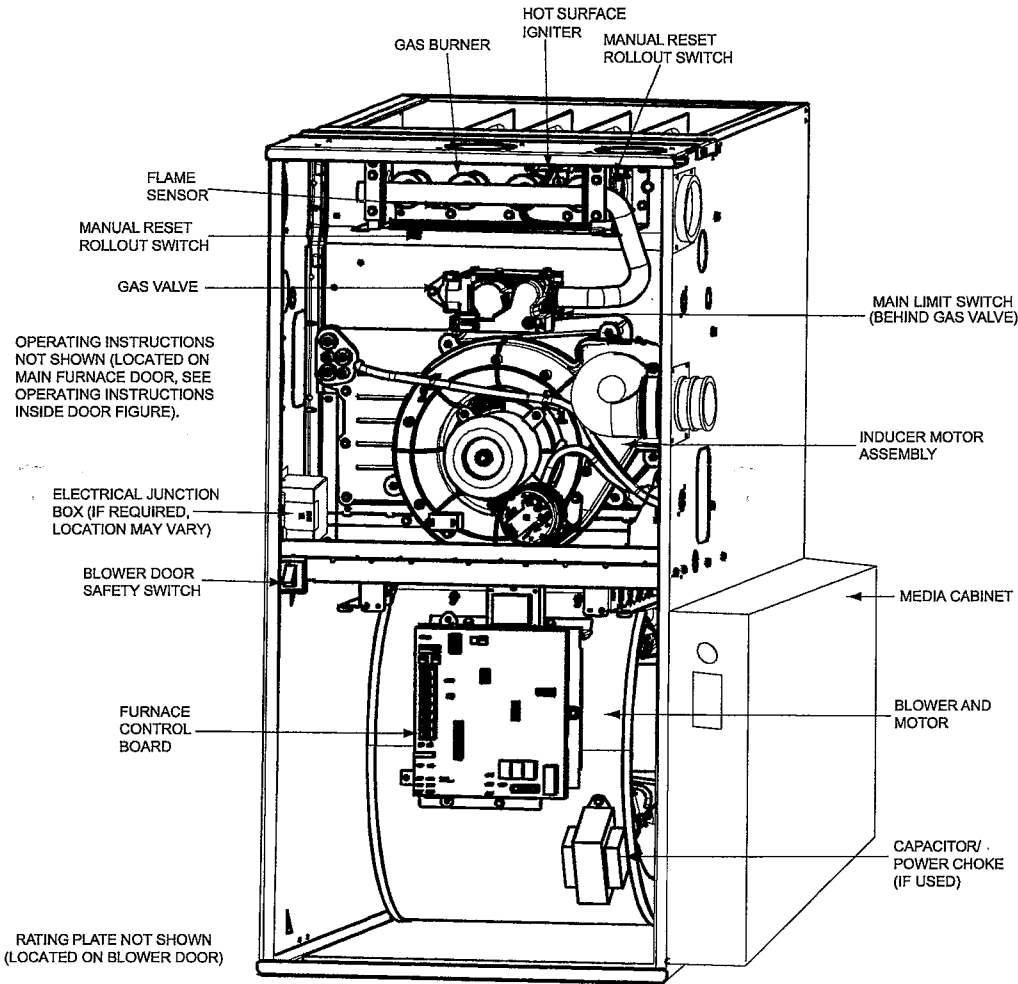
1 - 2	3	4	5	6	7 - 9	10	11 - 12	13	14	15 - 16
Family	Htg. Stages	Tier	Base Effy.	Major Series	Htg. Cap.	Motor	Width	Voltage	Minor Series	Airflow
59	T	N	6	A	060	V	17	-	--	14
Family	S - Single Stage T - Two Stage M - Modulating	C - Comfort P - Performance N - Infinity	0 - +90 AFUE 2 - +92 AFUE 3 - +93 AFUE 5 - +95 AFUE 6 - +96 AFUE 7 - +97 AFUE	Major Series	040=40,000 BTU 060=60,000 BTU 080=80,000 BTU 100=100,000 BTU 120=120,000 BTU 140=140,000 BTU	S - Standard E - Energy Efficient V - Variable Speed	14 - 14.2" 17 - 17.5" 21 - 21.0" 24 - 24.5"	Voltage	Minor Series	08 - 800 CFM 10 - 1000 CFM 12 - 1200 CFM 14 - 1400 CFM 16 - 1600 CFM 18 - 1800 CFM 20 - 2000 CFM 22 - 2200 CFM

Not all families have these models.

A12373

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FURNACE COMPONENTS



REPRESENTATIVE DRAWING ONLY, SOME MODELS MAY VARY IN APPEARANCE.

