



CONSTRUCTION PERMIT APPLICATION

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

I. IDENTIFICATION

1. Proposed Work Site at: Paul Jones Drive FRANK

2. Name of Owner in Fee: Patrick T. Kocum Int. Tel. [REDACTED]

Address 1624 Beaver Dam Rd. St. Pleasant 08742

street municipality zip code

3. Ownership in Fee: Public _____ Private _____

4. Principal Contractor: Patrick T. Kocum Tel. (_____)

Address 1624 Beaver Dam Rd.

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

Federal Employee No. 222-354-524 FAX: (_____)

5. Architect or Engineer _____ Tel. (_____)

Address _____ Contact Daniel Peters

6. Responsible Person in Charge once Work has Begun Daniel Peters

Tel. (732) 684-7989 FAX: (_____)

V. FEE SUMMARY (for office use only)

		Update	Update
1. Building	\$ <u>135</u>		
2. Electrical	\$ <u>35</u>		
3. Plumbing	\$ <u>35</u>		
4. Fire Protection			
5. Elevator Devices			
6. Subtotal	\$ <u>_____</u>		
7. Less 20% for State Plan Review	\$ <u>_____</u>		
8. Subtotal	\$ <u>_____</u>		
9. State Permit Fee Surcharge	\$ <u>4</u>		
10. Subtotal	\$ <u>_____</u>		
11. Cert. of Occupancy	\$ <u>_____</u>		
12. Other	\$ <u>_____</u>		
13. TOTAL	\$ <u>213</u>		

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. Construction Classification	_____
7. Total Land Area Disturbed	_____ sq. ft.
8. Flood Hazard Zone	_____
9. Base Flood Elevation	_____ ft.
10. Wetlands	yes _____ no _____
11. Max. Live Load	_____
12. Max. Occupancy Load	_____

OPTIONAL (for office use only)

II. PROPOSED WORK	Est. Cost	Plans Rec'd by	Date Rec'd	Rejection Date	Approval Date	Re-viewer	Resubmission Dates	Re-viewer
1. ☐ Minor Work								
2. ☐ New Building								
3. ☐ Addition								
4. ☐ a. Repair								
☐ b. Alteration								
☐ c. Renovation								
☐ d. Reconstruction								
5. ☒ Fire Protection								
6. ☒ Plumbing								
7. ☒ Electrical								
8. ☐ Elevator Devices								
9. ☐ Asbestos Abat. Subch. 8								
10. ☐ Lead Hazard Abatement								
11. ☐ Demolition								
TOTAL COSTS								

VII. DESCRIPTION OF BUILDING USE

A. RESIDENTIAL

1. State Specific Use: _____
2. Use Group: _____
3. Change in Use Group, Indicate Former: _____
4. No. of dwelling units:
- Before Construction _____
- After Construction _____
- Net Gain or Loss _____

B. NON-RESIDENTIAL

1. State Specific Use: _____
2. Use Group: _____
3. Change in Use Group, Indicate Former: _____

III. DO YOU WANT: (optional)

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
8. ☐ Smoke Control Systems in Open Wells
9. ☐ Underground Storage Tanks
10. ☐ Swimming Pools, Spas and Hot Tubs

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(e)1.vii:

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. 5:32-2.15(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 PATRICK T KERNIN INC.
Address 1624 Beaver Dam Rd.
Pt. Pleasant NJ 08742
Telephone (732) 295-2167
Signature [Signature]

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

Constituent Contact Report

[illegible]

TOWNSHIP OF BRICK
401 CHAMBERS BRIDGE RD
DIVISION OF INSPECTIONS

UCC NEW JERSEY
CONSTRUCTION
PERMITS

Date Issued 02/19/2004
Control #
Permit # 04-0446

IDENTIFICATION Plot 200 Lot 2

Part Site Location 12 2nd Street E

AP

Owner in Fee BRIDGE PROJECT

Address SMC

LOT 200 12 2ND ST

Telephone 732-200-1000

Contractor PATRICK CICHMIR

Address 70 POST RD

BRIDGE, NJ 08724

Telephone 732-200-1000

Lic. No. of Chief, Reg. No.

SALES, CO., INC. 22-285484

Is hereby granted permission to perform the following work:
(1) BUILDING (1) ELEVATOR (1) LEAD PIPING ABANDONMENT
(2) ELECTRICAL (1) FIRE PROTECTION (1) CONSTRUCTION
(3) ELEVATOR SERVICES (1) GROUNDWATER (1) OTHER
DESCRIPTION OF WORK:
GROUNDWATER

NOTE: If construction does not commence within one (1) year of date of issuance,
or if construction ceases for a period of 90 (90) months, this permit is void.

Estimated Cost of Work: \$100

[Signature]
Construction Official

02/19/2004

U.C.C. #120 (Rev. 3/93) BY LOCAL AGENT

Date

PAYMENTS (Office Use Only)

Building	135
Electrical	35
Plumbing	15
Fire Protection	0
Elevator Services	0
Other	0
DCA State Permit Fee	8
Cent. of Occupancy	0
Other	0
Total	193
Check No.	446
Cash	0
Collected By	EM

02/19/04 10:15AM 000000H7006
X07 SERV.007

#040446
BUILDING \$135.00
ELECTRIC \$35.00
PLUMBING \$35.00
DCA \$8.00
CHECK \$213.00

NJ UCCARS 5.24R
TOWNSHIP OF BRICK
401 CHAMBERS BRIDGE RD
DIVISION OF INSPECTIONS

UCC NEW JERSEY
BUILDING
SUBCODE
TECHNICAL SECTION

Date Received 02/06/2004
Date Issued 2/19/04
Control # C26-09
Permit # 04-04446

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

Block 260 Lot 9 Qual
Work Site Location 13 PAUL JONES DR

AC

Owner in Fee FRANCH, ROBERT

Address SAME

Tele. 732-295-2167

Contractor PATRICK KIRWIN

Address 7B POST RD

BRICK, NJ 08724-

Tele. (732) 295-2167 Fax ()

Lic. No. or Bldgs. Reg. No.

Federal Exp. No. 22-2354524

JOB SUMMARY (Office Use Only)

PLAN REVIEW Date Initial
No Plans Req. 2/13/04

All

Footings

Foundation

Frame

Other

Joint Plan Review Required:

Elect [] Plumb [] Fire

SUBCODE APPROVAL [] Elev

[] CO [] CC0 [] CA

Date:

Approved By:

INSPECTIONS

Type

Footings

Foundation

Slab

Frame

BarrierFree

Insulation

Finishes

Energy

Mechanical

FCO

Other

Final

BarrierFree

Dates (Month/Day)

Failure Failure Approval Initial

Footings

Foundation

Slab

Frame

BarrierFree

Insulation

Finishes

Energy

Mechanical

FCO

Other

Final

BarrierFree

Est. Cost of Bldg. Work:

1. New Bldg. \$ 0

2. Alteration \$ 5,000

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

Industrialized Building:

[] State Approved

[] HUD

C. CERTIFICATION IN LIBR OF DATA
I hereby certify that I am the (agent of) owner
of record and am authorized to make this application.

Signature

D. TECHNICAL SITE DATA
DESCRIPTION OF WORK

OVERHEAD RUBBER

CONDENSED MUST BE ELEVATED ABOVE
B.F.E. AND ANCHORED.

TYPE OF WORK

[] New Building

[] Addition

[X] Alteration

[] Roofing

[] Siding

[] Fence

[] Sign

[] Pool

[] Asbestos Abatement Subchapter 8

[] Lead Haz. Abatement NJAC 5:17

[] Other

[] Demolition

Height (exceeds 6')

0

Sq. Ft.

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FEE (Office Use Only)

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NJ UCCARS 5.24E
TOWNSHIP OF BRICK
401 CHAMBERS BRIDGE RD
DIVISION OF INSPECTIONS

UCC NEW JERSEY
BUILDING
SUBCODE
TECHNICAL SECTION

Date Received 02/06/2004
Date Issued 2/11/04
Control # C26-09
Permit # 04 64496

A. IDENTIFICATION-APPLICANT: COMPLETE ALL APPLICABLE INFORMATION. WHEN CHANGING
CONTRACTORS, NOTIFY THIS OFFICE. CALL UTILILITY DIG NO: 1-800-272-1000
Block 260 Lot 9 Qual
Work Site Location 13 PAUL JONES DR
AC

Owner In Fee FRANCH, ROBERT
Address SAMS
BRICK, NJ 08723-

Contractor PATRICK KIRKIN
Address 7B POST RD
BRICK, NJ 08724-

Tele. (732) 295-2167 Fax ()
Lic. No. or Bldg. Reg. No.
Federal Emp. No. 22-2354524

JOB SUMMARY (Office Use Only)

PLAN REVIEW	Date	Initial	INSPECTIONS
☒ No Plans Req	2/30/04	PM	Type
☐ All			Footings
☐ Footing			Foundation
☐ Foundation			Slab
☐ Frame			Frame
☐ Other			BarrierFree
Joint Plan Review Required:			Insulation
☐ Elect	☐ Plumb	☐ Fire	Finishes
SUBCODE APPROVAL			Energy
☐ CO	☐ CC0	☐ CA	Mechanical
Date:			TCO
Approved By:			Other
			Final
			BarrierFree

B. BUILDING CHARACTERISTICS	
Use Group	Present Proposed
Constr. Class	Present Proposed
No. of Stories	0
Height of Structure	0 Ft.
Area Largest Floor	0 Sq. Ft.
Rev Bldg. Area/All Floors	0 Sq. Ft.
Volume of Rev Structure	0 Cu. Ft.
Total Land Area Disturbed	0 Sq. Ft.

C. CERTIFICATION IN LIBO OF DATA	
I hereby certify that I am the (agent of) owner of record and am authorized to make this application.	
Signature	
D. TECHNICAL SITE DATA	
DESCRIPTION OF WORK	
OVERHEAD UTILITY	
CONDENSE MUST BE ELIMINATED ABOVE.	
BFE. AND ANCHORED.	
TYPE OF WORK	FEE (Office Use Only)
☐ New Building	\$
☐ Addition	\$
☒ Alteration	135
☐ Roofing	\$
☐ Siding	\$
☐ Fence	0
☐ Sign	0
☐ Pool	0
☐ Asbestos Abatement Subchapter 8	0
☐ Lead Haz. Abatement BANC 5:17	0
☐ Other	0
☐ Demolition	0
Est. Cost of Bldg. Work:	
1. New Bldg. \$	0
2. Alteration \$	5,000
3. Total (1+2) \$	5,000
Paid ☐ Check \$	
Collected by:	Administrative Surcharge \$
	Minimum Fee \$
	TOTAL FEE \$ 135
	DCA State Permit Fee \$ 7
U.C.C. #110 (rev. 3/96)	

TOWNSHIP OF BRICK
401 CHAMBERS BRIDGE RD
DIVISION OF INSPECTIONS

UCC NEW JERSEY
ELECTRICAL
SUBCODE

TECHNICAL SECTION

Date Received 02/06/2004
Date Issued 2/11/04
Control # C26-09
Permit # 04-0446

A. IDENTIFICATION-APPLICANT: COMPLETE ALL APPLICABLE INFORMATION. WHEN CHANGING

CONTRACTORS. NOTIFY THIS OFFICE. CALL UTILITY DIG NO: 1-800-272-1000

Block 260 Lot 9

Work Site Location 13 PAUL JONES DR

AC

Owner in Fee FRANCH, ROBERT

Address SAME

BRICK, NJ 08723-

Tele [REDACTED]

Contractor BAY ELECTRIC INC

Address 382 ALLEN RD

BRICK, NJ

Tele (732)267-2000

Lic. No. or Bldg. Reg. No. 5830

Federal Reg. No. 22-2340134

B. ELECTRICAL CHARACTERISTICS

Use Group - Present Proposed R-5

[] Pole/Pad # [] Temporary [] Other

Building Occupied as Utility Co.

Estimated Cost of Electrical Work \$ 500

JOB SUMMARY (Office Use Only)

PLAN REVIEW

[X] No Plans Required

Joint Plan Review Required:

[] Bidg [] Plumb

[] Fire [] Elevator

[] Elect Plans Approved

Date: 2/11/04

Approved By: [Signature]

SUBCODE APPROVAL

[] CO [] CCO [] CA

Date:

Approved By:

C. CERTIFICATION IN LINE OF DASH

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's Signature/Contractor's Seal and Signature

[] Licensed Electrical Contractor [] Exempt Applicant

D. TECHNICAL SITE DATA

NO. SIZE

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ITEM

Lighting Fixtures

Receptacles

Switches

Detectors

Light Poles

Motors-Tract HP

Emergency & Exit Lights

Communications Points

Alarm Devices/F.A.C. Panel

TOTAL NUMBERS

Pool Permit/with UV lights

Storable Pool/Spa/Hot Tub

KW Elect Range/Receptacle

KW Oven/Surface Unit

KW Elect Water Heater

KW Elect Dryer/Receptacle

KW Dishwasher

HP Garbage Disposal

KW Central A/C Unit

HP/KW Space Heater/Air Handler

Baseboard Heat

HP Motors 1/+ HP

KW Transformer/Generator

AMP Service

AMP Subpanels

AMP Motor Control Center

KW Elect Sign/Outline Light

Other

Other

RFB (Office Use Only)

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Administrative Surcharge \$

Paid [] Check \$

Collected by: [Signature]

TOTAL FEE \$

DCA State Permit Fee \$

Minimum Fee \$

TOWNSHIP OF BRICK
401 CHAMBERS BRIDGE RD
DIVISION OF INSPECTIONSUCC NEW JERSEY
ELECTRICAL
SUBCODE
TECHNICAL SECTIONDate Received 02/06/2004
Date Issued 2/14/04
Control # C26-09
Permit # 04-0446A. IDENTIFICATION-APPLICANT: COMPLETE ALL APPLICABLE INFORMATION, WHEN CHANGING
CONTRACTORS. NOTIFY THIS OFFICE. CALL UTILITY DIG NO: 1-800-272-1000Block 260 Lot 9 Qual
Work Site Location 13 PAUL JONES DR

AC

Owner in Fee FRANCIS ROBERT

Address SAME

BRICK, NJ 08723-

Phone

Contractor BAY ELECTRIC INC

Address 582 ALLEN RD

BRICK, NJ

Tele. (732) 262-2000

Lic. No. or Bldgs. Reg. No. 5830

Federal Emp. No. 22-2340134

B. ELECTRICAL CHARACTERISTICS

Use Group - Present Proposed R-5

☐ Pole/Pad ☐ Temporary ☐ Other

Building Occupied as Utility Co.