A11408

ACCESSORIES

DESCRIPTION	PART NUMBER	040-10	080-12	040-12	060-14	080-16	080-20	100-20	120-22
Venting Accessories									
Vent Kit - Through the Cabinet	KGADC0101BVC	•	•	•	•	•	•	•	•
Vent Terminal - Concentric - 2" (51 mm)	KGAVT0701CVT	See Venting Tables							
Vent Terminal - Concentric - 3" (76 mm)	KGAVT0801CVT								
Vent Terminal Bracket - 2" (51 mm)	KGAVT0101BRA								
Vent Terminal Bracket - 3" (76 mm)	KGAVT0201BRA								
Vent Kit -- Rubber Coupling	KGAAC0101RVC	See Venting Tables							
Condensate Drainage Accessories									
Freeze Protect Kit - Heat Tape	KGAHT0101CFP	•	•	•	•	•	•	•	•
CPVC to PVC Drain Adapters - 1/2" CPVC to 3/4" PVC	KGAAD0110PVC	•	•	•	•	•	•	•	•
Horizontal Trap Grommet - Direct Vent	KGACK0101HCK	All DV Horizontal							
Condensate Neutralizer Kit	P908-0001	•	•	•	•	•	•	•	•
External Trap Kit	KGAET0201ETK	•	•	•	•	•	•	•	•
Ductwork Adapter Accessories									
Furnace Base Kit for Combustible Floors	KGASB0201ALL	•	•	•	•	•	•	•	•
Coil Adapter Kits -- No Offset	KGADA0101ALL	•	•	•	•	•	•	•	•
Coil Adapter Kits -- Single Offset	KGADA0201ALL	•	•	•	•	•	•	•	•
Coil Adapter Kits -- Double Offset	KGADA0301ALL	•	•	•	•	•	•	•	•
Return Air Base (Upflow Applications) 14.0-in. wide	KGARP0301B14	•	•						
Return Air Base (Upflow Applications) 17.5-in. wide	KGARP0301B17			•	•	•			
Return Air Base (Upflow Applications) 21.0-in. wide	KGARP0301B21						•	•	
Return Air Base (Upflow Applications) 24.5-in. wide	KGARP0301B24								•
IAQ Device Duct Adapters 20.0-in. IAQ to 16 in. Side Return	KGAAD0101MEC	20"x25" IAQ Devices							
IAQ Device Duct Adapters 24.0-in. IAQ to 16 in. Side Return	KGAAD0201MEC	24"x25" IAQ Devices							
Gas Conversion Accessories									
Mobile Home Kit	KGBMH0601KIT	•	•	•	•	•	•	•	•
Gas Conversion Kit - Nat to LP	KGBNP50011SP	•	•	•	•	•	•	•	•
Gas Conversion Kit - LP to Nat	KGBPN42011SP	•	•	•	•	•	•	•	•
Gas Orifice Kit - #42 (Nat Gas)	LH32DB207	•	•	•	•	•	•	•	•
Gas Orifice Kit - #43 (Nat Gas)	LH32DB202	•	•	•	•	•	•	•	•
Gas Orifice Kit - #44 (Nat Gas)	LH32DB200	•	•	•	•	•	•	•	•
Gas Orifice Kit - #45 (Nat Gas)	LH32DB205	•	•	•	•	•	•	•	•
Gas Orifice Kit - #46 (Nat Gas)	LH32DB208	•	•	•	•	•	•	•	•
Gas Orifice Kit - #47 (Nat Gas)	LH32DB078	•	•	•	•	•	•	•	•
Gas Orifice Kit - #48 (Nat Gas)	LH32DB076	•	•	•	•	•	•	•	•
Gas Orifice Kit - #54 (LP)	LH32DB203	•	•	•	•	•	•	•	•
Gas Orifice Kit - #55 (LP)	LH32DB201	•	•	•	•	•	•	•	•
Gas Orifice Kit - #56 (LP)	LH32DB206	•	•	•	•	•	•	•	•
Gas Orifice Kit - 1.25mm (LP)	LH32DB209	•	•	•	•	•	•	•	•
Gas Orifice Kit - 1.30mm (LP)	LH32DB210	•	•	•	•	•	•	•	•
Control Accessories									
Twinning Kit	KGATW0701HSI				•	•	•	•	•
IAQ Accessories									
Filter Pack (6 pack) -- Washable - 16x25x1 (406x635x25 mm)	KGAWF1306UFR	•	•	•	•	•	•	•	•
Filter Pack (6 pack) -- Washable - 24x25x1 (610x635x25 mm)	KGAWF1506UFR	•	•	•	•	•	•	•	•
EZ-Flex Filter - 16" (406 mm)	EXPXXFIL0016	Use with EZXCAB--1016							
EZ-Flex Filter - 20" (508 mm)	EXPXXFIL0020	Use with EZXCAB--1020							
EZ-Flex Filter - 24" (610 mm)	EXPXXFIL0024	Use with EZXCAB--1024							
EZ-Flex Filter with End Caps - 16" (406 mm)	EXPXXUNV0016	Use with EZXCAB--1016							
EZ-Flex Filter with End Caps - 20" (508 mm)	EXPXXUNV0020	Use with EZXCAB--1020							
EZ-Flex Filter with End Caps - 24" (610 mm)	EXPXXUNV0024	Use with EZXCAB--1024							
Cartridge Media Filter - 16" (406 mm)	FILXXCAR0016	Use with FILCABXL--1016							
Cartridge Media Filter - 20" (508 mm)	FILXXCAR0020	Use with FILCABXL--1020							
Cartridge Media Filter - 24" (610 mm)	FILXXCAR0024	Use with FILCABXL--1024							
Carrier Performance Air Purifier - 16x25 (508x635 mm)	PGAPXX1625	Up to 1600 CFM							
Carrier Performance Air Purifier - 20x25 (508x635 mm)	PGAPXX2025	Up to 2000 CFM							
Carrier Performance Air Purifier Repl Filter - 16x25 (406x635 mm)	PGAPAXXCAR1625	GAPAAXCC1625							
Carrier Performance Air Purifier Repl. Filter - 20x25 (508x635 mm)	PGAPAXXCAR2025	GAPAAXCC2025							

• = Used with the model furnace

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AIR DELIVERY - CFM (BOTTOM RETURN WITH FILTER)

UNIT SIZE	RETURN-AIR CONNECTION	SPEED TAPS ^{2, 3}	EXTERNAL STATIC PRESSURE (IN.W.C.)									
			0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
040-10	SIDE/BOTTOM	Gray	1120	1080	1030	980	925	875	820	760	690	630
		Yellow	880	845	810	780	740	710	680	640	615	570
		Blue	695	665	620	575	535	495	455	420	370	280
		Orange	640	595	540	495	460	420	370	310	260	230
		Red	570	525	475	425	385	330	255	220	- ⁶	- ⁶
040-12	SIDE/BOTTOM	Gray	1255	1220	1175	1130	1085	1040	990	940	880	825
		Yellow	940	905	870	840	805	770	735	695	665	630
		Blue	705	670	630	575	540	500	455	410	380	325
		Orange	580	535	480	425	380	335	290	235	- ⁶	- ⁶
		Red	555	485	425	375	330	280	215	- ⁶	- ⁶	- ⁶
060-12	SIDE/BOTTOM	Gray	1265	1225	1185	1140	1090	1030	975	920	850	760
		Yellow	1115	1085	1060	1030	1000	970	930	880	810	715
		Orange	1000	970	940	910	880	845	815	770	735	695
		Blue	945	915	885	855	820	785	745	705	675	635
		Red	770	740	700	660	620	575	540	500	455	415
060-14	SIDE/BOTTOM	Gray	1720	1670	1620	1565	1505	1440	1375	1295	1220	1135
		Yellow	1325	1285	1255	1220	1185	1145	1115	1075	1040	1000
		Blue	1010	970	925	875	835	785	745	690	660	620
		Orange	1160	1115	1080	1045	1000	960	920	875	840	785
		Red	785	715	655	595	530	490	435	385	340	285
080-16	SIDE/BOTTOM	Gray	1810	1770	1720	1665	1610	1540	1475	1400	1315	1235
		Yellow	1535	1500	1475	1435	1405	1370	1340	1310	1245	1160
		Blue	1380	1340	1305	1270	1240	1200	1165	1130	1090	1050
		Orange	1180	1130	1095	1060	1015	975	935	895	850	800
		Red	1100	1045	1010	970	920	885	845	790	745	690
080-20	BOTTOM or TWO-SIDES ^{4, 5}	Gray	2290	2225	2155	2090	2015	1930	1845	1750	1640	1515
		Yellow	1810	1760	1725	1685	1640	1600	1555	1520	1480	1415
		Blue	1385	1340	1285	1240	1200	1140	1090	1050	995	950
		Orange	1560	1520	1475	1430	1385	1335	1295	1240	1200	1150
		Red	1055	985	910	860	795	750	680	615	565	495
100-20	BOTTOM or TWO-SIDES ^{4, 5}	Gray	2340	2295	2250	2195	2110	2030	1935	1835	1725	1605
		Yellow	1950	1900	1855	1800	1755	1705	1655	1605	1560	1485
		Blue	1750	1700	1650	1605	1555	1500	1455	1395	1350	1300
		Orange	1570	1520	1460	1410	1350	1300	1240	1195	1140	1095
		Red	1350	1280	1225	1155	1105	1045	1000	950	895	830
120-22	BOTTOM or TWO-SIDES ^{4, 5}	Gray	2275	2230	2185	2130	2055	1950	1825	1710	1610	1500
		Yellow	1875	1820	1770	1720	1660	1600	1550	1505	1450	1390
		Blue	2170	2125	2075	2025	1975	1900	1790	1695	1590	1470
		Orange ³	1475	1420	1350	1280	1215	1165	1105	1050	995	930
		Red ³	1625	1565	1505	1445	1385	1325	1275	1225	1170	1130

NOTE:

1. A filter is required for each return-air inlet. Airflow performance includes a 3/4-in. (19 mm) washable filter media such as contained in a factory-authorized accessory filter rack. See accessory list. To determine airflow performance without this filter, assume an additional 0.1 in. w.c. available external static pressure.
2. **ADJUST THE BLOWER SPEED TAPS AS NECESSARY FOR THE PROPER AIR TEMPERATURE RISE FOR EACH INSTALLATION.**
3. Shaded areas indicate that this airflow range is **BELOW THE RANGE ALLOWED FOR HEATING OPERATION. THESE AIRFLOW RANGES MAY ONLY BE USED FOR COOLING.**
4. Airflows over 1800 CFM require bottom return, two-side return, or bottom and side return. A minimum filter size of 20" x 25" (508 x 635 mm) is required.
5. For upflow applications, air entering from one side into both the side of the furnace and a return air base counts as a side and bottom return.
6. The "-" entry indicates an unstable operating condition.

MAXIMUM EQUIVALENT VENT LENGTH - FT. (M)

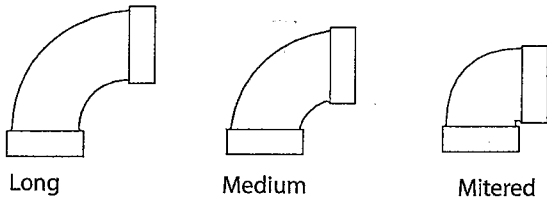
Table 1 – Maximum Equivalent Vent Length - Ft. (M)
0 to 4500 Ft. (0 to 1370 M) Altitude

NOTE: Maximum Equivalent Vent Length (MEVL) includes standard and concentric vent termination and does NOT include elbows. Use Table 2 - Deductions from Maximum Equivalent Vent Length to determine allowable vent length for each application.

Altitude FT (M)	Unit Size BTU/Hr	DIRECT VENT (2-PIPE) AND NON-DIRECT VENT (1-PIPE)									
		Vent Pipe Diameter (in.) ¹									
		1-1/2		2		2-1/2		3		4	
0 to 2000 (0 to 610)	40,000 ³	50	(15.2)	210	(64.0)	250	(76.2)	NA ²		NA	
	60,000	30	(9.1)	135	(41.1)	235	(71.6)	265	(80.8)	NA	
	80,000	20	(6.1)	70	(21.3)	175	(53.3)	235	(71.6)	265	(80.8)
	100,000	NA		25	(7.6)	110	(33.5)	235	(71.6)	265	(80.8)
	120,000	NA		NA		15	(4.6)	100	(30.5)	250	(76.2)
	140,000 ⁴	NA		NA		10	(3.0)	90	(27.4)	210	(64.0)
2001 to 3000 (610 to 914)	40,000	45	(13.7)	198	(60.4)	232	(70.7)	NA		NA	
	60,000	27	(8.2)	127	(38.7)	222	(67.7)	250	(76.2)	NA	
	80,000	17	(5.2)	64	(19.5)	165	(50.3)	222	(67.7)	249	(75.9)
	100,000	NA		22	(6.7)	104	(31.7)	223	(68.0)	250	(76.2)
	120,000	NA		NA		11	(3.4)	93	(28.3)	237	(72.2)
	140,000 ⁴	NA		NA		NA		80	(24.4)	185	(56.4)
3001 to 4000 (914 to 1219)	40,000	39	(11.9)	184	(56.1)	214	(65.2)	NA		NA	
	60,000	23	(7.0)	119	(36.3)	210	(64.0)	235	(71.6)	NA	
	80,000	15	(4.6)	59	(18.0)	155	(47.2)	210	(64.0)	232	(70.7)
	100,000	NA		19	(5.8)	98	(29.9)	211	(64.3)	236	(71.9)
	120,000	NA		NA		8	(2.4)	86	(26.2)	224	(68.3)
	140,000 ⁴	NA		NA		NA		79	(24.1)	158	(48.2)
4001 to 4500 (1219 to 1370)	40,000	36	(11.0)	177	(53.9)	205	(62.5)	NA		NA	
	60,000	21	(6.4)	115	(35.1)	204	(62.2)	228	(69.5)	NA	
	80,000	14	(4.3)	56	(17.1)	150	(45.7)	202	(61.6)	224	(68.3)
	100,000	NA		17	(5.2)	94	(28.7)	205	(62.5)	229	(69.8)
	120,000	NA		NA		NA		83	(25.3)	217	(66.1)
	140,000 ⁴	NA		NA		NA		69	(21.0)	146	(44.5)

NOTES: See notes at end of venting tables.
See Table 3 for altitudes over 4500 ft. (1370 M)

ELBOW CONFIGURATIONS



VENT TERMINAL CONFIGURATIONS

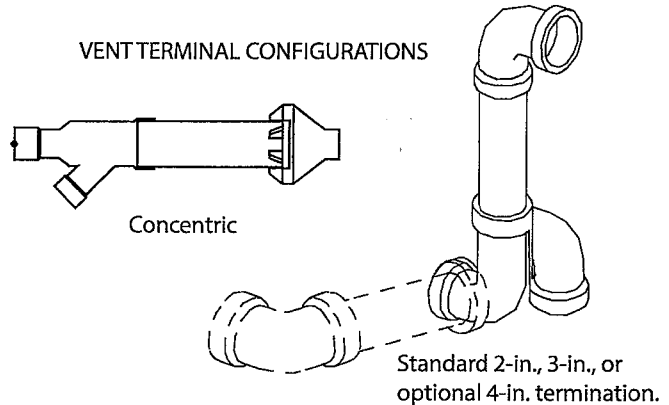


Table 2 – Deductions from Maximum Equivalent Vent Length - Ft. (M)

Pipe Diameter (in):	1-1/2		2		2-1/2		3		4	
Mitered 90° Elbow	8	(2.4)	8	(2.4)	8	(2.4)	8	(2.4)	8	(2.4)
Medium Radius 90° Elbow	5	(1.5)	5	(1.5)	5	(1.5)	5	(1.5)	5	(1.5)
Long Radius 90° Elbow	3	(0.9)	3	(0.9)	3	(0.9)	3	(0.9)	3	(0.9)
Mitered 45° Elbow	4	(1.2)	4	(1.2)	4	(1.2)	4	(1.2)	4	(1.2)
Medium Radius 45° Elbow	2.5	(0.8)	2.5	(0.8)	2.5	(0.8)	2.5	(0.8)	2.5	(0.8)
Long Radius 45° Elbow	1.5	(0.5)	1.5	(0.5)	1.5	(0.5)	1.5	(0.5)	1.5	(0.5)
Tee	16	(4.9)	16	(4.9)	16	(4.9)	16	(4.9)	16	(4.9)
Concentric Vent Termination	NA		0	(0.0)	NA		0	(0.0)	NA	
Standard Vent Termination	0	(0.0)	0	(0.0)	0	(0.0)	0	(0.0)	0	(0.0)

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Venting System Length Calculations

The Total Equivalent Vent Length (TEVL) for **EACH** combustion air or vent pipe equals the length of the venting system, plus the equivalent length of elbows used in the venting system from Table 2.

Standard vent terminations or factory accessory concentric vent terminations count for zero deduction.

See vent system manufacturer's data for equivalent lengths of flexible vent pipe or other termination systems. **DO NOT ASSUME** that one foot of flexible vent pipe equals one foot of straight PVC/ABS DWV vent pipe.

Compare the Total Equivalent Vent Length to the Maximum Equivalent Vent Lengths in Tables 1 and 3.

Example 1

A direct-vent 60,000 Btuh furnace installed at 2100 ft. (640 M). Venting system includes, **FOR EACH PIPE**, 100 feet (30 M) of vent pipe, 95 feet (28 M) of combustion air inlet pipe, (3) 90° long radius elbows, (2) 45° long radius elbows and a factory accessory concentric vent kit.

Can this application use 2-in. (50 mm ND) PVC/ABS DWV vent piping?