Estimated Cost of Electrical Work \$ 500

JOB SUMMARY (Office Use Only)

PLAN REVIEW

☒ No Plans Required☐ Joint Plan Review Required:☐ Bldg ☐ Plumb☐ Fire ☐ Elevator☐ Elect Plans Approved

Date: 2/10/04

Approved By: [Signature]

SUPERVISOR APPROVAL

☐ CO ☐ CCO ☐ CA

Date:

Approved By:

C. CERTIFICATION IN LIEU OF OATH

I hereby certify that I am the (agent of) owner of record and an authorized
to make this application and perform the work listed on this application.

Applicant's Signature/Contractor's Seal and Signature

☐ Licensed Electrical Contractor ☐ Exempt Applicant

D. TECHNICAL SITE DATA

NO. SIZE

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U.C.C. #120 (rev. 3/96)

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

Block 260 Lot 9 Qual
Work Site Location 13 PAUL JONES DR
AC

Owner in Fee FRANCES, ROBERT
Address SAMR
BRICK, NJ 08723-

Tele. [REDACTED]
Contractor HAY ELECTRIC INC
Address 582 ALLEN RD
BRICK, NJ

Tele. (732)262-2000
Lic. No. or Bldrs. Reg. No. 5830
Federal Emp. No. 22-2340134

B. ELECTRICAL CHARACTERISTICS
Use Group - Present Proposed R-5
[] Pole/Pad # [] Temporary [] Other
Building Occupied as Utility Co.
Estimated Cost of Electrical Work \$ 500

JOB SUMMARY (Office Use Only)
PLAN REVIEW
[X] No Plans Required
Joint Plan Review Required:
[] Bldg [] Plumb
[] Fire [] Elevator
[] Elect Plans Approved
Date: 2/10/04
Approved By: [Signature]

INSPECTIONS
Type Failure Failure Approval Initial
Rough
Temp Serv
Const Serv
TCO
Other
Service
Temp. Cut-in-Card Date Issued
Final Cut-in-Card Date Issued

D. TECHNICAL SITE DATA

NO.	SITE	ITEM	PFR (Office Use Only)
0		Lighting Fixtures	
0		Receptacles	
0		Switches	
0		Detectors	
0		Light Poles	
0		Motors-Fract HP	
0		Emergency & Exit lights	
0		Communications Points	
0		Alarm Devices/V.A.C. Panel	
0		TOTAL NUMBERS	0
0		Pool Permit/with UV Lights	0
0		Storable Pool/Spa/Hot Tub	0
0		KW Elect Range/Receptacle	0
0		KW Oven/Surface Unit	0
0		KW Elect Water Heater	0
0		KW Elect Dryer/Receptacle	0
0		KW Dishwasher	0
0		HP Garbage Disposal	0
0		KW Central A/C Unit	9
0		HP/KW Space Heater/Air Handler	0
0		Baseboard Heat	0
0		HP Motors 1/+ HP	0
0		KW Transformer/Generator	0
0		AMP Service	0
0		AMP Subpanels	0
0		AMP Motor Control Center	0
0		KW Elect Sign/Outline light	0
0		Other	0
0		other	1

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's Signature/Contractor's Seal and Signature
[] Licensed Electrical Contractor [] Exempt Applicant

Paid [] Check #
Collected by: DCA State Permit Fee \$ 1
Administrative Surcharge \$ 0
Minimum Fee \$ 26
TOTAL PFR \$ 35
U.C.C. P120 (rev. 3/96)

UCCARS 5.24E
TOWNSHIP OF BRICK
401 CHAMBERS BRIDGE RD
DIVISION OF INSPECTIONS

UCC NEW JERSEY
PLUMBING
SUBCODE
TECHNICAL SECTION

Date Received 02/06/2004
Date Issued 2/11/04
Control # 526-09
Permit # 04-0446

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

Block 260 Lot 9
Work Site Location 13 PAUL JONES DR

AC

Owner in Yee FRANCE, ROBERT

Address SAME

BRICK, NJ 08723-

Contractor PATRICK KIRKMIN

Address 7B POST RD

BRICK, NJ 08724-

Tele. (732)295-2167

Lic. No. or Bids. Reg. No.

Federal Emp. No. 22-2354524

D. TECHNICAL SITE DATA (List all fixtures.)

NO. FIXTURE/EQUIPMENT FEE (Office Use Only)

0	Water Closet	0
0	Urinal / Bidet	0
0	Bath Tub	0
0	Lavatory	0
0	Shower	0
0	Floor Drain	0
0	Sink	0
0	Dishwasher	0
0	Drinking Fountain	0
0	Washing Machine	0
0	Hose Bib	0
0	Water Heater	0
0	Fuel Oil Piping	0
0	Gas Piping	0
0	Steam Boiler	0
0	Hot Water Boiler	0
0	Sewer Pump	0
0	Interceptor / Separator	0
0	Backflow Preventer	0
0	Greasetrap	0
0	Sewer Connection	0
0	Water Service Connection	0
0	Stacks	0
0	Other AC	35
0	Other	0

B. PLUMBING CHARACTERISTICS
Use Group Present Proposed R-5
Building Sewer Size [] Public Sewer [] Private Septic
Water Sewer Size [] Public Water [] Private Well
Estimated Cost of Plumbing Work \$ 100

JOB SUMMARY (Office Use Only)
PLAN REVIEW
[] No Plans Required
Joint Plan Review Required:

INSPECTIONS	Dates (Month/Day)
Type	Failure Failure Approval Initial
Slab	
Rough	
Water	
Sewer	
Fixtures	
Gas Equip.	
Gas Piping	
Solar	
TCO	

Date: 2/12/04
Approved by: [Signature]
SUBCODE APPROVAL

[] CO [] CCO [] CA
Date: 2-12-04

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.

Paid [] Check #
Collected by: [Signature]
Administrative Surcharge \$ 0
Minimum Fee \$ 0
TOTAL FEE \$ 35
DCA State Permit Fee \$ 0

Signature/Contractor Seal
[] Licensed Plumbing Contractor [] Exempt Applicant

UCCARS 5.24E
TOWNSHIP OF BRICK
401 CHAMBERS BRIDGE RD
DIVISION OF INSPECTIONS

UCC NEW JERSEY
PLUMBING
SUBCODE
TECHNICAL SECTION

Date Received 02/06/2004
Date Issued 2/11/04
Control # C26-09
Permit # 64 04/16

A. IDENTIFICATION-APPLICANT: COMPLETE ALL APPLICABLE INFORMATION. WHEN CHANGING
CONTRACTORS, NOTIFY THIS OFFICE. CALL UTILITY DIG NO: 1-800-272-1900

Block 260 Lot 9 Quail
Work Site Location 13 PAUL JONES DR

NC

Owner in Fee FRANCIS ROBERT

Address SAME

BRICK NJ 08723-

Tele. [REDACTED]

Contractor PATRICK KIRWIN

Address 78 POST RD

BRICK, NJ 08724-

Tele. (732)295-2167

Lic. No. or Bldrs. Reg. No.

Federal-Exp. No. 22-2354524

B. PLUMBING CHARACTERISTICS

Use Group Present Proposed R-5
Building Sewer Size [] Public Sewer [] Private Septic
Water Sewer Size [] Public Water [] Private Well
Estimated Cost of Plumbing Work \$ 100

JOB SUMMARY (Office Use Only)

PLAN REVIEW

☒ No Plans Required

Joint Plan Review Required:

☐ Bidg [] Elect

☐ Fire [] Elevator

☐ Plumb. Plans Approved

Date: 2/12/04

Approved by: [Signature]

SUBCODE APPROVAL

☐ CO ☐ CCO ☐ CA

Approved By:

Date:

INSPECTIONS

Type Failure Failure Approval Initial

Slab

Rough

Water

Sewer

Pictures

Gas Equip.

Gas Piping

Solar

FCO

D. TECHNICAL SITE DATA (List all fixtures.)

NO.

FIXTURE/EQUIPMENT

FEE (Office Use Only)

Water Closet

Urinal / Bidet

Bath Tub

Lavatory

Shower

Floor Drain

Sink

Dishwasher

Drinking Fountain

Washing Machine

Hose Bib

Water Heater

Fuel Oil Piping

Gas Piping

Steam Boiler

Hot Water Boiler

Sewer Pump

Interceptor / Separator

Backflow Preventer

Greasetrap

Sewer Connection

Water Service Connection

Stacks

Other AC

Other

Paid [] Check \$ Administrative Surcharge \$ 0
Minimum Fee \$ 0
TOTAL FEE \$ 35
Collected by: DCA State Permit Fee \$ 0

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.

Signature/Contractor Seal
☐ Licensed Plumbing Contractor ☐ Exempt Applicant

UCCARS 5.24E
TOWNSHIP OF BRICK
401 CHAMBERS BRIDGE RD
DIVISION OF INSPECTIONS

UCC NEW JERSEY
PLUMBING
SUBCODE
TECHNICAL SECTION

Date Received 02/06/2004
Date Issued 2/11/04
Control # C26-09
Permit # 64 04116

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

D. TECHNICAL SITE DATA (List all fixtures.)

Block 260 Lot 9 Sublot
Work Site Location 13 PAUL JONES DR

AC

Owner in Fee PRANCE, ROBERT

Address SAME

BRICK, NJ 08723-

Tel

Contractor PATRICK KISHWIN

Address 7B POST RD

BRICK, NJ 08724-

Tele (732)295-2167

Lic. No. or Bldgs. Reg. No.

Federal Emp. No. 22-2354524

B. PLUMBING CHARACTERISTICS

Use Group Present Proposed R-5
Building Sewer Size [] Public Sewer [] Private Septic
Water Sewer Size [] Public Water [] Private Well
Estimated Cost of Plumbing Work \$ 100

JOB SUMMARY (Office Use Only)
PLAN REVIEW

☒ No Plans Required
Joint Plan Review Required:
[] Bldg [] Elect
[] Fire [] Elevator
[] Plumb. Plans Approved

Date: 2/12/04
Approved by: [Signature]
SUBCODE APPROVAL
[] CO [] CCO [] CA

Approved By: TCO
Date: _____

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.

Signature/Contractor Seal
[] Licensed Plumbing Contractor [] Exempt Applicant

NO.

FIXTURE/EQUIPMENT

PER (Office Use Only)

0	Water Closet	0
0	Urinal / Bidet	0
0	Bath Tub	0
0	Lavatory	0
0	Shower	0
0	Floor Drain	0
0	Sink	0
0	Dishwasher	0
0	Drinking Fountain	0
0	Washing Machine	0
0	Rose Bib	0
0	Water Heater	0
0	Fuel Oil Piping	0
0	Gas Piping	0
0	Steam Boiler	0
0	Hot Water Boiler	0
0	Sewer Pump	0
0	Interceptor / Separator	0
0	Backflow Preventer	0
0	Greasetrap	0
0	Sewer Connection	0
0	Water Service Connection	0
0	Stacks	0
0	Other AC	35
0	Other	0

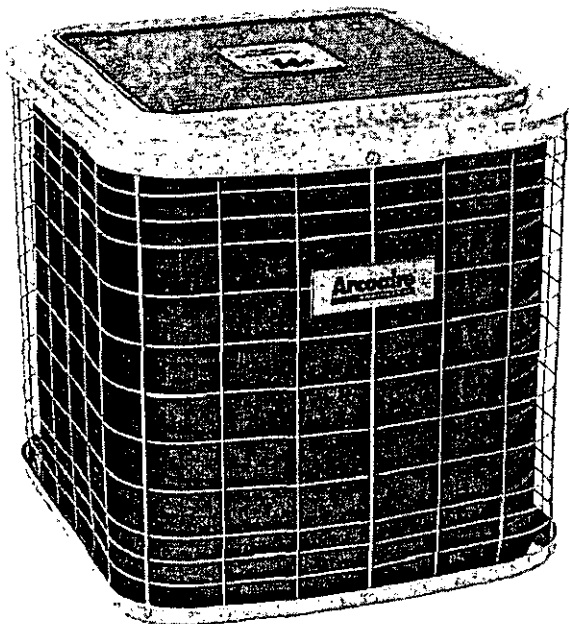
Paid [] Check \$ _____ Administrative Surcharge \$ 0
Collected by: _____ Minimum Fee \$ 0
TOTAL PER \$ 35
DCA State Permit Fee \$ 0

**High
Efficiency**

14+

Arcoaire®
Air Conditioning & Heating

14+ SEER - AIR CONDITIONER



Representative photo only, some models may vary in appearance.

2 THRU 5 TONS SPLIT SYSTEM FEATURES

- High efficiency scroll compressors on all models
- Copper tube / aluminum fin coil
- Prepainted condenser fins
- Top air discharge for quieter operation
- G-90 Galvanized steel cabinet with integral base rails
- Triple step paint process
- Coated inlet and discharge grilles ruggedly built for enhanced coil protection
- Numerous service friendly features
- Service valves on all models with 3-1/2" stubs
- External refrigerant connections
- Easy side access sloped control panel
- Fan motor in-line disconnect plug
- Factory charged with R-22, condenser plus 25 Ft. lines
- 5 Year parts, 10 year compressor limited warranties
- 15+ SEER with Expansion Valve coils & Variable Speed Blowers or Furnaces



Rated in accordance with ARI Standard 210. Certification applies only when used with proper components as listed with ARI.



International Comfort Products Corporation (USA)
651 Hell-Quaker Ave.
Lewisburg, Tennessee 37091

RESIDENTIAL AND COMMERCIAL SYSTEMS • SPLIT SYSTEMS • PACKAGED AIR CONDITIONERS •
COMBINATION GAS / ELECTRIC UNITS • HEAT PUMPS • AIR HANDLERS • MANUFACTURED HOME AIR
CONDITIONERS • GAS, OIL AND ELECTRIC FURNACES

Base Specifications

Model Number	HAC424AKA	HAC430AKA	HAC436AKA	HAC442AKA	HAC448AKA	HAC460AKA
Rated Cooling Capacity (Btuh)	22000	29600	36000	40000	47500	58000
SEER Label	14	14	14	14	14	13.2
Sound Rating Decibels	70	72	74	74	74	76
Fan HP / Type / Speeds	1/8-PSC-1	1/8-PSC-1	1/4-PSC-1	1/4-PSC-1	1/4-PSC-1	1/4-PSC-1
Fan RPM / Max. CFM	840 / 2950	840 / 2950	840 / 4480	840 / 4480	840 / 4480	840 / 4480
Coil Face Area (Sq Ft)	20.0	20.0	20.0	24.0	26.67	26.67
Coil Rows / Fins Per Inch	1 / 22	2 / 18	2 / 22	2 / 22	2 / 22	2 / 22
Line Connection Suction I.D. Size (In.)	3/4	3/4	3/4	7/8	7/8	7/8
Line Connection Liquid I.D. Size (In.)	3/8	3/8	3/8	3/8	3/8	3/8
Supplied Optional Evaporator Orifice Size	-	-	-	-	-	-
Factory Charge - R22 (Oz)	132	190	194	272	297	310
Weight Lbs. (Ship)	228	232	235	261	281	291

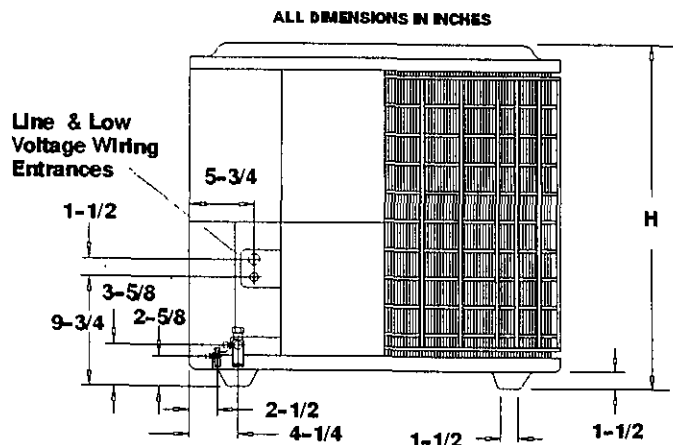
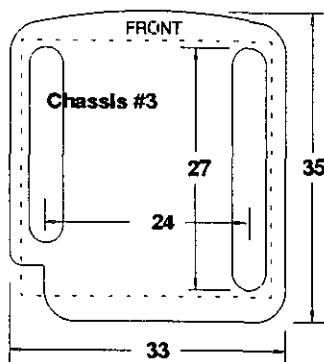
Electrical Specifications - 208 - 230 / 1 / 60, Voltage Range 197V - 253V

Minimum Circuit Ampacity	11.2	16.0	18.3	22.2	24.4	32.8
Wire Size/Max. Length (AWG Cu) Ft.	14 / 45	14 / 35	14 / 29	12 / 38	12 / 31	8 / 51
Time Delay Fuse (Amps)	15	15	25	30	30	40
Max. Fuse or HACR Breaker Size (Amps)	15	25	30	35	40	50
Compressor Full Run / Lock Rotor Amps	8.33 / 47	12.18 / 61.0	13.46 / 73.0	16.54 / 88	18.33 / 109	25.0 / 169
Fan Full Load / Lock Rotor Amps.	0.8 / 1.5	0.8 / 1.5	1.5 / 2.9	1.5 / 2.9	1.5 / 2.9	1.5 / 2.9

Dimensions		
Model	Chassis	Height (H)
424	3	32-5/8
430	3	32-5/8
436	3	32-5/8
442	3	38-5/8
448	3	42-5/8
460	3	42-5/8

Minimum Mounting Pad Sizes with pad starting at 9" from structure for minimum clearances

Chassis #3 27" W X 28" D



Accessory	Description	Used On
AMF153TKB	Expansion Valve Kit	2 - 3 Ton
AMF355TKB	Expansion Valve Kit	3 1/2 - 5 Ton
AMA001TDA	Indoor Blower Time Delay	All Models
AMB001CMA	Mesh Grille Guard (Pkg of 6) Trim to Fit	All Models
24370800 *	Compressor Anti-short cycle 24 Volt 3 Min. Time Delay	All Models
1070822 *	Compressor Anti-short cycle 24 Volt 5 Min. Time Delay	All Models
1148671 *	Low Ambient Kit (Fan Cycling Switch)	All Models
1053477 *	Compressor Crankcase Heater Solid State "Stick On" Type	All Models
1148113 *	Compressor Crankcase Heater "Wrap-around" Type (6.5 to 8.5 inch Dia Compressors)**	**All Models
1061482 *	Compressor Crankcase Heater "Wrap-around" Type (4.2 to 6.7 inch Dia Compressors)**	**All Models
1060833 *	Compressor Sound Jacket (Small Scroll)	1 1/2 - 3 Ton
1060834 *	Compressor Sound Jacket (Large Scroll)	3 1/2 - 5 Ton

* Order from Service Parts

PERFORMANCE DATA COOLING

Outdoor Model	Indoor Model	Cooling 95 F					CFM	Pin/TXV
		Btuh	SEER	S/T	EER	WATTS		
*AC424AKA**	EX*36F****+MV12F19****	22000	15.00	.75	13.0	1467	800	TXV
*AC424AKA**	FCV36****	22000	15.00	.77	13.0	1467	800	TXV
*AC424AKA**	EX*24F****+TD1	22000	14.10	.76	12.2	1560	800	TXV
*AC424AKA**	EAH5536**+TD1+TXV	22000	14.00	.76	12.2	1571	800	TXV
*AC424AKA**	EAH5536**+TD1+TXV	22000	14.00	.76	12.2	1571	800	TXV
*AC424AKA**	EP*36B****+TD1+TXV	22000	14.00	.77	12.2	1571	800	TXV
*AC424AKA**	EP*36F****+TD1+TXV	22000	14.00	.77	12.2	1571	800	TXV
*AC424AKA**	EP*36J****+TD1+TXV	22000	14.00	.77	12.2	1571	800	TXV
*AC424AKA**	EX*24B****	22000	14.00	.76	12.2	1571	800	TXV
*AC424AKA**	EX*24F****	22000	14.00	.76	12.2	1571	800	TXV
*AC424AKA**	EAH5536**+TXV	22000	13.90	.75	12.2	1583	800	TXV
*AC424AKA**	EP*36B****+TXV	22000	13.90	.76	12.2	1583	800	TXV
*AC424AKA**	EP*36F****+TXV	22000	13.90	.77	12.2	1583	800	TXV
*AC424AKA**	EP*36J****+TXV	22000	13.90	.77	12.2	1583	800	TXV
*AC424AKA**	EAH5524**+TD1+TXV	22000	13.80	.75	12.2	1594	800	TXV
*AC424AKA**	EAH5536**+TD1	22000	13.80	.75	12.2	1594	800	.056
*AC424AKA**	EAH5524**+TXV	22000	13.70	.75	12.2	1606	800	TXV
*AC424AKA**	EP*36B****+TD1	22000	13.70	.76	12.2	1606	800	.059
*AC424AKA**	EP*36F****+TD1	22000	13.70	.77	12.2	1606	800	.059
*AC424AKA**	EP*36J****+TD1	22000	13.70	.77	12.2	1606	800	.059
*AC424AKA**	EAH5524**+TD1	22000	13.50	.75	12.2	1630	800	.056
*AC424AKA**	EAH5536**	22000	13.50	.75	12.2	1630	800	.056
*AC424AKA**	EP*36B****	22000	13.50	.76	12.2	1630	800	.059
*AC424AKA**	EP*36F****	22000	13.50	.76	12.2	1630	800	.059
*AC424AKA**	EP*36J****	22000	13.50	.76	12.2	1630	800	.059
*AC424AKA**	EAH5524**	22000	13.30	.75	12.2	1654	800	.059
*AC424AKA**	EP*30F****+MV12F19****+TXV	21800	14.50	.76	12.9	1503	800	TXV
*AC424AKA**	FCX24****	21800	14.00	.76	12.2	1557	800	TXV
*AC424AKA**	EP*30B****+TD1+TXV	21800	13.70	.76	12.0	1591	800	TXV
*AC424AKA**	EP*30F****+TD1+TXV	21800	13.70	.76	12.0	1591	800	TXV
*AC424AKA**	EP*30B****+TXV	21800	13.60	.75	12.0	1603	800	TXV
*AC424AKA**	EP*30F****+TXV	21800	13.60	.76	12.0	1603	800	TXV
*AC424AKA**	EP*30B****+TD1	21800	13.40	.75	12.0	1627	800	.059
*AC424AKA**	EP*30F****+TD1	21800	13.40	.76	12.0	1627	800	.059
*AC424AKA**	EP*30B****	21800	13.20	.75	12.0	1652	800	.059
*AC424AKA**	EP*30F****	21800	13.20	.76	12.0	1652	800	.059
*AC424AKA**	EP*24B****+TXV+TD1	21400	13.50	.75	11.8	1585	800	TXV
*AC424AKA**	EP*24B****+TXV	21400	13.40	.75	11.8	1597	800	TXV
*AC424AKA**	EP*24B****+TD1	21400	13.20	.75	11.8	1621	800	.059
*AC424AKA**	EP*24B****	21400	12.90	.75	11.8	1659	800	.059
*AC424AKA**	FCP30****+TXV	21200	13.30	.76	11.4	1594	600	TXV
*AC424AKA**	FCP30****	21200	13.00	.77	11.4	1631	600	.059
*AC424AKA**	EE*24B****+TD1+TXV	20200	13.00	.75	11.3	1554	700	TXV
*AC424AKA**	EE*24B****+TXV	20200	12.90	.75	11.3	1566	700	TXV
*AC424AKA**	EE*24B****+TD1	20200	12.70	.75	11.3	1591	700	.053
*AC424AKA**	EE*24B****	20200	12.50	.75	11.3	1616	700	.053
*AC430AKA**	EX*36F****+MV12F19****	30000	15.00	.75	13.9	2000	1000	TXV
*AC430AKA**	FCV36****	30000	15.00	.77	13.9	2000	1000	TXV
*AC430AKA**	EX*36F****	29600	14.00	.77	13.0	2114	1000	TXV
*AC430AKA**	EX*36J****	29600	14.00	.76	12.9	2114	1000	TXV
*AC430AKA**	EAH5536**+TD1+TXV	29600	13.90	.77	12.9	2129	1000	TXV
*AC430AKA**	EAH5536**+TXV	29600	13.80	.77	12.9	2145	1000	TXV
*AC430AKA**	EAH5536**+TD1	29600	13.60	.77	12.9	2176	1000	.065

Many matches require a pin change. Always check pin size to insure maximum performance. PIN=Refrigerant orifice PIN size. TD1=AMA001TDA Indoor Blower Time Delay Kit, required to make SEER Indicated. All products using an electronic fan control satisfy TD1 requirements. TXV=Thermostatic Expansion Valve, TXV153 (AMF153) replaces HTXV1,2 or 3 where listed in ratings, TXV335 (AMF335) Replaces HTXV4 or 5 where listed in ratings. EP* = EPA, EPD, EPM series of coils. EX* = EXA, EXD, EXM series of coils. EE* = EEA OR EED series of coils.

PERFORMANCE DATA COOLING

Outdoor Model	Indoor Model	Cooling 95 F					CFM	Pin/TXV
		Btuh	SEER	S/T	EER	WATTS		
*AC430AKA**	EAH5536**	29600	13.50	.77	12.9	2193	1000	.065
*AC430AKA**	EP*36B****+TD1+TXV	29600	13.50	.77	12.4	2193	1000	TXV
*AC430AKA**	EP*36F****+TD1+TXV	29600	13.50	.77	12.4	2193	1000	TXV
*AC430AKA**	EP*36J****+TD1+TXV	29600	13.50	.77	12.4	2193	1000	TXV
*AC430AKA**	EP*36B****+TXV	29600	13.40	.75	12.4	2209	1000	TXV
*AC430AKA**	EP*36F****+TXV	29600	13.40	.77	12.4	2209	1000	TXV
*AC430AKA**	EP*36J****+TXV	29600	13.40	.77	12.4	2209	1000	TXV
*AC430AKA**	EP*36B****+TD1	29600	13.20	.75	12.4	2242	1000	.065
*AC430AKA**	EP*36F****+TD1	29600	13.20	.77	12.4	2242	1000	.065
*AC430AKA**	EP*36J****+TD1	29600	13.20	.77	12.4	2242	1000	.065
*AC430AKA**	EP*36B****	29600	13.00	.75	12.4	2277	1000	.065
*AC430AKA**	EP*36F****	29600	13.00	.77	12.4	2277	1000	.065
*AC430AKA**	EP*36J****	29600	13.00	.77	12.4	2277	1000	.065
*AC430AKA**	EP*36F****+MV12F19****+TXV	29000	14.50	.77	13.5	2000	1000	TXV
*AC430AKA**	FCX36****	28600	14.00	.77	12.7	2252	1000	TXV
*AC430AKA**	FCP30****+TXV	28200	13.60	.76	12.4	2074	1000	TXV
*AC430AKA**	FCP30****	28200	13.30	.76	12.4	2120	1000	.065
*AC430AKA**	EP*30B****+TD1+TXV	28000	13.50	.75	12.2	2074	1000	TXV
*AC430AKA**	EP*30F****+TD1+TXV	28000	13.50	.75	12.2	2074	1000	TXV
*AC430AKA**	EP*30B****+TXV	28000	13.40	.75	12.2	2090	1000	TXV
*AC430AKA**	EP*30F****+TXV	28000	13.40	.75	12.2	2090	1000	TXV
*AC430AKA**	EP*30B****+TD1	28000	13.20	.75	12.2	2121	1000	.065
*AC430AKA**	EP*30F****+TD1	28000	13.20	.75	12.2	2121	1000	.065
*AC430AKA**	EP*30B****	28000	13.00	.75	12.2	2154	1000	.065
*AC430AKA**	EP*30F****	28000	13.00	.75	12.2	2154	1000	.065
*AC430AKA**	EE*30B****+TD1+TXV	27600	13.30	.75	12.0	2075	1000	TXV
*AC430AKA**	EE*30B****+TXV	27600	13.20	.75	12.0	2091	1000	TXV
*AC430AKA**	EE*30B****+TD1	27600	13.00	.75	12.0	2123	1000	.053
*AC430AKA**	EE*30B****	27600	12.80	.75	12.0	2156	1000	.053
*AC436AKA**	EX*42J****+MV16J22****	36400	15.00	.75	12.9	2427	1200	TXV
*AC436AKA**	FCV36****	36400	15.00	.75	12.9	2427	1200	TXV
*AC436AKA**	EX*36J****+TD1	36000	14.10	.75	12.3	2553	1200	TXV
*AC436AKA**	EX*36F****	36000	14.00	.75	12.3	2571	1200	TXV
*AC436AKA**	EX*36J****	36000	14.00	.75	12.3	2571	1200	TXV
*AC436AKA**	FCX36****	36000	14.00	.75	12.2	2571	1200	TXV
*AC436AKA**	EP*42F****+TD1+TXV	36000	13.80	.75	12.5	2609	1200	TXV
*AC436AKA**	EP*42J****+TD1+TXV	36000	13.80	.75	12.5	2609	1200	TXV
*AC436AKA**	EP*42F****+TXV	36000	13.70	.75	12.5	2628	1200	TXV
*AC436AKA**	EP*42J****+TXV	36000	13.70	.75	12.5	2628	1200	TXV
*AC436AKA**	EP*42F****+TD1	36000	13.50	.75	12.5	2667	1200	.072
*AC436AKA**	EP*42J****+TD1	36000	13.50	.75	12.5	2667	1200	.072
*AC436AKA**	EP*42F****	36000	13.40	.75	12.5	2687	1200	.072
*AC436AKA**	EP*42J****	36000	13.40	.75	12.5	2687	1200	.072
*AC436AKA**	FCP36****+TXV	35800	14.00	.75	12.1	2557	1200	TXV
*AC436AKA**	FCP36****	35800	13.70	.75	12.1	2613	1200	.072
*AC436AKA**	EP*42F****+MV12F19****+TXV	35600	14.30	.75	12.4	2490	1200	TXV
*AC436AKA**	EP*36B****+TD1+TXV	34400	13.20	.74	11.7	2606	1200	TXV
*AC436AKA**	EP*36F****+TD1+TXV	34400	13.20	.74	11.7	2606	1200	TXV
*AC436AKA**	EP*36J****+TD1+TXV	34400	13.20	.74	11.7	2606	1200	TXV
*AC436AKA**	EP*36B****+TXV	34400	13.10	.74	11.7	2626	1200	TXV
*AC436AKA**	EP*36F****+TXV	34400	13.10	.74	11.7	2626	1200	TXV
*AC436AKA**	EP*36J****+TXV	34400	13.10	.74	11.7	2626	1200	TXV
*AC436AKA**	EP*36B****+TD1	34400	12.90	.74	11.7	2667	1200	.072
*AC436AKA**	EP*36F****+TD1	34400	12.90	.74	11.7	2667	1200	.072
*AC436AKA**	EP*36J****+TD1	34400	12.90	.74	11.7	2667	1200	.072
*AC436AKA**	EP*36B****	34400	12.80	.74	11.7	2688	1200	.072

Many matches require a pin change. Always check pin size to insure maximum performance. PIN=Refrigerant orifice PIN size. TD1=AMA001TDA Indoor Blower Time Delay Kit, required to make SEER indicated. All products using an electronic fan control satisfy TD1 requirements. TXV=Thermostatic Expansion Valve, TXV153 (AMF153) replaces HTXV1,2 or 3 where listed in ratings, TXV335 (AMF335) Replaces HTXV4 or 5 where listed in ratings. EP* = EPA, EPD, EPM series of coils. EX* = EXA, EXD, EXM series of coils. EE* = EEA OR EED series of coils.