Measure the required linear length of air inlet and vent pipe; insert the longest of the two here:	100 ft	Use length of the longer of the vent or air inlet piping system
Add equiv length of (3) 90° long-radius elbows (use the highest number of elbows for either the vent or inlet pipe)	3 x 3 ft = 9 ft.	From Table 2
Add equiv length of (2) 45° long-radius elbows (use the highest number of elbows for either the vent or inlet pipe)	2 x 1.5 ft = 3 ft.	From Table 2
Add equiv length of vent termination	0 ft.	From Table 2
Add correction for flexible vent pipe, if any	0 ft.	From Vent Manufacturer's instructions; zero for PVC/ABS DWV
Total Equivalent Vent Length (TEVL)	112 ft.	Add all of the above lines
Maximum Equivalent Vent Length (MEVL)	127 ft.	For 2" pipe from Table 1
Is TEVL less than MEVL?	YES	Therefore, 2" pipe may be used

Example 2

A direct-vent 60,000 Btuh furnace installed at 2100 ft. (640 M). Venting system includes, **FOR EACH PIPE**, 100 feet (30 M) of vent pipe, 95 feet (28 M) of combustion air inlet pipe, (3) 90° long radius elbows, and a polypropylene concentric vent kit. Also includes 20 feet (6.1 M) of flexible polypropylene vent pipe, included within the 100 feet (30 M) of vent pipe.

Assume that one meter of flexible 60 mm or 80 mm polypropylene pipe equals 1.8 meters of PVC/ABS pipe. **VERIFY FROM VENT MANUFACTURER'S INSTRUCTIONS.**

Can this application use 60 mm (O.D.) polypropylene vent piping? If not what size piping can be used?

Measure the required linear length of air inlet and vent pipe; insert the longest of the two here:	100 ft	Use length of the longer of the vent or air inlet piping system
Add equiv length of (3) 90° long-radius elbows (use the highest number of elbows for either the vent or inlet pipe)	3 x 3 ft = 9 ft.	From Vent Manufacturer's instructions
Add equiv length of (2) 45° long-radius elbows (use the highest number of elbows for either the vent or inlet pipe)	0 x = 0 ft.	From Vent Manufacturer's instructions
Add equiv length of vent termination	9 M x 3 ft/M = 18 ft.	From Vent Manufacturer's instructions
Add correction for flexible vent pipe, if any	1.8 x 20 ft = 36 ft.	From Vent Manufacturer's instructions
Total Equivalent Vent Length (TEVL)	163 ft.	Add all of the above lines
Maximum Equivalent Vent Length (MEVL)	127 ft.	For 2" pipe from Table 1
Is TEVL less than MEVL?	NO	Therefore, 60mm pipe may NOT be used; try 80 mm
Maximum Equivalent Vent Length (MEVL)	250 ft.	For 3" pipe from Table 1
Is TEVL less than MEVL?	YES	Therefore, 80 mm pipe may be used

MAXIMUM EQUIVALENT VENT LENGTH - FT. (M) (CONTINUED)

Table 3 – Maximum Equivalent Vent Length - Ft. (M)

4501 to 10,000 Ft. (0 to 1370 M) Altitude

NOTE: Maximum Equivalent Vent Length (MEVL) includes standard and concentric vent termination and does NOT include elbows.

Use Table 2 - Deductions from Maximum Equivalent Vent Length to determine allowable vent length for each application.

Altitude FT (M) ⁵	Unit Size	DIRECT VENT (2-PIPE) AND SINGLE-PIPE									
		Vent Pipe Diameter (in.) ¹									
		1-1/2		2		2-1/2		3		4	
4501 to 5000 (1370 to 1524)	40,000	33	(10.1)	171	(52.1)	196	(59.7)	NA ²		NA	
	60,000	20	(6.1)	111	(33.8)	198	(60.4)	221	(67.4)	NA	
	80,000	13	(4.0)	54	(16.5)	146	(44.5)	195	(59.4)	216	(65.8)
	100,000	NA		16	(4.9)	91	(27.7)	200	(61.0)	222	(67.7)
	120,000	NA		NA		NA		80	(24.4)	211	(64.3)
	140,000 ⁴	NA		NA		NA		60	(18.3)	134	(40.8)
5001 to 6000 (1524 to 1829)	40,000	27	(8.2)	158	(48.2)	179	(54.6)	NA		NA	
	60,000	16	(4.9)	103	(31.4)	186	(56.7)	207	(63.1)	NA	
	80,000	11	(3.4)	49	(14.9)	137	(41.8)	183	(55.8)	200	(61.0)
	100,000	NA		12	(3.7)	85	(25.9)	188	(57.3)	208	(63.4)
	120,000	NA		NA		NA		74	(22.6)	199	(60.7)
	140,000 ⁴	NA		NA		NA		50	(15.2)	109	(33.2)
6001 to 7000 (1829 to 2134)	40,000	21	(6.4)	145	(44.2)	162	(49.4)	NA		NA	
	60,000	13	(4.0)	96	(29.3)	174	(53.0)	194	(59.1)	NA	
	80,000	NA		44	(13.4)	120	(36.6)	171	(52.1)	185	(56.4)
	100,000	NA		10	(3.0)	79	(24.1)	178	(54.3)	195	(59.4)
	120,000	NA		NA		NA		68	(20.7)	187	(57.0)
	140,000 ⁴	NA		NA		NA		41	(12.5)	87	(26.5)
7001 to 8000 (2134 to 2438)	40,000	15	(4.6)	133	(40.5)	146	(44.5)	NA		NA	
	60,000	10	(3.0)	89	(27.1)	163	(49.7)	181	(55.2)	NA	
	80,000	NA		40	(12.2)	120	(36.6)	159	(48.5)	170	(51.8)
	100,000	NA		NA		73	(22.3)	167	(50.9)	182	(55.5)
	120,000	NA		NA		NA		62	(18.9)	175	(53.3)
	140,000 ⁴	NA		NA		NA		32	(9.8)	63	(19.2)
8001 to 9000 (2438 to 2743)	40,000	10	(3.0)	121	(36.9)	130	(39.6)	NA		NA	
	60,000	7	(2.1)	82	(25.0)	152	(46.3)	168	(51.2)	NA	
	80,000	NA		35	(10.7)	111	(33.8)	148	(45.1)	156	(47.5)
	100,000	NA		NA		67	(20.4)	157	(47.9)	170	(51.8)
	120,000	NA		NA		NA		56	(17.1)	164	(50.0)
	140,000 ⁴	NA		NA		NA		23	(7.0)	42	(12.8)
9001 to 10,000 (2743 to 3048)	40,000	5	(1.5)	110	(33.5)	115	(35.1)	NA		NA	
	60,000	NA		76	(23.2)	142	(43.3)	156	(47.5)	NA	
	80,000	NA		31	(9.4)	103	(31.4)	137	(41.8)	142	(43.3)
	100,000	NA		NA		62	(18.9)	147	(44.8)	157	(47.9)
	120,000	NA		NA		NA		51	(15.5)	153	(46.6)
	140,000 ⁴	NA		NA		NA		16	(4.9)	20	(6.1)

NOTES:

1. Use only the vent pipe sizes shown for each furnace. It is NOT necessary to choose the smallest diameter pipe possible for venting.
2. NA – Not allowed. Pressure switch will not close, or flame disturbance may result.
3. Total equivalent vent lengths under 10' for 40,000 BTUH furnaces from 0 to 2000 ft. (0 to 610 M) above sea level require use of an outlet choke plate .
Failure to use an outlet choke when required may result in flame disturbance or flame sense lockout.
4. Not all furnace families include 140,000 BTUH input models.
5. Vent sizing for Canadian installations over 4500 ft (1370 M) above sea level are subject to acceptance by local authorities having jurisdiction.
6. Size both the combustion air and vent pipe independently, then use the larger size for both pipes.
7. Assume the two 45° elbows equal one 90° elbow. Wide radius elbows are desirable and may be required in some cases.
8. Elbow and pipe sections within the furnace casing and at the vent termination should not be included in vent length or elbow count.
9. The minimum pipe length is 5 ft. (1.5 M) linear feet (meters) for all applications.
10. Use 3-in. (76 mm) diameter vent termination kit for installations requiring 4-in. (102 mm) diameter pipe.