PART NO. 421 31 3401 05

Printed in U.S.A.

SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

July 2001

PERFORMANCE DATA COOLING

Outdoor Model	Indoor Model	Cooling 95 F					CFM	Pin/TXV
		Btuh	SEER	S/T	EER	WATTS		
*AC436AKA**	EP*36F****	34400	12.80	.74	11.7	2688	1200	.072
*AC436AKA**	EP*36J****	34400	12.80	.74	11.7	2688	1200	.072
*AC436AKA**	EAH5536**+TD1+TXV	34000	13.30	.75	11.6	2556	1200	TXV
*AC436AKA**	EAH5536**+TXV	34000	13.20	.75	11.6	2576	1200	TXV
*AC436AKA**	EE*42F****+TD1+TXV	34000	13.10	.74	11.6	2595	1200	TXV
*AC436AKA**	EAH5536**+TD1	34000	13.00	.75	11.6	2615	1200	.071
*AC436AKA**	EE*42F****+TXV	34000	13.00	.74	11.6	2615	1200	TXV
*AC436AKA**	EAH5536**	34000	12.80	.75	11.6	2656	1200	.071
*AC436AKA**	EE*42F****+TD1	34000	12.80	.74	11.6	2656	1200	.072
*AC436AKA**	EE*42F****	34000	12.70	.74	11.6	2677	1200	.072
*AC436AKA**	EE*36B****+TD1+TXV	33600	12.90	.74	11.4	2605	1200	TXV
*AC436AKA**	EE*36B****+TXV	33600	12.80	.74	11.4	2625	1200	TXV
*AC436AKA**	EE*36B****+TD1	33600	12.60	.74	11.4	2667	1200	.072
*AC436AKA**	EE*36B****	33600	12.50	.74	11.4	2688	1200	.072
*AC442AKA**	EX*48N+MV16J22****	41500	15.40	.76	13.1	2695	1400	TXV
*AC442AKA**	FCV48****	41500	15.40	.77	13.1	2695	1400	TXV
*AC442AKA**	EP*48J**+MV16J22**+TXV	40500	15.00	.76	12.8	2700	1400	TXV
*AC442AKA**	EX*48N****+TD1	40000	14.10	.77	12.1	2837	1400	TXV
*AC442AKA**	EAH5560**+TD1+TXV	40000	14.05	.78	12.1	2847	1400	TXV
*AC442AKA**	EAH5560**+TXV	40000	14.00	.78	12.1	2857	1400	TXV
*AC442AKA**	EX*42J****	40000	14.00	.76	12.1	2857	1400	TXV
*AC442AKA**	EX*48N****	40000	14.00	.77	12.1	2857	1400	TXV
*AC442AKA**	EP*42F****+TD1+TXV	40000	13.90	.75	12.1	2878	1400	TXV
*AC442AKA**	EP*42J****+TD1+TXV	40000	13.90	.75	12.1	2878	1400	TXV
*AC442AKA**	EAH5560**+TD1	40000	13.80	.78	12.1	2899	1400	.079
*AC442AKA**	EP*42F****+TXV	40000	13.80	.75	12.1	2899	1400	TXV
*AC442AKA**	EP*42J****+TXV	40000	13.80	.75	12.1	2899	1400	TXV
*AC442AKA**	EAH5560**	40000	13.70	.78	12.1	2920	1400	.079
*AC442AKA**	EP*42F****+TD1	40000	13.60	.75	12.1	2941	1400	.079
*AC442AKA**	EP*42J****+TD1	40000	13.60	.75	12.1	2941	1400	.079
*AC442AKA**	EP*42F****	40000	13.50	.75	12.1	2963	1400	.079
*AC442AKA**	EP*42J****	40000	13.50	.75	12.1	2963	1400	.079
*AC442AKA**	EAH5548**+TD1+TXV	39500	14.00	.77	11.8	2821	1400	TXV
*AC442AKA**	FCP48****+TXV	39500	14.00	.77	11.9	2821	1400	TXV
*AC442AKA**	EAH5548**+TXV	39500	13.90	.77	11.8	2842	1400	TXV
*AC442AKA**	FCX48****	39500	14.00	.77	11.9	2821	1400	TXV
*AC442AKA**	EAH5548**+TD1	39500	13.70	.77	11.8	2883	1400	.079
*AC442AKA**	EP*48F****+TD1+TXV	39500	13.70	.76	11.9	2883	1400	TXV
*AC442AKA**	EP*48J****+TD1+TXV	39500	13.70	.76	11.9	2883	1400	TXV
*AC442AKA**	EP*48N****+TD1+TXV	39500	13.70	.76	11.9	2883	1400	TXV
*AC442AKA**	FCP48****	39500	13.70	.77	11.9	2883	1400	.079
*AC442AKA**	EP*48F****+TXV	39500	13.60	.76	11.9	2904	1400	TXV
*AC442AKA**	EP*48J****+TXV	39500	13.60	.76	11.9	2904	1400	TXV
*AC442AKA**	EP*48N****+TXV	39500	13.60	.76	11.9	2904	1400	TXV
*AC442AKA**	EAH5548**	39500	13.50	.77	11.8	2926	1400	.079
*AC442AKA**	EP*48F****+TD1	39500	13.40	.76	11.9	2948	1400	.079
*AC442AKA**	EP*48J****+TD1	39500	13.40	.76	11.9	2948	1400	.079
*AC442AKA**	EP*48N****+TD1	39500	13.40	.76	11.9	2948	1400	.079
*AC442AKA**	EP*48F****	39500	13.20	.76	11.9	2992	1400	.079

Many matches require a pin change. Always check pin size to insure maximum performance. PIN=Refrigerant orifice PIN size. TD1=AMA001TDA Indoor Blower Time Delay Kit, required to make SEER indicated. All products using an electronic fan control satisfy TD1 requirements. TXV=Thermostatic Expansion Valve, TXV153 (AMF153) replaces HTXV1,2 or 3 where listed in ratings, TXV335 (AMF335) Replaces HTXV4 or 5 where listed in ratings. EP* = EPA, EPD, EPM series of coils. EX* = EXA, EXD, EXM series of coils. EE* = EEA OR EED series of coils.

PERFORMANCE DATA COOLING

Outdoor Model	Indoor Model	Cooling 95 F					CFM	Pin/TXV
		Btuh	SEER	S/T	EER	WATTS		
*AC442AKA**	EP*48J****	39500	13.20	.76	11.9	2992	1400	.079
*AC442AKA**	EP*48N****	39500	13.20	.76	11.9	2992	1400	.079
*AC442AKA**	EE*42F****+TD1+TXV	38500	13.40	.75	11.6	2873	1400	TXV
*AC442AKA**	EE*42F****+TXV	38500	13.30	.75	11.6	2895	1400	TXV
*AC442AKA**	EE*42F****+TD1	38500	13.10	.75	11.6	2939	1400	.072
*AC442AKA**	EE*42F****	38500	13.00	.75	11.6	2962	1400	.072
*AC448AKA**	EP*48J**MV16J22**+TXV	47500	15.10	.76	12.9	3146	1600	TXV
*AC448AKA**	EX*48N**MV16J22**+TXV	47500	15.10	.77	12.9	3146	1600	TXV
*AC448AKA**	FCV48****	47500	15.10	.77	12.9	3146	1600	TXV
*AC448AKA**	EP*48J**MV16J22**+TXV	47500	15.00	.76	12.9	3167	1600	TXV
*AC448AKA**	EX*48N**MV16J22****	47500	15.00	.77	12.9	3167	1600	TXV
*AC448AKA**	FCP48****+TXV	47500	14.10	.77	12.3	3369	1600	TXV
*AC448AKA**	FCX48****	47500	14.10	.77	12.3	3369	1600	TXV
*AC448AKA**	EX*48N****	47500	14.00	.77	12.5	3393	1600	TXV
*AC448AKA**	FCP48****	47500	13.80	.77	12.3	3442	1600	.079
*AC448AKA**	EAH5560**+TD1+TXV	47000	13.60	.78	12.3	3456	1600	TXV
*AC448AKA**	EAH5560**+TXV	47000	13.50	.78	12.3	3481	1600	TXV
*AC448AKA**	EAH5560**+TD1	47000	13.30	.78	12.3	3534	1600	.079
*AC448AKA**	EAH5560**	47000	13.10	.78	12.3	3588	1600	.079
*AC448AKA**	EP*48F****+TD1+TXV	46500	13.90	.76	12.2	3345	1600	TXV
*AC448AKA**	EP*48J****+TD1+TXV	46500	13.90	.76	12.2	3345	1600	TXV
*AC448AKA**	EP*48N****+TD1+TXV	46500	13.90	.76	12.2	3345	1600	TXV
*AC448AKA**	EP*48F****+TXV	46500	13.80	.76	12.2	3370	1600	TXV
*AC448AKA**	EP*48J****+TXV	46500	13.80	.76	12.2	3370	1600	TXV
*AC448AKA**	EP*48N****+TXV	46500	13.80	.76	12.2	3370	1600	TXV
*AC448AKA**	EP*48F****+TD1	46500	13.60	.76	12.2	3419	1600	.079
*AC448AKA**	EP*48J****+TD1	46500	13.60	.76	12.2	3419	1600	.079
*AC448AKA**	EP*48N****+TD1	46500	13.60	.76	12.2	3419	1600	.079
*AC448AKA**	EP*48F****	46500	13.50	.76	12.2	3444	1600	.079
*AC448AKA**	EP*48J****	46500	13.50	.76	12.2	3444	1600	.079
*AC448AKA**	EP*48N****	46500	13.50	.76	12.2	3444	1600	.079
*AC448AKA**	EE*48F****+TD1+TXV	44500	12.90	.76	11.6	3450	1600	TXV
*AC448AKA**	EE*48F****+TXV	44500	12.80	.76	11.6	3477	1600	TXV
*AC448AKA**	EE*48F****+TD1	44500	12.60	.76	11.6	3532	1600	.078
*AC448AKA**	EE*48F****	44500	12.50	.76	11.6	3560	1600	.078
*AC460AKA**	FCX60****	59000	12.60	.73	11.3	4683	2000	TXV
*AC460AKA**	FCP60****+TXV	59000	12.50	.73	11.3	4720	2000	TXV
*AC460AKA**	FCP60****	59000	12.20	.73	11.3	4836	2000	.089
*AC460AKA**	FCV60****	58000	13.20	.73	11.5	4394	1800	TXV
*AC460AKA**	EX*60N****+MV20N26****	57500	13.10	.73	11.3	4389	1800	TXV
*AC460AKA**	EX*60N****+TD1	57500	13.10	.73	11.3	4389	1800	TXV
*AC460AKA**	EP*60N**MV20N26**+TXV	57500	13.00	.72	11.3	4423	1800	TXV
*AC460AKA**	EX*60N****	57500	13.00	.73	11.3	4423	1800	TXV
*AC460AKA**	EP*60J****+TD1+TXV	57500	12.50	.73	11.1	4600	1800	TXV
*AC460AKA**	EP*60N****+TD1+TXV	57500	12.50	.73	11.1	4600	1800	TXV
*AC460AKA**	EP*60J****+TXV	57500	12.40	.73	11.1	4637	1800	TXV
*AC460AKA**	EP*60N****+TXV	57500	12.40	.73	11.1	4637	1800	TXV
*AC460AKA**	EP*60J****+TD1	57500	12.20	.73	11.1	4713	1800	.089
*AC460AKA**	EP*60N****+TD1	57500	12.20	.73	11.1	4713	1800	.089
*AC460AKA**	EP*60J****	57500	12.00	.73	11.1	4792	1800	.089
*AC460AKA**	EP*60N****	57500	12.00	.73	11.1	4792	1800	.089
*AC460AKA**	EE*60J****+TD1+TXV	56500	12.90	.72	11.1	4380	1800	TXV
*AC460AKA**	EE*60J****+TXV	56500	12.80	.72	11.1	4414	1800	TXV
*AC460AKA**	EE*60J****+TD1	56500	12.60	.72	11.1	4484	1800	.079
*AC460AKA**	EAH5560**+TD1+TXV	56500	12.50	.73	11.1	4520	1800	TXV
*AC460AKA**	EE*60J****	56500	12.50	.72	11.1	4520	1800	.079
*AC460AKA**	EAH5560**+TXV	56500	12.40	.73	11.1	4556	1800	TXV
*AC460AKA**	EAH5560**+TD1	56500	12.20	.73	11.1	4631	1800	.089
*AC460AKA**	EAH5560**	56500	12.00	.73	11.1	4708	1800	.089

Many matches require a pin change. Always check pin size to insure maximum performance. PIN=Refrigerant orifice PIN size. TD1=AMA001TDA Indoor Blower Time Delay Kit, required to make SEER indicated. All products using an electronic fan control satisfy TD1 requirements. TXV=Thermostatic Expansion Valve, TXV153 (AMF153) replaces HTXV1,2 or 3 where listed in ratings, TXV335 (AMF335) Replaces HTXV4 or 5 where listed in ratings. EP* = EPA, EPD, EPM series of coils. EX* = EXA, EXD, EXM series of coils. EE* = EEA OR EED series of coils.

MODEL NUMBER IDENTIFICATION GUIDE

MODEL NUMBER PRODUCT FAMILY * = Brand	AC	2	24	A	K	A	SALES CODE ELECTRICAL K = 208/230-1-60 H = 208/230-3-60 CONNECTIONS A = Sweat / Valve
PRODUCT TYPE AC = Air Conditioning CA = Condenser A/C HP = Heat Pump CH = Condenser H/P							
NOMINAL SEER RATING 0 = 10 2 = 12 4 = 14							NOMINAL CAPACITY MBTUH 18 = 18,000 24 = 24,000 30 = 30,000 36 = 36,000 42 = 42,000 48 = 48,000 60 = 60,000

EXTENDED REFRIGERANT LINE CORRECTION FACTORS

Varying Line Length in Feet (m) vs. Total Capacity Multiplier

25 (8)	50 (15)	75 (23)	100 (30)	125 (38)	150 (46)
1.00	.99	.98	.96	.94	.92

REFRIGERANT CHARGE DATA

All models are factory charged with R-22 for outdoor unit, 25' (8m) of refrigerant line and matching indoor section.
Refrigerant charge correction per foot (305mm) of line:
1/4" O.D. = .25 oz.; 5/16" O.D. = .45 oz.; 3/8" O.D. = .60 oz.;
1/2" O.D. = 1.2 oz.

VOLTAGE CORRECTION FACTORS

Volts	Capacity	Watts
208	.98	.99

INDOOR AIRFLOW CORRECTION TABLE

% Rated Air	90	95	100	105	110
Total Cap. Mult.	.98	.99	1.00	1.01	1.03
Sens Cap. Mult.	.95	.98	1.00	1.03	1.05

INDOOR TEMPERATURE CORRECTION TABLE

(Based on 95°F Ambient)

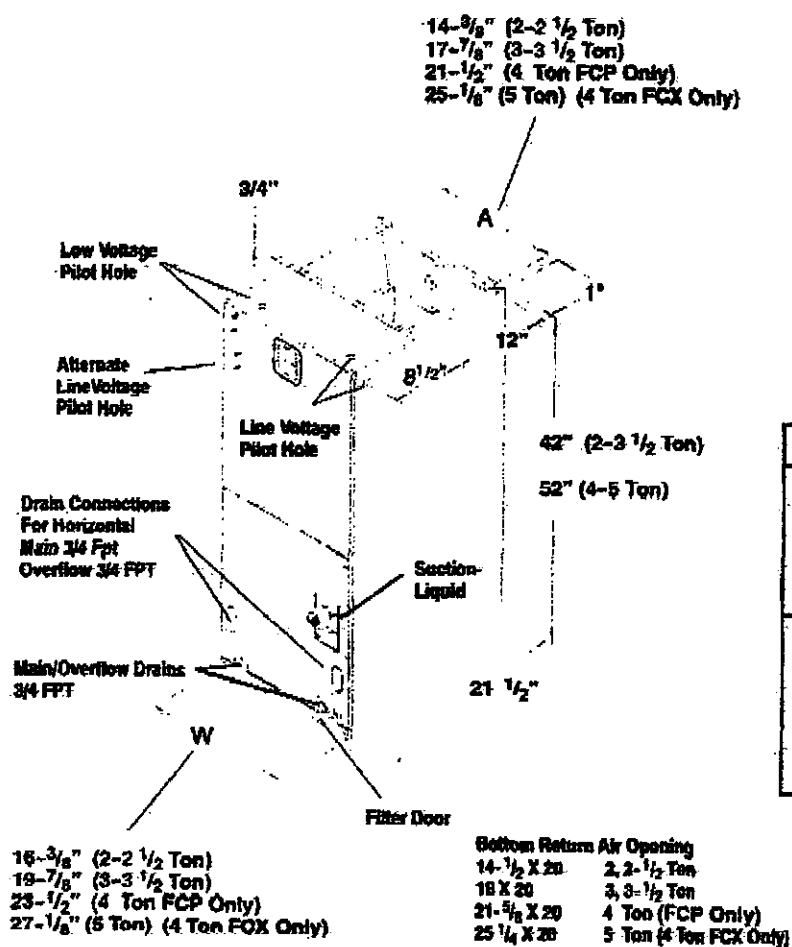
Indoor D.B. °F (°C)	Correction Factor	Entering Indoor Wet Bulb °F (°C)							
		59 (15)	61 (16)	63 (17)	65 (18)	67 (19)	69 (20)	71 (21)	
70 (21)	Total Cap. Mult.	.90	.93	.96	.99	1.02	-	-	
	Sens Cap. Mult.	.86	.85	.82	.77	.70	-	-	
75 (24)	Total Cap. Mult.	.89	.92	.95	.98	1.01	1.04	-	
	Sens Cap. Mult.	1.04	1.03	1.00	.95	.88	.78	-	
80 (26)	Total Cap. Mult.	.88	.91	.94	.97	1.00	1.03	1.06	
	Sens Cap. Mult.	1.18	1.17	1.14	1.08	1.00	.89	.73	
85 (29)	Total Cap. Mult.	-	.90	.93	.96	.99	1.02	1.05	
	Sens Cap. Mult.	-	1.29	1.26	1.20	1.11	.98	.81	

Bold Type = approximately 50% Relative Humidity

MODEL NUMBER IDENTIFICATION ACCESSORY MODEL GUIDE

F		C	P	36	00	C/D	A	M	F	001	DP	A
PRODUCT FAMILY						SALES CODE	PRODUCT GROUP				SALES CODE	
FC = FAN COIL							A = Accessories				PRODUCT IDENTIFIER	
METERING DEVICE							PRODUCT TYPE				PRODUCT IDENTIFIER NUMBER	
P = Piston							C = Cooling N = Heating X = Special					
X = Expansion Valve							M = Multi Use (Heating and / or Cooling)				SERIES	
* 05 = 5KW Factory installed Heater, 07=7KW, 10=10KW ACCESSORY PRODUCT IDENTIFIER ASSIGNMENT CH - Auxiliary Heater DP - Drain Pan Kit OT - Outdoor Thermostat NH - No Heat Kit WF - Washable Filter TK - Thermostatic Expansion Valve SP - Single Point Wiring Kit												

DIMENSIONS



CLEARANCES	
NO HEATERS	
All Sides	0"
From Supply Duct	0"
Recommended Service From Front	20"
(Service for blower, filter if installed)	
WITH HEATERS	
All Sides	0"
From First Three Feet of Supply Duct to Combustibles	1"
From Duct after Three Feet	0"
Recommended Service From Front	20"
(Service for blower, filter, heaters if installed)	

38-20-17

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SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

** TOTAL PAGE.02 **

UNIT SPECIFICATIONS - BLOWER COILS

Model Number		FCP2400C/D FCX2400C	FCP3000C/D	FCP3600C/D FCX3600C	FCP4200C/D	FCP4800C/D FCX4800C	FCP6000C/D FCX6000C
Application		Upflow / Horizontal *					
Electrical Data **	Volts-Phase-Hz.	208 / 230 - 1 - 60					
	Minimum Circuit Ampacity	7.5	7.5	7.5	7.5	7.5	7.5
	Time Delay Fuse (Amps)	15					
	Maximum Fuse or Breaker Size (Amps)	15					
Blower Data	Size	DD9 - 7	DD10 - 7	DD10 - 8	DD10 - 8	DD10 - 9	DD10 - 9
	Horsepower - Speed	1/4 - 3	1/3 - 3	1/3 - 3	1/2 - 3	1/2 - 3	3/4 - 3
	Full Load / Lock Rotor Amps	2.2 / 4.1	3.1 / 5.6	3.1 / 5.6	4.0 / 6.8	4.0 / 6.8	6.0 / 13.2
Refrigerant Connection	Liquid (O.D.) Size (in.)	5/16			3/8		3/8
	Suction (O.D.) Size (in.)	3/4			7/8		7/8
	Factory Charge R - 22 (oz.)	Holding					
	Indoor Coil Orifice Size (in.) FCP Only	.059	.065	.072	.078	.079	.089
Condensate Drains (in.)		3/4" NPT					
Transformer		40 VA					
Washable Air Filter Size, 1" Thick (in.)	FCP	14-1/4 X 20-1/4	14-1/4 X 20-1/4	17-3/4 X 20-1/4	17-3/4 X 20-1/4	21-1/4 X 20-1/4	24-3/4 X 20-1/4
	FCX	14-1/4 X 20-1/4	--	17-3/4 X 20-1/4	--	24-3/4 X 20-1/4	24-3/4 X 20-1/4
Disposable Air Filter Size, 1" Thick (in.)	FCP	14 X 20	14 X 20	18 X 20	18 X 20	22 X 20	25 X 20
	FCX	14 X 20	--	18 X 20	--	25 X 20	25 X 20
Weight	Shipping / Net (Lbs.)	FCP 83 / 90	89 / 96	98 / 105	107 / 114	129 / 138	143 / 158
Weight	Shipping / Net (Lbs.)	FCX 85 / 102	--	111 / 118	--	145 / 155	160 / 170

* Horizontal Drain Pan Kit required for FCP/C models

** Disregard if electric heat is added. Refer to Electric Heat table.

UNIT SPECIFICATIONS - Using No Heat Kit

No Heat Model	Supply Circuit			Supply Circuit No.	Maximum Motor AMPS.	Total AMPS.	Branch Circuit Amperity	Maximum Overcurrent Protective Device (AMPS.)	Recommended				
									Supply Wire 75 ° C. Copper			Ground Wire	
	Volts	Phase	Hertz						No.	Size	Max. Length (Ft)	No.	Size
AMF001NH	240	1	60	Single	6.0	6.0	7.5	15	2	14	104	1	14
	208	1	60	Single	6.0	6.0	7.5	15	2	14	90	1	14

UNIT SPECIFICATIONS - Blower Coils - With Factory Installed Heaters (Build to Order Only)

The following models are available on a build to order basis. Check with factory for lead times.
Use the base specifications for corresponding models for the blower and KW rating of the heater.

FCP2405C	AMFK05AHA INSTALLED IN FCP2400C
FCP2407C	AMFK07AHA INSTALLED IN FCP2400C
FCP2410C	AMFK10AHA INSTALLED IN FCP2400C
FCP3005C	AMFK05AHA INSTALLED IN FCP3000C
FCP3007C	AMFK07AHA INSTALLED IN FCP3000C
FCP3010C	AMFK10AHA INSTALLED IN FCP3000C
FCP3605C	AMFK05AHA INSTALLED IN FCP3600C
FCP3607C	AMFK07AHA INSTALLED IN FCP3600C
FCP3610C	AMFK10AHA INSTALLED IN FCP3600C
FCP4205C	AMFK05AHA INSTALLED IN FCP4200C
FCP4207C	AMFK07AHA INSTALLED IN FCP4200C
FCP4210C	AMFK10AHA INSTALLED IN FCP4200C
FCP4807C	AMFK07AHA INSTALLED IN FCP4800C
FCP4810C	AMFK10AHA INSTALLED IN FCP4800C
FCP6010C	AMFK10AHA INSTALLED IN FCP6000C

Patrick T. Kerwin, Inc.

1624 Beaver Dam Rd. Point Pleasant, NJ 08742
Phone: 7322952167 Fax: 7328995521 E-mail: kerwinhvacr@aol.com

PROPOSAL FOR:

Mike Lyons

, Wall

1/27/04

Patrick T. Kerwin, Inc.

1624 Beaver Dam Rd. Point Pleasant, NJ 08742
Phone: 7322952167 Fax: 7328995521 E-mail: kerwinhvacr@aol.com

Heat Load Summary Report for Mike Lyons

Room Name	Square Ft.	Heating Loss BTUH	Hydronic Heat Linear Ft.	Latent / Sensible Gain BTUH	Cooling Gain BTUH	Cooling Tons	Cooling CFM
parents area 1	260	5781	9.63	633 / 9985	10618	0.88	354
bed 7 1	168	2618	4.36	350 / 5035	5385	0.45	180
bed 6 1	120	2114	3.52	307 / 4705	5012	0.42	167
bed5 1	120	2065	3.44	307 / 3983	4290	0.36	143
bath 1	35	373	0.62	231 / 1255	1487	0.12	50
hall 1	112	1327	2.21	500 / 2857	3357	0.28	112
kitchen	396	4468	7.45	1554 / 4932	6487	0.54	216
fam room	286	3960	6.6	1456 / 4729	6185	0.52	206
bath	45	755	1.26	240 / 2108	2348	0.2	78
bed 4	221	3078	5.13	598 / 4895	5493	0.46	183
laundry	88	1660	2.77	479 / 2953	3432	0.29	114
bath	54	960	1.6	248 / 2321	2570	0.21	86
hall/stairs	154	2701	4.5	538 / 3554	4092	0.34	136
bed 3	204	1867	3.11	383 / 3041	3424	0.29	114
bed 2	204	1867	3.11	583 / 3291	3874	0.32	129
WI	48	284	0.47	43 / 227	270	0.02	9
master bed	210	4905	8.17	588 / 8260	8848	0.74	295
master bath	168	3064	5.11	550 / 8514	9064	0.76	302
TOTALS	2893	43845	73.07	9588 / 76645	86235	7.19	2874

Disclaimer

These computed results should be treated as estimates only and should be viewed as only one of the many tools required for a professional installation. The installing contractor's experience and expert judgement are also major factors in sizing and installing a complete system. The weather, customer usage, duct installation, and structure design may vary on each estimate and should be taken into account. Correct system sizing is based on the systems ability to meet both latent and sensible heat requirements, not just total BTUs.

Patrick T. Kerwin, Inc.