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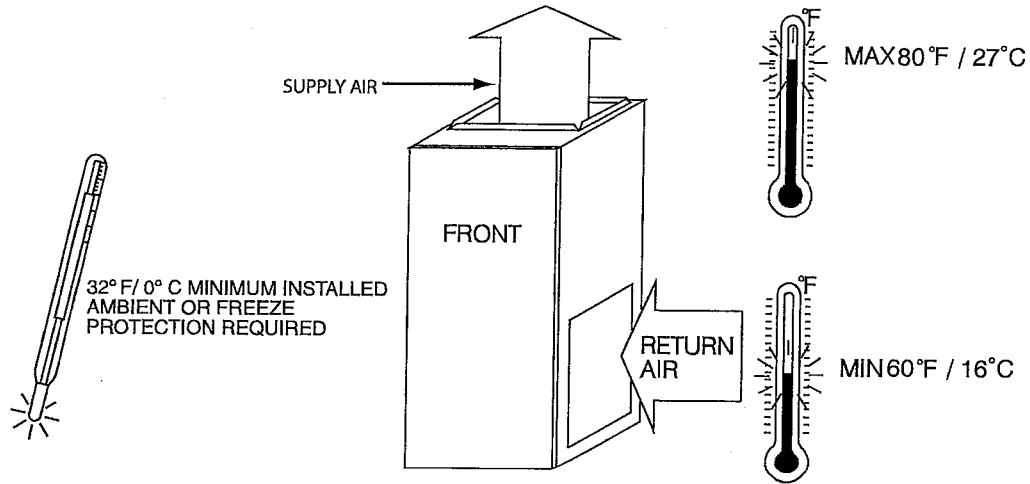
MAXIMUM ALLOWABLE EXPOSED VENT LENGTHS INSULATION TABLE - FT. (M)

Maximum Length of Uninsulated and Insulated Vent Pipe-Ft (M)																	
Single Stage Furnace Input	Winter Design Temp °F (°C)	Pipe Length in Ft. & M	No Insulation					3/8-in. (9.5 mm) Insulation					1/2-in. (12.7 mm) Insulation				
			Pipe Diameter-inches (mm)					Pipe Diameter-inches (mm)					Pipe Diameter-inches (mm)				
			1 1/2	2	2 1/2	3	4	1 1/2	2	2 1/2	3	4	1 1/2	2	2 1/2	3	4
			(38)	(51)	(64)	(76)	(102)	(38)	(51)	(64)	(76)	(102)	(38)	(51)	(64)	(76)	(102)
40000	20 (-10)	Ft.	48	42	42	N/A	N/A	50	122	111	N/A	N/A	50	144	130	N/A	N/A
		M	14.6	12.8	12.8	N/A	N/A	15.2	37.2	33.8	N/A	N/A	15.2	43.9	39.6	N/A	N/A
	0 (-20)	Ft.	25	19	17	N/A	N/A	50	75	66	N/A	N/A	50	90	79	N/A	N/A
		M	7.6	5.8	5.2	N/A	N/A	15.2	22.9	20.1	N/A	N/A	15.2	27.4	24.1	N/A	N/A
	-20 (-30)	Ft.	14	7	5	N/A	N/A	50	52	45	N/A	N/A	50	64	55	N/A	N/A
		M	4.3	2.1	1.5	N/A	N/A	15.2	15.8	13.7	N/A	N/A	15.2	19.5	16.8	N/A	N/A
	-40 (-40)	Ft.	7	0	0	N/A	N/A	50	38	31	N/A	N/A	50	48	40	N/A	N/A
		M	2.1	0.0	0.0	N/A	N/A	15.2	11.6	9.4	N/A	N/A	15.2	14.6	12.2	N/A	N/A
60000	20 (-10)	Ft.	30	61	61	54	N/A	30	135	163	142	N/A	30	135	191	166	N/A
		M	9.1	18.6	18.6	16.5	N/A	9.1	41.1	49.7	43.3	N/A	9.1	41.1	58.2	50.6	N/A
	0 (-20)	Ft.	30	31	30	23	N/A	30	113	100	85	N/A	30	135	120	101	N/A
		M	9.1	9.4	9.1	7.0	N/A	9.1	34.4	30.5	25.9	N/A	9.1	41.1	36.6	30.8	N/A
	-20 (-30)	Ft.	24	17	15	7	N/A	30	81	70	57	N/A	30	98	85	70	N/A
		M	7.3	5.2	4.6	2.1	N/A	9.1	24.7	21.3	17.4	N/A	9.1	29.9	25.9	21.3	N/A
	-40 (-40)	Ft.	15	8	5	0	N/A	30	61	52	40	N/A	30	75	64	51	N/A
		M	4.6	2.4	1.5	0.0	N/A	9.1	18.6	15.8	12.2	N/A	9.1	22.9	19.5	15.5	N/A
80000	20 (-10)	Ft.	20	70	78	70	60	20	70	175	183	154	20	70	175	215	181
		M	6.1	21.3	23.8	21.3	18.3	6.1	21.3	53.3	55.8	46.9	6.1	21.3	53.3	65.5	55.2
	0 (-20)	Ft.	20	42	41	33	21	20	70	132	111	89	20	70	157	133	107
		M	6.1	12.8	12.5	10.1	6.4	6.1	21.3	40.2	33.8	27.1	6.1	21.3	47.9	40.5	32.6
	-20 (-30)	Ft.	20	25	23	14	1	20	70	94	77	57	20	70	113	94	71
		M	6.1	7.6	7.0	4.3	0.3	6.1	21.3	28.7	23.5	17.4	6.1	21.3	34.4	28.7	21.6
	-40 (-40)	Ft.	20	14	12	3	0	20	70	71	56	38	20	70	86	70	50
		M	6.1	4.3	3.7	0.9	0.0	6.1	21.3	21.6	17.1	11.6	6.1	21.3	26.2	21.3	15.2
100000	20 (-10)	Ft.	N/A	25	99	89	78	N/A	25	110	233	265	N/A	25	110	235	229
		M	N/A	7.6	30.2	27.1	23.8	N/A	7.6	33.5	71.0	80.8	N/A	7.6	33.5	71.6	69.8
	0 (-20)	Ft.	N/A	25	55	46	33	N/A	25	110	145	117	N/A	25	110	173	140
		M	N/A	7.6	16.8	14.0	10.1	N/A	7.6	33.5	44.2	35.7	N/A	7.6	33.5	52.7	42.7
	-20 (-30)	Ft.	N/A	25	34	24	11	N/A	25	110	103	79	N/A	25	110	124	97
		M	N/A	7.6	10.4	7.3	3.4	N/A	7.6	33.5	31.4	24.1	N/A	7.6	33.5	37.8	29.6
	-40 (-40)	Ft.	N/A	23	20	11	0	N/A	25	95	77	55	N/A	25	110	94	70
		M	N/A	7.0	6.1	3.4	0.0	N/A	7.6	29.0	23.5	16.8	N/A	7.6	33.5	28.7	21.3
120000	20 (-10)	Ft.	N/A	N/A	15	99	86	N/A	N/A	15	100	219	N/A	N/A	15	100	250
		M	N/A	N/A	4.6	30.2	26.2	N/A	N/A	4.6	30.5	66.8	N/A	N/A	4.6	30.5	76.2
	0 (-20)	Ft.	N/A	N/A	15	51	38	N/A	N/A	15	100	130	N/A	N/A	15	100	156
		M	N/A	N/A	4.6	15.5	11.6	N/A	N/A	4.6	30.5	39.6	N/A	N/A	4.6	30.5	47.5
	-20 (-30)	Ft.	N/A	N/A	15	28	14	N/A	N/A	15	100	88	N/A	N/A	15	100	108
		M	N/A	N/A	4.6	8.5	4.3	N/A	N/A	4.6	30.5	26.8	N/A	N/A	4.6	30.5	32.9
	-40 (-40)	Ft.	N/A	N/A	15	14	0	N/A	N/A	15	85	62	N/A	N/A	15	100	79
		M	N/A	N/A	4.6	4.3	0.0	N/A	N/A	4.6	25.9	18.9	N/A	N/A	4.6	30.5	24.1
140000	20 (-10)	Ft.	N/A	N/A	10	90	99	N/A	N/A	10	90	210	N/A	N/A	10	90	210
		M	N/A	N/A	3.0	27.4	30.2	N/A	N/A	3.0	27.4	64.0	N/A	N/A	3.0	27.4	64.0
	0 (-20)	Ft.	N/A	N/A	10	61	47	N/A	N/A	10	90	153	N/A	N/A	10	90	183
		M	N/A	N/A	3.0	18.6	14.3	N/A	N/A	3.0	27.4	46.6	N/A	N/A	3.0	27.4	55.8
	-20 (-30)	Ft.	N/A	N/A	10	35	21	N/A	N/A	10	90	104	N/A	N/A	10	90	128
		M	N/A	N/A	3.0	10.7	6.4	N/A	N/A	3.0	27.4	31.7	N/A	N/A	3.0	27.4	39.0
	-40 (-40)	Ft.	N/A	N/A	10	20	NA	N/A	N/A	10	90	75	N/A	N/A	10	90	94
		M	N/A	N/A	3.0	6.1	NA	N/A	N/A	3.0	27.4	22.9	N/A	N/A	3.0	27.4	28.7