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Heat Load Detail Report for Mike Lyons

Room 1 of 18

Room Specifications: parents area 1

Room Length (Ft.) :	20	Sq. Ft windows facing NE & NW:	—	Watts Incandescent Light:	200
Room Width (Ft.) :	13	Sq. Ft windows facing South:	—	Watts Fluorescent Light:	200
Room Height (Ft.) :	8	Sq. Ft windows facing SE & SW:	—	Duct Length from A/H to room:	—
Exposed Wall Length (Ft.) :	33	Number of Exterior Doors:	—	Number of Large Electric Motors:	—
Wall against unconditioned room (Ft.) :	—	Sq. Ft. Exterior Doors:	1	Average Electric Motor Horsepower:	—
Sq. Ft windows facing North:	12	Number of People in Room:	2	BTUH Appliance Sensible Heat:	—
Sq. Ft windows facing E & W:	56			BTUH Appliance Latent Heat:	—

Indoor/Outdoor Design Temperatures (degrees Farenheit)

Summer:		Winter:	
Inside (Thermostat setting) :	74	Inside (Thermostat setting) :	72
Outside (Above ground):	97	Outside (Above ground) :	20
Outside (Below ground):	65	Outside (Below ground) :	60
Unconditioned Space :	97	Unconditioned Space :	65
Above Ceiling (Attic/Crawl Space) :	130	Above Ceiling (Attic/Crawl Space) :	45
Concrete Slab (Ground temperature) :	80	Concrete Slab (Ground temperature) :	55
Unconditioned Basement :	60	Unconditioned Basement :	55
Below Floor Crawl Space :	85	Below Floor Crawl Space :	50

Applicable Temperatures: Above Ceiling: Attic or Crawl Space Below Floor: Crawl Space Exposed Walls: Above Ground

Design Conditions

Occupant Sensible Load (BTUH per person) :	250
Occupant Latent Load (BTUH per person) :	200
Duct Insulation Factor :	1
Duct Temperature Difference (Summer) :	20
Duct Temperature Difference (Winter) :	45
Humidity Difference Inside/Outside % (Summer) :	20
Humidity Difference Inside/Outside % (Winter) :	15
Fresh Air Per Person (CFM) :	2
Air Change Factor (Air change per hour) :	.5
Space Shading Factor :	.4
Air Handler Design Cooling (CFM per ton) :	400
Hydronic Heat (BTUH per linear ft) :	600

Insulation Values (U-Factors)

Exposed Walls (Above Ground) :	.080
Exposed Walls (Below Ground) :	.5
Partitions :	.075
Roof/Ceiling :	.055
Floor (Above basement) :	.083
Floor (Concrete slab) :	.001
Floor (Between conditioned spaces) :	.287
Doors :	.500
Windows :	.900

Calculated Room Results - Summer Heat Gains

Wall Heat Gain (BTUH) :	486	Appliance/Elec Motor Latent Heat Gain (BTUH) :	400
Ceiling or Roof Heat Gain (BTUH) :	801	Appliance/Elec Motor Sensible Heat Gain (BTUH) :	2032
Floor Heat Gain (BTUH) :	237	Ventilation Latent Heat Gain (BTUH) :	233
Glass Heat Gain (BTUH) :	1056	Ventilation Sensible Gain (BTUH) :	431
Exterior Door & North Window Heat Gain (BTUH) :	126	Summer Total Latent Heat Gain:	633
Solar Heat Gain (BTUH) :	4816	Summer Total Sensible Heat Gain (BTUH) :	9985
Total Transmission Heat Gain (BTUH) :	7522	TOTAL SUMMER COOLING LOAD (BTUH) :	10618

Calculated Room Results - Winter Heat Losses

Transmission Heat Losses (BTUH) :	4631	Latent Ventilation Heat Losses (BTUH) :	175
Sensible Ventilation Heat Losses (BTUH) :	975	Hydronic Heat (Linear Ft.) :	10
		TOTAL WINTER HEATING LOAD (BTUH) :	5781

Calculated Totals for Entire Structure

Size of Structure (Sq. Ft.):	2893	Total Sensible Heat Gain (BTUH):	76645
Total Heat Loss (BTUH):	43845	Total Cooling Gain (BTUH):	86235
Total Hydronic Heat (Linear Ft.):	73.07	Total Cooling Requirement (Tons):	7.19
Total Latent Heat Gain (BTUH):	9588	Total Cooling CFM:	2874

Disclaimer

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Heat Load Detail Report for Mike Lyons

Room 2 of 18

Room Specifications: bed 7 1

Room Length (Ft.) :	12	Sq. Ft windows facing NE & NW:	—	Watts Incandescent Light:	200
Room Width (Ft.) :	14	Sq. Ft windows facing South:	—	Watts Fluorescent Light:	200
Room Height (Ft.) :	8	Sq. Ft windows facing SE & SW:	—	Duct Length from A/H to room:	—
Exposed Wall Length (Ft.) :	14	Number of Exterior Doors:	—	Number of Large Electric Motors:	—
Wall against unconditioned room (Ft.) :	—	Sq. Ft. Exterior Doors:	—	Average Electric Motor Horsepower:	—
Sq. Ft windows facing North:	—	Number of People in Room:	1	BTUH Appliance Sensible Heat:	—
Sq. Ft windows facing E & W:	20			BTUH Appliance Latent Heat:	—

Indoor/Outdoor Design Temperatures (degrees Farenheit)

Summer:		Winter:	
Inside (Thermostat setting) :	74	Inside (Thermostat setting) :	72
Outside (Above ground):	97	Outside (Above ground) :	20
Outside (Below ground):	65	Outside (Below ground) :	60
Unconditioned Space :	97	Unconditioned Space :	65
Above Ceiling (Attic/Crawl Space) :	130	Above Ceiling (Attic/Crawl Space) :	45
Concrete Slab (Ground temperature) :	80	Concrete Slab (Ground temperature) :	55
Unconditioned Basement :	60	Unconditioned Basement :	55
Below Floor Crawl Space :	85	Below Floor Crawl Space :	50

Applicable Temperatures: Above Ceiling: Attic or Crawl Space Below Floor: Crawl Space Exposed Walls: Above Ground

Design Conditions

Occupant Sensible Load (BTUH per person) :	250
Occupant Latent Load (BTUH per person) :	200
Duct Insulation Factor :	1
Duct Temperature Difference (Summer) :	20
Duct Temperature Difference (Winter) :	45
Humidity Difference Inside/Outside % (Summer) :	20
Humidity Difference Inside/Outside % (Winter) :	15
Fresh Air Per Person (CFM) :	2
Air Change Factor (Air change per hour) :	.5
Space Shading Factor :	.4
Air Handler Design Cooling (CFM per ton) :	400
Hydronic Heat (BTUH per linear ft) :	600

Insulation Values (U-Factors)

Exposed Walls (Above Ground) :	.080
Exposed Walls (Below Ground) :	.5
Partitions :	.075
Roof/Ceiling :	.055
Floor (Above basement) :	.083
Floor (Concrete slab) :	.001
Floor (Between conditioned spaces) :	.287
Doors :	.500
Windows :	.900

Calculated Room Results - Summer Heat Gains

Wall Heat Gain (BTUH) :	206	Appliance/Elec Motor Latent Heat Gain (BTUH) :	200
Ceiling or Roof Heat Gain (BTUH) :	517	Appliance/Elec Motor Sensible Heat Gain (BTUH) :	1782
Floor Heat Gain (BTUH) :	153	Ventilation Latent Heat Gain (BTUH) :	150
Glass Heat Gain (BTUH) :	377	Ventilation Sensible Gain (BTUH) :	279
Exterior Door & North Window Heat Gain (BTUH) :	0	Summer Total Latent Heat Gain:	350
Solar Heat Gain (BTUH) :	1720	Summer Total Sensible Heat Gain (BTUH) :	5035
Total Transmission Heat Gain (BTUH) :	2974	TOTAL SUMMER COOLING LOAD (BTUH) :	5385

Calculated Room Results - Winter Heat Losses

Transmission Heat Losses (BTUH) :	1875	Latent Ventilation Heat Losses (BTUH) :	113
Sensible Ventilation Heat Losses (BTUH) :	630	Hydronic Heat (Linear Ft.) :	4
		TOTAL WINTER HEATING LOAD (BTUH) :	2618

Calculated Totals for Entire Structure

Size of Structure (Sq. Ft.):	2893	Total Sensible Heat Gain (BTUH):	76645
Total Heat Loss (BTUH):	43845	Total Cooling Gain (BTUH):	86235
Total Hydronic Heat (Linear Ft.):	73.07	Total Cooling Requirement (Tons):	7.19
Total Latent Heat Gain (BTUH):	9588	Total Cooling CFM:	2874

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Heat Load Detail Report for Mike Lyons

Room 3 of 18

Room Specifications: bed 6 1

Room Length (Ft.) :	12	Sq. Ft windows facing NE & NW:	--	Watts Incandescent Light:	200
Room Width (Ft.) :	10	Sq. Ft windows facing South:	--	Watts Flourescent Light:	200
Room Height (Ft.) :	8	Sq. Ft windows facing SE & SW:	--	Duct Length from A/H to room:	--
Exposed Wall Length (Ft.) :	10	Number of Exterior Doors:	--	Number of Large Electric Motors:	--
Wall against unconditioned room (Ft.) :	--	Sq. Ft. Exterior Doors:	--	Average Electric Motor Horsepower:	--
Sq. Ft windows facing North:	--	Number of People in Room:	1	BTUH Appliance Sensible Heat:	--
Sq. Ft windows facing E & W:	20			BTUH Appliance Latent Heat:	--

Indoor/Outdoor Design Temperatures (degrees Farenheit)

Summer:		Winter:	
Inside (Thermostat setting) :	74	Inside (Thermostat setting) :	72
Outside (Above ground):	97	Outside (Above ground) :	20
Outside (Below ground):	65	Outside (Below ground) :	60
Unconditioned Space :	97	Unconditioned Space :	65
Above Ceiling (Attic/Crawl Space) :	130	Above Ceiling (Attic/Crawl Space) :	45
Concrete Slab (Ground temperature) :	80	Concrete Slab (Ground temperature) :	55
Unconditioned Basement :	60	Unconditioned Basement :	55
Below Floor Crawl Space :	85	Below Floor Crawl Space :	50

Applicable Temperatures: Above Ceiling: Attic or Crawl Space Below Floor: Crawl Space Exposed Walls: Above Ground

Design Conditions

Occupant Sensible Load (BTUH per person) :	250
Occupant Latent Load (BTUH per person) :	200
Duct Insulation Factor :	1
Duct Temperature Difference (Summer) :	20
Duct Temperature Difference (Winter) :	45
Humidity Difference Inside/Outside % (Summer) :	20
Humidity Difference Inside/Outside % (Winter) :	15
Fresh Air Per Person (CFM) :	2
Air Change Factor (Air change per hour) :	.5
Space Shading Factor :	.4
Air Handler Design Cooling (CFM per ton) :	400
Hydronic Heat (BTUH per linear ft) :	600

Insulation Values (U-Factors)

Exposed Walls (Above Ground) :	.080
Exposed Walls (Below Ground) :	.5
Partitions :	.075
Roof/Ceiling :	.055
Floor (Above basement) :	.083
Floor (Concrete slab) :	.001
Floor (Between conditioned spaces) :	.287
Doors :	.500
Windows :	.900

Calculated Room Results - Summer Heat Gains

Wall Heat Gain (BTUH) :	147	Appliance/Elec Motor Latent Heat Gain (BTUH) :	200
Ceiling or Roof Heat Gain (BTUH) :	370	Appliance/Elec Motor Sensible Heat Gain (BTUH) :	1782
Floor Heat Gain (BTUH) :	110	Ventilation Latent Heat Gain (BTUH) :	107
Glass Heat Gain (BTUH) :	377	Ventilation Sensible Gain (BTUH) :	199
Exterior Door & North Window Heat Gain (BTUH) :	0	Summer Total Latent Heat Gain:	307
Solar Heat Gain (BTUH) :	1720	Summer Total Sensible Heat Gain (BTUH) :	4705
Total Transmission Heat Gain (BTUH) :	2724	TOTAL SUMMER COOLING LOAD (BTUH) :	5012

Calculated Room Results - Winter Heat Losses

Transmission Heat Losses (BTUH) :	1583	Latent Ventilation Heat Losses (BTUH) :	81
Sensible Ventilation Heat Losses (BTUH) :	450	Hydronic Heat (Linear Ft.) :	4
		TOTAL WINTER HEATING LOAD (BTUH) :	2114

Calculated Totals for Entire Structure

Size of Structure (Sq. Ft.):	2893	Total Sensible Heat Gain (BTUH):	76645
Total Heat Loss (BTUH):	43845	Total Cooling Gain (BTUH):	86235
Total Hydronic Heat (Linear Ft.):	73.07	Total Cooling Requirement (Tons):	7.19
Total Latent Heat Gain (BTUH):	9588	Total Cooling CFM:	2874

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Heat Load Detail Report for Mike Lyons

Room 4 of 18

Room Specifications: bed5 1

Room Length (Ft.) :	12	Sq. Ft windows facing NE & NW:	—	Watts Incandescent Light:	200
Room Width (Ft.) :	10	Sq. Ft windows facing South:	12	Watts Fluorescent Light:	200
Room Height (Ft.) :	8	Sq. Ft windows facing SE & SW:	—	Duct Length from A/H to room:	—
Exposed Wall Length (Ft.) :	10	Number of Exterior Doors:	—	Number of Large Electric Motors:	—
Wall against unconditioned room (Ft.) :	—	Sq. Ft. Exterior Doors:	—	Average Electric Motor Horsepower:	—
Sq. Ft windows facing North:	—	Number of People in Room:	1	BTUH Appliance Sensible Heat:	—
Sq. Ft windows facing E & W:	12			BTUH Appliance Latent Heat:	—

Indoor/Outdoor Design Temperatures (degrees Farenheit)

Summer:		Winter:	
Inside (Thermostat setting) :	74	Inside (Thermostat setting) :	72
Outside (Above ground):	97	Outside (Above ground) :	20
Outside (Below ground):	65	Outside (Below ground) :	60
Unconditioned Space :	97	Unconditioned Space :	65
Above Ceiling (Attic/Crawl Space) :	130	Above Ceiling (Attic/Crawl Space) :	45
Concrete Slab (Ground temperature) :	80	Concrete Slab (Ground temperature) :	55
Unconditioned Basement :	60	Unconditioned Basement :	55
Below Floor Crawl Space :	85	Below Floor Crawl Space :	50

Applicable Temperatures: Above Ceiling: Attic or Crawl Space Below Floor: Thermostat Setting Exposed Walls: Above Ground

Design Conditions

Occupant Sensible Load (BTUH per person) :	250
Occupant Latent Load (BTUH per person) :	200
Duct Insulation Factor :	1
Duct Temperature Difference (Summer) :	20
Duct Temperature Difference (Winter) :	45
Humidity Difference Inside/Outside % (Summer) :	20
Humidity Difference Inside/Outside % (Winter) :	15
Fresh Air Per Person (CFM) :	2
Air Change Factor (Air change per hour) :	.5
Space Shading Factor :	.4
Air Handler Design Cooling (CFM per ton) :	400
Hydronic Heat (BTUH per linear ft) :	600

Insulation Values (U-Factors)