*Not all families have these models.

RETURN AIR TEMPERATURE

This furnace is designed for continuous return-air minimum temperature of 60°F (15°C) db or intermittent operation down to 55°F (13°C) db such as when used with a night setback thermometer. Return-air temperature must not exceed 80°F (27°C) db. Failure to follow these return air limits may affect reliability of heat exchangers, motors and controls.



59SP5A

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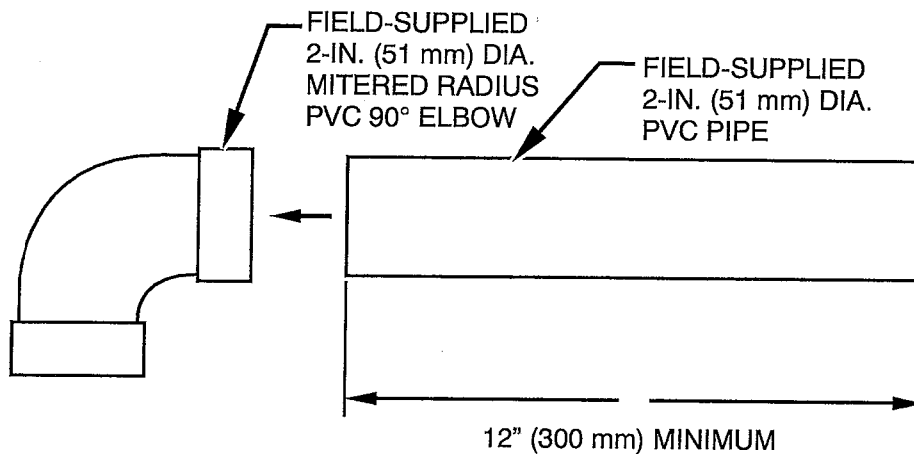
MINIMUM CLEARANCES TO COMBUSTIBLE MATERIALS

POSITION	CLEARANCE
Rear	0 (0 mm)
Front (Combustion air openings in furnace and in structure)	1 in. (25 mm)
Required for service**	24 in. (610 mm)*
All Sides of Supply Plenum**	1 in. (25 mm)
Sides	0 (0 mm)
Vent	0 (0 mm)
Top of Furnace	1 in. (25 mm)

* Recommended

**Consult your local building codes

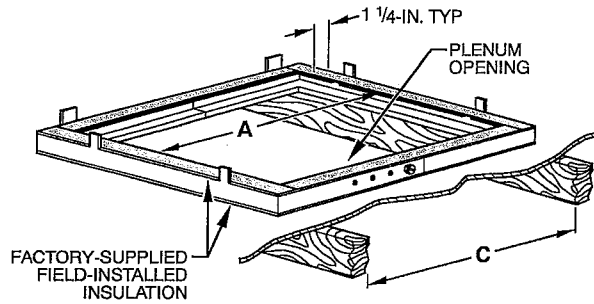
COMBUSTION-AIR PIPE FOR NON-DIRECT (1-PIPE) VENT APPLICATION



NOTE: See Installation Instructions for specific venting configurations.

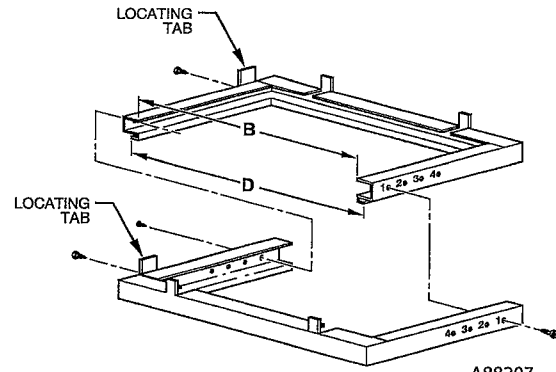
A12376

DOWNFLOW SUBBASE



A97427

Assembled

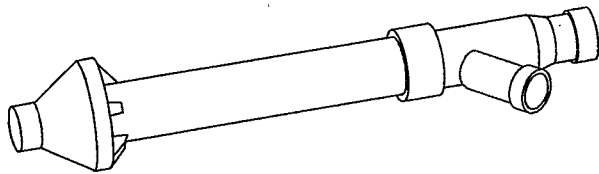


A88207

Disassembled

DIMENSIONS (IN. / MM)						
FURNACE CASING WIDTH	FURNACE IN DOWNFLOW APPLICATION	PLENUM OPENING*		FLOOR OPENING		HOLE NO. FOR WIDTH ADJUSTMENT
		A	B	C	D	
14-3/16 (360)	Furnace with or without Cased Coil Assembly or Coil Box	11-3/16 (322)	19 (483)	13-7/16 (341)	20-5/8 (600)	4
17-1/2 (445)	Furnace with or without Cased Coil Assembly or Coil Box	15-1/8 (384)	19 (483)	16-3/4 (426)	20-5/8 (600)	3
21 (533)	Furnace with or without Cased Coil Assembly or Coil Box	18-5/8 (396)	19 (483)	20-1/4 (514)	20-5/8 (600)	2
24-1/2 (622)	Furnace with or without Cased Coil Assembly or Coil Box	22-1/8 (562)	19 (483)	23-3/4 (603)	20-5/8 (600)	1

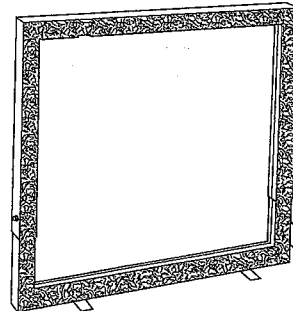
*The plenum should be constructed 1/4-in. (6 mm) smaller in width and depth than the plenum dimensions shown above.



Concentric Vent Kit

A93086

A concentric vent kit allows vent and combustion-air pipes to terminate through a single exit in a roof or side wall. One pipe runs inside the other allowing venting through the inner pipe and combustion air to be drawn in through the outer pipe.

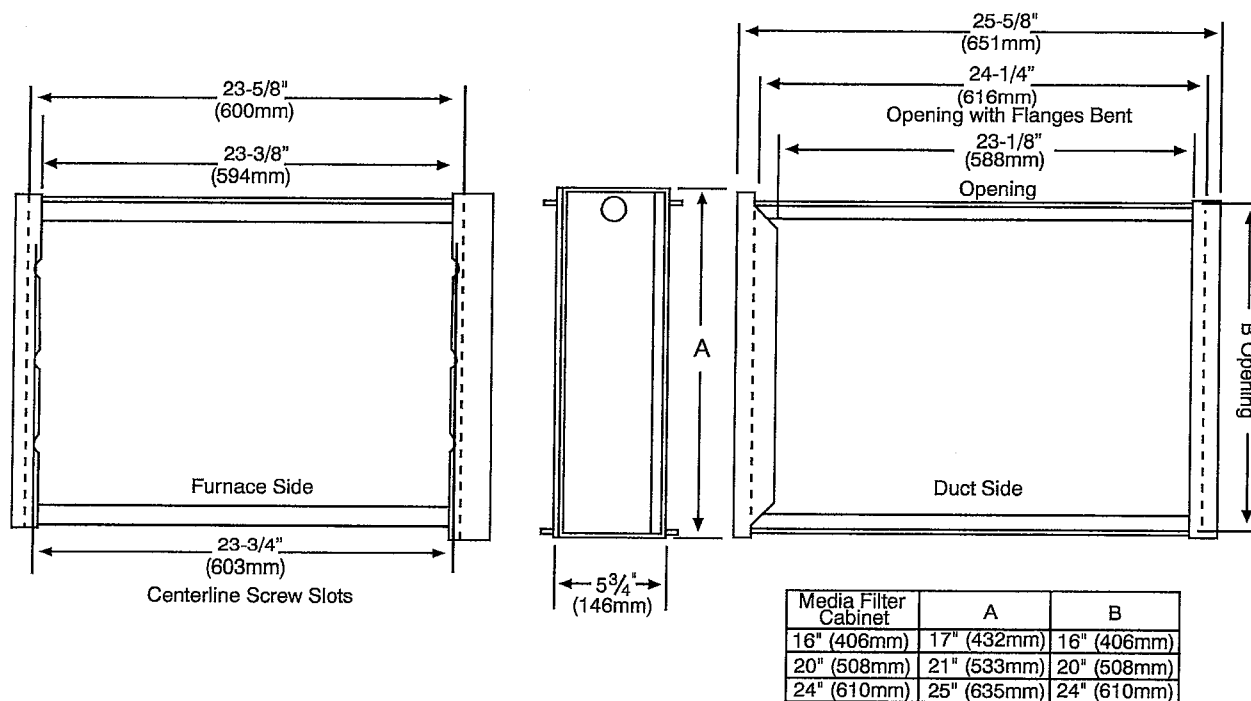


Downflow Subbase

A88202

One base fits all furnace sizes. The base is designed to be installed between the furnace and a combustible floor when no coil box is used or when a coil box other than a Carrier cased coil is used. It is CSA design certified for use with Carrier branded furnaces when installed in downflow applications.

MEDIA FILTER CABINET

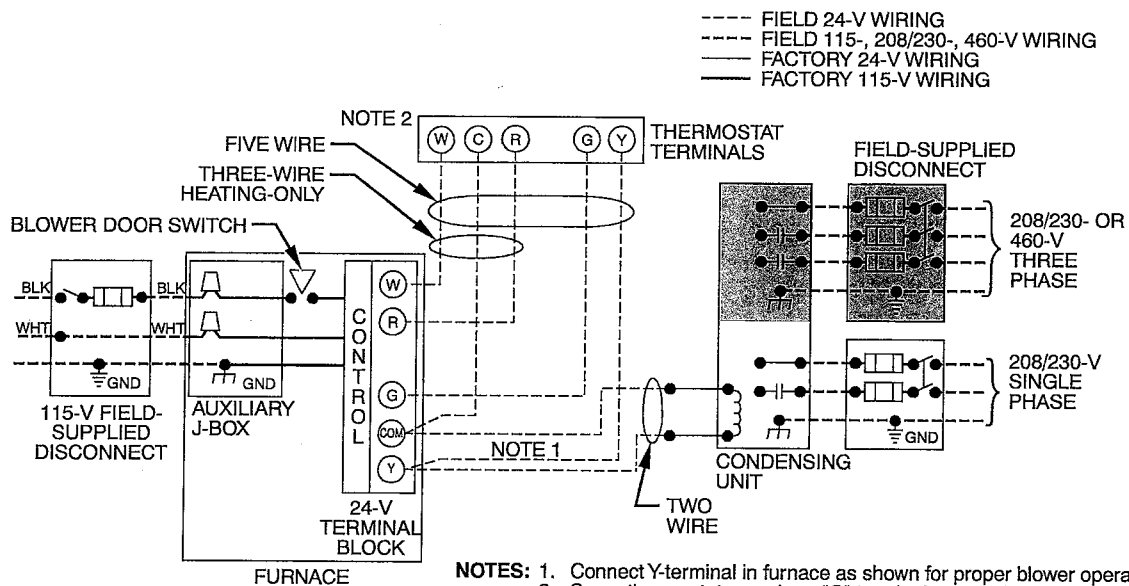


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NOTE: Media cabinet is matched to the bottom opening on furnace. May also be used for side return.