Exposed Walls (Above Ground) :	.080
Exposed Walls (Below Ground) :	.5
Partitions :	.075
Roof/Ceiling :	.055
Floor (Above basement) :	.083
Floor (Concrete slab) :	.001
Floor (Between conditioned spaces) :	.287
Doors :	.500
Windows :	.900

Calculated Room Results - Summer Heat Gains

Wall Heat Gain (BTUH) :	147	Appliance/Elec Motor Latent Heat Gain (BTUH) :	200
Ceiling or Roof Heat Gain (BTUH) :	370	Appliance/Elec Motor Sensible Heat Gain (BTUH) :	1782
Floor Heat Gain (BTUH) :	0	Ventilation Latent Heat Gain (BTUH) :	107
Glass Heat Gain (BTUH) :	453	Ventilation Sensible Gain (BTUH) :	199
Exterior Door & North Window Heat Gain (BTUH) :	0	Summer Total Latent Heat Gain:	307
Solar Heat Gain (BTUH) :	1032	Summer Total Sensible Heat Gain (BTUH) :	3983
Total Transmission Heat Gain (BTUH) :	2001	TOTAL SUMMER COOLING LOAD (BTUH) :	4290

Calculated Room Results - Winter Heat Losses

Transmission Heat Losses (BTUH) :	1534	Latent Ventilation Heat Losses (BTUH) :	81
Sensible Ventilation Heat Losses (BTUH) :	450	Hydronic Heat (Linear Ft.) :	3
		TOTAL WINTER HEATING LOAD (BTUH) :	2065

Calculated Totals for Entire Structure

Size of Structure (Sq. Ft.):	2893	Total Sensible Heat Gain (BTUH):	76645
Total Heat Loss (BTUH):	43845	Total Cooling Gain (BTUH):	86235
Total Hydronic Heat (Linear Ft.):	73.07	Total Cooling Requirement (Tons):	7.19
Total Latent Heat Gain (BTUH):	9588	Total Cooling CFM:	2874

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Heat Load Detail Report for Mike Lyons

Room 5 of 18

Room Specifications: bath 1

Room Length (Ft.) :	5	Sq. Ft windows facing NE & NW:	—	Watts Incandescent Light:	100
Room Width (Ft.) :	7	Sq. Ft windows facing South:	—	Watts Flourescent Light:	100
Room Height (Ft.) :	8	Sq. Ft windows facing SE & SW:	—	Duct Length from A/H to room:	—
Exposed Wall Length (Ft.) :	5	Number of Exterior Doors:	—	Number of Large Electric Motors:	—
Wall against unconditioned room (Ft.) :	—	Sq. Ft. Exterior Doors:	—	Average Electric Motor Horsepower:	—
Sq. Ft windows facing North:	—	Number of People in Room:	1	BTUH Appliance Sensible Heat:	—
Sq. Ft windows facing E & W:	—			BTUH Appliance Latent Heat:	—

Indoor/Outdoor Design Temperatures (degrees Farenheit)

Summer:		Winter:	
Inside (Thermostat setting) :	74	Inside (Thermostat setting) :	72
Outside (Above ground):	97	Outside (Above ground) :	20
Outside (Below ground):	65	Outside (Below ground) :	60
Unconditioned Space :	97	Unconditioned Space :	65
Above Ceiling (Attic/Crawl Space) :	130	Above Ceiling (Attic/Crawl Space) :	45
Concrete Slab (Ground temperature) :	80	Concrete Slab (Ground temperature) :	55
Unconditioned Basement :	60	Unconditioned Basement :	55
Below Floor Crawl Space :	85	Below Floor Crawl Space :	50

Applicable Temperatures: Above Ceiling: Attic or Crawl Space Below Floor: Thermostat Setting Exposed Walls: Above Ground

Design Conditions

Occupant Sensible Load (BTUH per person) :	250
Occupant Latent Load (BTUH per person) :	200
Duct Insulation Factor :	1
Duct Temperature Difference (Summer) :	20
Duct Temperature Difference (Winter) :	45
Humidity Difference Inside/Outside % (Summer) :	20
Humidity Difference Inside/Outside % (Winter) :	15
Fresh Air Per Person (CFM) :	2
Air Change Factor (Air change per hour) :	.5
Space Shading Factor :	.4
Air Handler Design Cooling (CFM per ton) :	400
Hydronic Heat (BTUH per linear ft) :	600

Insulation Values (U-Factors)

Exposed Walls (Above Ground) :	.080
Exposed Walls (Below Ground) :	.5
Partitions :	.075
Roof/Ceiling :	.055
Floor (Above basement) :	.083
Floor (Concrete slab) :	.001
Floor (Between conditioned spaces) :	.287
Doors :	.500
Windows :	.900

Calculated Room Results - Summer Heat Gains

Wall Heat Gain (BTUH) :	74	Appliance/Elec Motor Latent Heat Gain (BTUH) :	200
Ceiling or Roof Heat Gain (BTUH) :	108	Appliance/Elec Motor Sensible Heat Gain (BTUH) :	1016
Floor Heat Gain (BTUH) :	0	Ventilation Latent Heat Gain (BTUH) :	31
Glass Heat Gain (BTUH) :	0	Ventilation Sensible Gain (BTUH) :	58
Exterior Door & North Window Heat Gain (BTUH) :	0	Summer Total Latent Heat Gain:	231
Solar Heat Gain (BTUH) :	0	Summer Total Sensible Heat Gain (BTUH) :	1255
Total Transmission Heat Gain (BTUH) :	181	TOTAL SUMMER COOLING LOAD (BTUH) :	1487

Calculated Room Results - Winter Heat Losses

Transmission Heat Losses (BTUH) :	218	Latent Ventilation Heat Losses (BTUH) :	23
Sensible Ventilation Heat Losses (BTUH) :	131	Hydronic Heat (Linear Ft.) :	1
		TOTAL WINTER HEATING LOAD (BTUH) :	373

Calculated Totals for Entire Structure

Size of Structure (Sq. Ft.):	2893	Total Sensible Heat Gain (BTUH):	76645
Total Heat Loss (BTUH):	43845	Total Cooling Gain (BTUH):	86235
Total Hydronic Heat (Linear Ft.):	73.07	Total Cooling Requirement (Tons):	7.19
Total Latent Heat Gain (BTUH):	9588	Total Cooling CFM:	2874

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Heat Load Detail Report for Mike Lyons

Room 6 of 18

Room Specifications: hall 1

Room Length (Ft.) :	28	Sq. Ft windows facing NE & NW:	—	Watts Incandescent Light:	200
Room Width (Ft.) :	4	Sq. Ft windows facing South:	—	Watts Fluorescent Light:	200
Room Height (Ft.) :	8	Sq. Ft windows facing SE & SW:	—	Duct Length from A/H to room:	—
Exposed Wall Length (Ft.) :	20	Number of Exterior Doors:	—	Number of Large Electric Motors:	—
Wall against unconditioned room (Ft.) :	—	Sq. Ft. Exterior Doors:	—	Average Electric Motor Horsepower:	—
Sq. Ft windows facing North:	—	Number of People in Room:	2	BTUH Appliance Sensible Heat:	—
Sq. Ft windows facing E & W:	—			BTUH Appliance Latent Heat:	—

Indoor/Outdoor Design Temperatures (degrees Farenheit)

Summer:		Winter:	
Inside (Thermostat setting) :	74	Inside (Thermostat setting) :	72
Outside (Above ground):	97	Outside (Above ground) :	20
Outside (Below ground):	65	Outside (Below ground) :	60
Unconditioned Space :	97	Unconditioned Space :	65
Above Ceiling (Attic/Crawl Space) :	130	Above Ceiling (Attic/Crawl Space) :	45
Concrete Slab (Ground temperature) :	80	Concrete Slab (Ground temperature) :	55
Unconditioned Basement :	60	Unconditioned Basement :	55
Below Floor Crawl Space :	85	Below Floor Crawl Space :	50

Applicable Temperatures: Above Ceiling: Attic or Crawl Space Below Floor: Thermostat Setting Exposed Walls: Above Ground

Design Conditions

Occupant Sensible Load (BTUH per person) :	250
Occupant Latent Load (BTUH per person) :	200
Duct Insulation Factor :	1
Duct Temperature Difference (Summer) :	20
Duct Temperature Difference (Winter) :	45
Humidity Difference Inside/Outside % (Summer) :	20
Humidity Difference Inside/Outside % (Winter) :	15
Fresh Air Per Person (CFM) :	2
Air Change Factor (Air change per hour) :	.5
Space Shading Factor :	.4
Air Handler Design Cooling (CFM per ton) :	400
Hydronic Heat (BTUH per linear ft) :	600

Insulation Values (U-Factors)

Exposed Walls (Above Ground) :	.080
Exposed Walls (Below Ground) :	.5
Partitions :	.075
Roof/Ceiling :	.055
Floor (Above basement) :	.083
Floor (Concrete slab) :	.001
Floor (Between conditioned spaces) :	.287
Doors :	.500
Windows :	.900

Calculated Room Results - Summer Heat Gains

Wall Heat Gain (BTUH) :	294	Appliance/Elec Motor Latent Heat Gain (BTUH) :	400
Ceiling or Roof Heat Gain (BTUH) :	345	Appliance/Elec Motor Sensible Heat Gain (BTUH) :	2032
Floor Heat Gain (BTUH) :	0	Ventilation Latent Heat Gain (BTUH) :	100
Glass Heat Gain (BTUH) :	0	Ventilation Sensible Gain (BTUH) :	186
Exterior Door & North Window Heat Gain (BTUH) :	0	Summer Total Latent Heat Gain:	500
Solar Heat Gain (BTUH) :	0	Summer Total Sensible Heat Gain (BTUH) :	2857
Total Transmission Heat Gain (BTUH) :	639	TOTAL SUMMER COOLING LOAD (BTUH) :	3357

Calculated Room Results - Winter Heat Losses

Transmission Heat Losses (BTUH) :	832	Latent Ventilation Heat Losses (BTUH) :	75
Sensible Ventilation Heat Losses (BTUH) :	420	Hydronic Heat (Linear Ft.) :	2
		TOTAL WINTER HEATING LOAD (BTUH) :	1327

Calculated Totals for Entire Structure

Size of Structure (Sq. Ft.):	2893	Total Sensible Heat Gain (BTUH):	76645
Total Heat Loss (BTUH):	43845	Total Cooling Gain (BTUH):	86235
Total Hydronic Heat (Linear Ft.):	73.07	Total Cooling Requirement (Tons):	7.19
Total Latent Heat Gain (BTUH):	9588	Total Cooling CFM:	2874

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Heat Load Detail Report for Mike Lyons

Room 7 of 18

Room Specifications: kitchen

Room Length (Ft.) :	22	Sq. Ft windows facing NE & NW:	—	Watts Incandescent Light:	200
Room Width (Ft.) :	18	Sq. Ft windows facing South:	12	Watts Fluorescent Light:	200
Room Height (Ft.) :	8	Sq. Ft windows facing SE & SW:	—	Duct Length from A/H to room:	—
Exposed Wall Length (Ft.) :	36	Number of Exterior Doors:	—	Number of Large Electric Motors:	—
Wall against unconditioned room (Ft.) :	—	Sq. Ft. Exterior Doors:	1	Average Electric Motor Horsepower:	—
Sq. Ft windows facing North:	12	Number of People in Room:	6	BTUH Appliance Sensible Heat:	—
Sq. Ft windows facing E & W:	—			BTUH Appliance Latent Heat:	—

Indoor/Outdoor Design Temperatures (degrees Farenheit)

Summer:		Winter:	
Inside (Thermostat setting) :	74	Inside (Thermostat setting) :	72
Outside (Above ground):	97	Outside (Above ground) :	20
Outside (Below ground):	65	Outside (Below ground) :	60
Unconditioned Space :	97	Unconditioned Space :	65
Above Ceiling (Attic/Crawl Space) :	130	Above Ceiling (Attic/Crawl Space) :	45
Concrete Slab (Ground temperature) :	80	Concrete Slab (Ground temperature) :	55
Unconditioned Basement :	60	Unconditioned Basement :	55
Below Floor Crawl Space :	85	Below Floor Crawl Space :	50

Applicable Temperatures: Above Ceiling: Thermostat Setting Below Floor: Crawl Space Exposed Walls: Above Ground

Design Conditions

Occupant Sensible Load (BTUH per person) :	250
Occupant Latent Load (BTUH per person) :	200
Duct Insulation Factor :	1
Duct Temperature Difference (Summer) :	20
Duct Temperature Difference (Winter) :	45
Humidity Difference Inside/Outside % (Summer) :	20
Humidity Difference Inside/Outside % (Winter) :	15
Fresh Air Per Person (CFM) :	2
Air Change Factor (Air change per hour) :	.5
Space Shading Factor :	.4
Air Handler Design Cooling (CFM per ton) :	400
Hydronic Heat (BTUH per linear ft) :	600

Insulation Values (U-Factors)

Exposed Walls (Above Ground) :	.080
Exposed Walls (Below Ground) :	.5
Partitions :	.075
Roof/Ceiling :	.055
Floor (Above basement) :	.083
Floor (Concrete slab) :	.001
Floor (Between conditioned spaces) :	.287
Doors :	.500
Windows :	.900

Calculated Room Results - Summer Heat Gains

Wall Heat Gain (BTUH) :	530	Appliance/Elec Motor Latent Heat Gain (BTUH) :	1200
Ceiling or Roof Heat Gain (BTUH) :	0	Appliance/Elec Motor Sensible Heat Gain (BTUH) :	3032
Floor Heat Gain (BTUH) :	362	Ventilation Latent Heat Gain (BTUH) :	354
Glass Heat Gain (BTUH) :	226	Ventilation Sensible Gain (BTUH) :	657
Exterior Door & North Window Heat Gain (BTUH) :	126	Summer Total Latent Heat Gain:	1554
Solar Heat Gain (BTUH) :	0	Summer Total Sensible Heat Gain (BTUH) :	4932
Total Transmission Heat Gain (BTUH) :	1243	TOTAL SUMMER COOLING LOAD (BTUH) :	6487

Calculated Room Results - Winter Heat Losses

Transmission Heat Losses (BTUH) :	2717	Latent Ventilation Heat Losses (BTUH) :	266
Sensible Ventilation Heat Losses (BTUH) :	1486	Hydronic Heat (Linear Ft.) :	7
		TOTAL WINTER HEATING LOAD (BTUH) :	4468

Calculated Totals for Entire Structure

Size of Structure (Sq. Ft.):	2893	Total Sensible Heat Gain (BTUH):	76645
Total Heat Loss (BTUH):	43845	Total Cooling Gain (BTUH):	86235
Total Hydronic Heat (Linear Ft.):	73.07	Total Cooling Requirement (Tons):	7.19
Total Latent Heat Gain (BTUH):	9588	Total Cooling CFM:	2874