A12428

TYPICAL WIRING SCHEMATIC

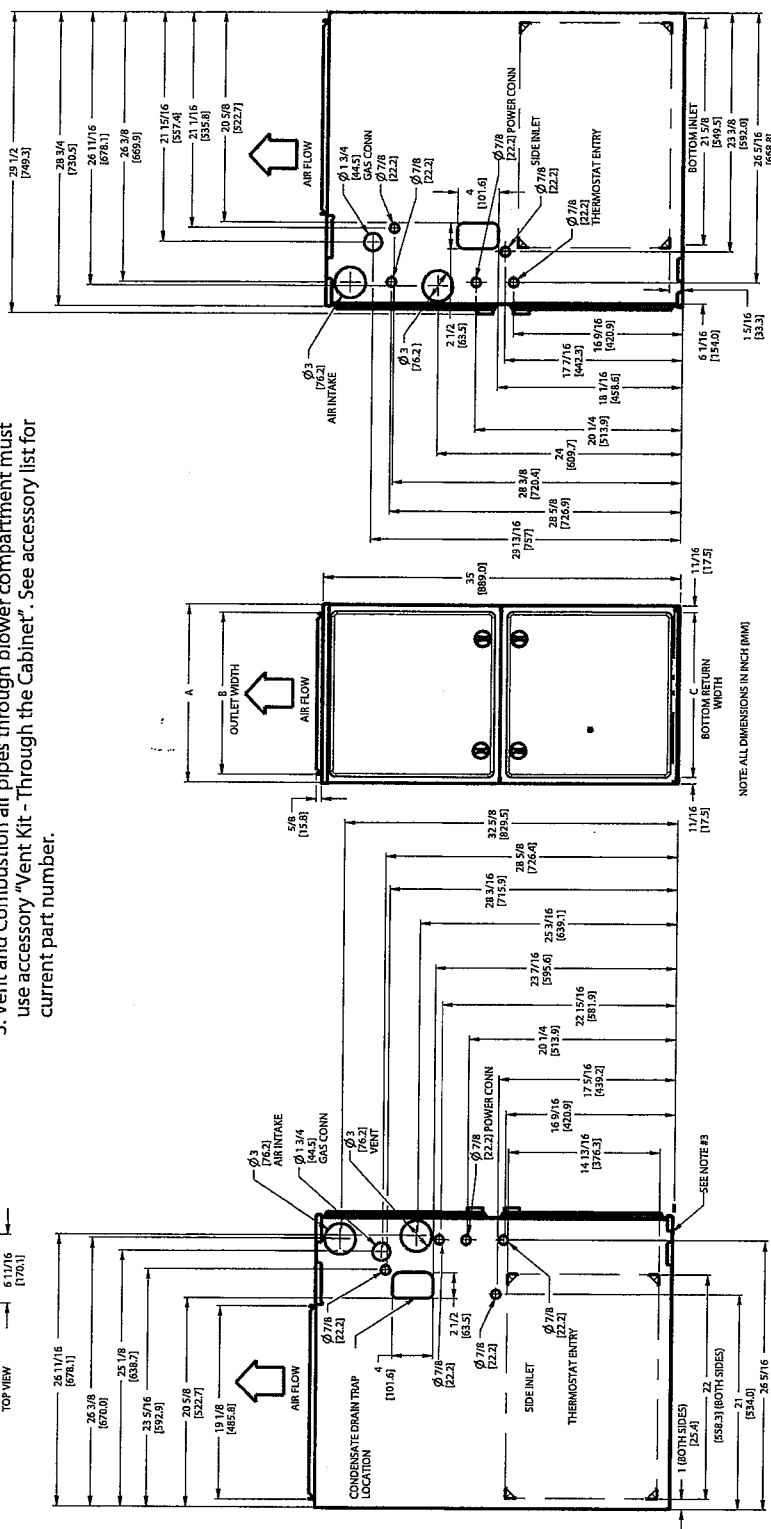
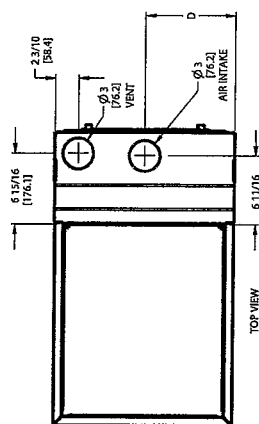


A11387

DIMENSIONAL DRAWING

NOTES:

1. Doors may vary by model.
2. Minimum return-air openings at furnace, based on metal duct. If flex duct is used, see flex duct manufacturer's recommendations for equivalent diameters.
 - a. For 800 CFM-16-in. (406 mm) round or 14 1/2 x 12-in. (368 x 305 mm) rectangle.
 - b. For 1200 CFM-20-in. (508 mm) round or 14 1/2 x 19 1/2-in. (368 x 495 mm) rectangle.
 - c. For 1600 CFM-22-in. (559 mm) round or 14 1/2 x 22 1/16-in. (368 x 560 mm) rectangle.
 - d. Return air above 1800 CFM at 0.5 in. w.c. ESP on 24.5" casing, requires one of the following configurations: 2 sides, 1 side and a bottom or bottom only. See Air Delivery table in this document for specific use to allow for sufficient airflow to the furnace.
3. Vent and Combustion air pipes through blower compartment must use accessory "Vent Kit - Through the Cabinet". See accessory list for current part number.



NOTE: ALL DIMENSIONS IN INCH (MM)

REV	DATE	BY	CHK
1		E	

59SP5 FURNACE SIZE	A CABINET WIDTH	B OUTLET WIDTH	C BOTTOM INLET WIDTH	D AIR INTAKE	SHIP WT. LB (KG)
040-10	14-3/16 (361)	12-1/2 (319)	12-9/16 (322)	7-1/8 (181)	120.0 (54.4)
060-12					130.5 (59.2)
040-12					131.0 (59.4)
060-14	17-1/2 (445)	15-7/8 (403)	16 (406)	8-3/4 (222)	141.0 (64.0)
080-16					145.0 (65.8)
080-20					155.5 (70.5)
100-20	21 (533)	19-3/8 (492)	19-1/2 (495)	10-1/2 (267)	156.5 (71.0)
120-22	24-1/2 (622)	22-7/8 (581)	23 (584)	12-1/4 (311)	189.5 (86.0)

A12267

GUIDE SPECIFICATIONS

General

System Description

Furnish a _____ 4-way multipoise gas-fired condensing furnace for use with natural gas or propane (factory-authorized conversion kit required for propane); furnish external media cabinet for use with accessory media filter or standard filter.

Quality Assurance

Unit will be designed, tested and constructed to the current ANSI Z 21.47/CSA 2.3 design standard for gas-fired central furnaces.

Unit will be third party certified by CSA to the current ANSI Z 21.47/CSA 2.3 design standard for gas-fired central furnaces. Unit will carry the CSA Blue Star® and Blue Flame® labels. Unit efficiency testing will be performed per the current DOE test procedure as listed in the Federal Register.

Unit will be certified for capacity and efficiency and listed in the latest AHRI Consumer's Directory of Certified Efficiency Ratings.

Unit will carry the current Federal Trade Commission Energy Guide efficiency label.

Delivery, Storage, and Handling

Unit will be shipped as single package only and is stored and handled per unit manufacturer's recommendations.

Warranty (for inclusion by specifying engineer)

U.S. and Canada only. Warranty certificate available upon request.

Equipment

Blower Wheel and ECM Blower Motor

Galvanized blower wheel shall be centrifugal type, statically and dynamically balanced. Blower motor of ECM type shall be permanently lubricated with sealed ball bearings, of _____ hp, and have multiple speeds from 600-1200 RPM operating only when 24-VAC motor inputs are provided. Blower motor shall be direct drive and soft mounted to the blower housing to reduce vibration transmission.

Filters

Furnace shall have reusable-type filters. Filter shall be _____ in. (mm) X _____ in. (mm). An accessory highly efficient Media Filter is available as an option. _____ Media Filter.

Casing

Casing shall be of .030 in. thickness minimum, pre-painted steel.

Draft Inducer Motor

Draft inducer motor shall be single-speed PSC design.

Primary Heat Exchangers

Primary heat exchangers shall be 3-Pass corrosion-resistant aluminized steel of fold-and-crimp sectional design and applied operating under negative pressure.

Secondary Heat Exchangers

Secondary heat exchangers shall be of a stainless steel flow-through of fin-and-tube design and applied operating under negative pressure.

Controls

Controls shall include a micro-processor-based integrated electronic control board with at least 16 service troubleshooting codes displayed via diagnostic flashing LED light on the control, a self-test feature that checks all major functions of the furnace, and a replaceable automotive-type circuit protection fuse. Multiple operational settings available, including blower speeds for high heat, low cooling, high cooling and continuous fan. Continuous fan speed may be adjusted from the thermostat. Features will also include temporary reduced airflow in the cooling mode for improved dehumidification when a TP-PRH edge® is selected as the thermostat.

Operating Characteristics

Heating capacity shall be _____ Btuh input; _____ Btuh output capacity.

Fuel Gas Efficiency shall be _____ AFUE.

Air delivery shall be _____ cfm minimum at 0.50 in. W.C. external static pressure.

Dimensions shall be: depth _____ in. (mm); width _____ in. (mm); height _____ in. (mm) (casing only).

Height shall be _____ in. (mm) with A/C coil and _____ in. (mm) overall with plenum.

Electrical Requirements

Electrical supply shall be 115 volts, 60 Hz, single-phase (nominal). Minimum wire size shall be _____ AWG; maximum fuse size of HACR-type designated circuit breaker shall be _____ amps.

Special Features

Refer to section of the product data identifying accessories and descriptions for specific features and available enhancements.

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