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Heat Load Detail Report for Mike Lyons

Room 8 of 18

Room Specifications: fam room

Room Length (Ft.) :	22	Sq. Ft windows facing NE & NW:	—	Watts Incandescent Light:	200
Room Width (Ft.) :	13	Sq. Ft windows facing South:	24	Watts Fluorescent Light:	200
Room Height (Ft.) :	8	Sq. Ft windows facing SE & SW:	—	Duct Length from A/H to room:	—
Exposed Wall Length (Ft.) :	26	Number of Exterior Doors:	—	Number of Large Electric Motors:	—
Wall against unconditioned room (Ft.) :	—	Sq. Ft. Exterior Doors:	1	Average Electric Motor Horsepower:	—
Sq. Ft windows facing North:	12	Number of People in Room:	6	BTUH Appliance Sensible Heat:	—
Sq. Ft windows facing E & W:	—			BTUH Appliance Latent Heat:	—

Indoor/Outdoor Design Temperatures (degrees Farenheit)

Summer:		Winter:	
Inside (Thermostat setting) :	74	Inside (Thermostat setting) :	72
Outside (Above ground):	97	Outside (Above ground) :	20
Outside (Below ground):	65	Outside (Below ground) :	60
Unconditioned Space :	97	Unconditioned Space :	65
Above Ceiling (Attic/Crawl Space) :	130	Above Ceiling (Attic/Crawl Space) :	45
Concrete Slab (Ground temperature) :	80	Concrete Slab (Ground temperature) :	55
Unconditioned Basement :	60	Unconditioned Basement :	55
Below Floor Crawl Space :	85	Below Floor Crawl Space :	50

Applicable Temperatures: Above Ceiling: Thermostat Setting Below Floor: Crawl Space Exposed Walls: Above Ground

Design Conditions

Occupant Sensible Load (BTUH per person) :	250
Occupant Latent Load (BTUH per person) :	200
Duct Insulation Factor :	1
Duct Temperature Difference (Summer) :	20
Duct Temperature Difference (Winter) :	45
Humidity Difference Inside/Outside % (Summer) :	20
Humidity Difference Inside/Outside % (Winter) :	15
Fresh Air Per Person (CFM) :	2
Air Change Factor (Air change per hour) :	.5
Space Shading Factor :	.4
Air Handler Design Cooling (CFM per ton) :	400
Hydronic Heat (BTUH per linear ft) :	600

Insulation Values (U-Factors)

Exposed Walls (Above Ground) :	.080
Exposed Walls (Below Ground) :	.5
Partitions :	.075
Roof/Ceiling :	.055
Floor (Above basement) :	.083
Floor (Concrete slab) :	.001
Floor (Between conditioned spaces) :	.287
Doors :	.500
Windows :	.900

Calculated Room Results - Summer Heat Gains

Wall Heat Gain (BTUH) :	383	Appliance/Elec Motor Latent Heat Gain (BTUH) :	1200
Ceiling or Roof Heat Gain (BTUH) :	0	Appliance/Elec Motor Sensible Heat Gain (BTUH) :	3032
Floor Heat Gain (BTUH) :	261	Ventilation Latent Heat Gain (BTUH) :	256
Glass Heat Gain (BTUH) :	453	Ventilation Sensible Gain (BTUH) :	475
Exterior Door & North Window Heat Gain (BTUH) :	126	Summer Total Latent Heat Gain:	1456
Solar Heat Gain (BTUH) :	0	Summer Total Sensible Heat Gain (BTUH) :	4729
Total Transmission Heat Gain (BTUH) :	1222	TOTAL SUMMER COOLING LOAD (BTUH) :	6185

Calculated Room Results - Winter Heat Losses

Transmission Heat Losses (BTUH) :	2695	Latent Ventilation Heat Losses (BTUH) :	192
Sensible Ventilation Heat Losses (BTUH) :	1073	Hydronic Heat (Linear Ft.) :	7
		TOTAL WINTER HEATING LOAD (BTUH) :	3960

Calculated Totals for Entire Structure

Size of Structure (Sq. Ft.):	2893	Total Sensible Heat Gain (BTUH):	76645
Total Heat Loss (BTUH):	43845	Total Cooling Gain (BTUH):	86235
Total Hydronic Heat (Linear Ft.):	73.07	Total Cooling Requirement (Tons):	7.19
Total Latent Heat Gain (BTUH):	9588	Total Cooling CFM:	2874

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Heat Load Detail Report for Mike Lyons

Room 9 of 18

Room Specifications: bath

Room Length (Ft.) :	9	Sq. Ft windows facing NE & NW:	--	Watts Incandescent Light:	200
Room Width (Ft.) :	5	Sq. Ft windows facing South:	--	Watts Flourescent Light:	200
Room Height (Ft.) :	8	Sq. Ft windows facing SE & SW:	--	Duct Length from A/H to room:	--
Exposed Wall Length (Ft.) :	9	Number of Exterior Doors:	--	Number of Large Electric Motors:	--
Wall against unconditioned room (Ft.) :	--	Sq. Ft. Exterior Doors:	--	Average Electric Motor Horsepower:	--
Sq. Ft windows facing North:	8	Number of People in Room:	1	BTUH Appliance Sensible Heat:	--
Sq. Ft windows facing E & W:	--			BTUH Appliance Latent Heat:	--

Indoor/Outdoor Design Temperatures (degrees Farenheit)

Summer:		Winter:	
Inside (Thermostat setting) :	74	Inside (Thermostat setting) :	72
Outside (Above ground):	97	Outside (Above ground) :	20
Outside (Below ground):	65	Outside (Below ground) :	60
Unconditioned Space :	97	Unconditioned Space :	65
Above Ceiling (Attic/Crawl Space) :	130	Above Ceiling (Attic/Crawl Space) :	45
Concrete Slab (Ground temperature) :	80	Concrete Slab (Ground temperature) :	55
Unconditioned Basement :	60	Unconditioned Basement :	55
Below Floor Crawl Space :	85	Below Floor Crawl Space :	50

Applicable Temperatures: Above Ceiling: Thermostat Setting Below Floor: Crawl Space Exposed Walls: Above Ground

Design Conditions

Occupant Sensible Load (BTUH per person) :	250
Occupant Latent Load (BTUH per person) :	200
Duct Insulation Factor :	1
Duct Temperature Difference (Summer) :	20
Duct Temperature Difference (Winter) :	45
Humidity Difference Inside/Outside % (Summer) :	20
Humidity Difference Inside/Outside % (Winter) :	15
Fresh Air Per Person (CFM) :	2
Air Change Factor (Air change per hour) :	.5
Space Shading Factor :	.4
Air Handler Design Cooling (CFM per ton) :	400
Hydronic Heat (BTUH per linear ft) :	600

Insulation Values (U-Factors)

Exposed Walls (Above Ground) :	.080
Exposed Walls (Below Ground) :	.5
Partitions :	.075
Roof/Ceiling :	.055
Floor (Above basement) :	.083
Floor (Concrete slab) :	.001
Floor (Between conditioned spaces) :	.287
Doors :	.500
Windows :	.900

Calculated Room Results - Summer Heat Gains

Wall Heat Gain (BTUH) :	132	Appliance/Elec Motor Latent Heat Gain (BTUH) :	200
Ceiling or Roof Heat Gain (BTUH) :	0	Appliance/Elec Motor Sensible Heat Gain (BTUH) :	1782
Floor Heat Gain (BTUH) :	41	Ventilation Latent Heat Gain (BTUH) :	40
Glass Heat Gain (BTUH) :	0	Ventilation Sensible Gain (BTUH) :	75
Exterior Door & North Window Heat Gain (BTUH) :	77	Summer Total Latent Heat Gain:	240
Solar Heat Gain (BTUH) :	0	Summer Total Sensible Heat Gain (BTUH) :	2108
Total Transmission Heat Gain (BTUH) :	251	TOTAL SUMMER COOLING LOAD (BTUH) :	2348

Calculated Room Results - Winter Heat Losses

Transmission Heat Losses (BTUH) :	556	Latent Ventilation Heat Losses (BTUH) :	30
Sensible Ventilation Heat Losses (BTUH) :	169	Hydronic Heat (Linear Ft.) :	1
		TOTAL WINTER HEATING LOAD (BTUH) :	755

Calculated Totals for Entire Structure

Size of Structure (Sq. Ft.):	2893	Total Sensible Heat Gain (BTUH):	76645
Total Heat Loss (BTUH):	43845	Total Cooling Gain (BTUH):	86235
Total Hydronic Heat (Linear Ft.):	73.07	Total Cooling Requirement (Tons):	7.19
Total Latent Heat Gain (BTUH):	9588	Total Cooling CFM:	2874

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Heat Load Detail Report for Mike Lyons

Room 10 of 18

Room Specifications: bed 4

Room Length (Ft.) :	17	Sq. Ft windows facing NE & NW:	--	Watts Incandescent Light:	200
Room Width (Ft.) :	13	Sq. Ft windows facing South:	--	Watts Fluorescent Light:	200
Room Height (Ft.) :	8	Sq. Ft windows facing SE & SW:	--	Duct Length from A/H to room:	--
Exposed Wall Length (Ft.) :	30	Number of Exterior Doors:	--	Number of Large Electric Motors:	--
Wall against unconditioned room (Ft.) :	--	Sq. Ft. Exterior Doors:	--	Average Electric Motor Horsepower:	--
Sq. Ft windows facing North:	12	Number of People in Room:	2	BTUH Appliance Sensible Heat:	--
Sq. Ft windows facing E & W:	12			BTUH Appliance Latent Heat:	--

Indoor/Outdoor Design Temperatures (degrees Farenheit)

Summer:		Winter:	
Inside (Thermostat setting) :	74	Inside (Thermostat setting) :	72
Outside (Above ground):	97	Outside (Above ground) :	20
Outside (Below ground):	65	Outside (Below ground) :	60
Unconditioned Space :	97	Unconditioned Space :	65
Above Ceiling (Attic/Crawl Space) :	130	Above Ceiling (Attic/Crawl Space) :	45
Concrete Slab (Ground temperature) :	80	Concrete Slab (Ground temperature) :	55
Unconditioned Basement :	60	Unconditioned Basement :	55
Below Floor Crawl Space :	85	Below Floor Crawl Space :	50

Applicable Temperatures: Above Ceiling: Attic or Crawl Space Below Floor: Thermostat Setting Exposed Walls: Above Ground

Design Conditions

Occupant Sensible Load (BTUH per person) :	250
Occupant Latent Load (BTUH per person) :	200
Duct Insulation Factor :	1
Duct Temperature Difference (Summer) :	20
Duct Temperature Difference (Winter) :	45
Humidity Difference Inside/Outside % (Summer) :	20
Humidity Difference Inside/Outside % (Winter) :	15
Fresh Air Per Person (CFM) :	2
Air Change Factor (Air change per hour) :	.5
Space Shading Factor :	.4
Air Handler Design Cooling (CFM per ton) :	400
Hydronic Heat (BTUH per linear ft) :	600

Insulation Values (U-Factors)

Exposed Walls (Above Ground) :	.080
Exposed Walls (Below Ground) :	.5
Partitions :	.075
Roof/Ceiling :	.055
Floor (Above basement) :	.083
Floor (Concrete slab) :	.001
Floor (Between conditioned spaces) :	.287
Doors :	.500
Windows :	.900

Calculated Room Results - Summer Heat Gains

Wall Heat Gain (BTUH) :	442	Appliance/Elec Motor Latent Heat Gain (BTUH) :	400
Ceiling or Roof Heat Gain (BTUH) :	681	Appliance/Elec Motor Sensible Heat Gain (BTUH) :	2032
Floor Heat Gain (BTUH) :	0	Ventilation Latent Heat Gain (BTUH) :	198
Glass Heat Gain (BTUH) :	226	Ventilation Sensible Gain (BTUH) :	367
Exterior Door & North Window Heat Gain (BTUH) :	116	Summer Total Latent Heat Gain:	598
Solar Heat Gain (BTUH) :	1032	Summer Total Sensible Heat Gain (BTUH) :	4895
Total Transmission Heat Gain (BTUH) :	2497	TOTAL SUMMER COOLING LOAD (BTUH) :	5493

Calculated Room Results - Winter Heat Losses

Transmission Heat Losses (BTUH) :	2100	Latent Ventilation Heat Losses (BTUH) :	148
Sensible Ventilation Heat Losses (BTUH) :	829	Hydronic Heat(Linear Ft.) :	5
		TOTAL WINTER HEATING LOAD (BTUH) :	3078

Calculated Totals for Entire Structure

Size of Structure (Sq. Ft.):	2893	Total Sensible Heat Gain (BTUH):	76645
Total Heat Loss (BTUH):	43845	Total Cooling Gain (BTUH):	86235
Total Hydronic Heat (Linear Ft.):	73.07	Total Cooling Requirement (Tons):	7.19
Total Latent Heat Gain (BTUH):	9588	Total Cooling CFM:	2874

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Heat Load Detail Report for Mike Lyons

Room 11 of 18

Room Specifications: laundry

Room Length (Ft.) :	11	Sq. Ft windows facing NE & NW:	—	Watts Incandescent Light:	200
Room Width (Ft.) :	8	Sq. Ft windows facing South:	12	Watts Fluorescent Light:	200
Room Height (Ft.) :	8	Sq. Ft windows facing SE & SW:	—	Duct Length from A/H to room:	—
Exposed Wall Length (Ft.) :	11	Number of Exterior Doors:	—	Number of Large Electric Motors:	.5
Wall against unconditioned room (Ft.) :	—	Sq. Ft. Exterior Doors:	—	Average Electric Motor Horsepower:	—
Sq. Ft windows facing North:	12	Number of People in Room:	2	BTUH Appliance Sensible Heat:	—
Sq. Ft windows facing E & W:	—			BTUH Appliance Latent Heat:	—

Indoor/Outdoor Design Temperatures (degrees Farenheit)

Summer:		Winter:	
Inside (Thermostat setting) :	74	Inside (Thermostat setting) :	72
Outside (Above ground):	97	Outside (Above ground) :	20
Outside (Below ground):	65	Outside (Below ground) :	60
Unconditioned Space :	97	Unconditioned Space :	65
Above Ceiling (Attic/Crawl Space) :	130	Above Ceiling (Attic/Crawl Space) :	45
Concrete Slab (Ground temperature) :	80	Concrete Slab (Ground temperature) :	55
Unconditioned Basement :	60	Unconditioned Basement :	55
Below Floor Crawl Space :	85	Below Floor Crawl Space :	50

Applicable Temperatures: Above Ceiling: Attic or Crawl Space Below Floor: Thermostat Setting Exposed Walls: Above Ground

Design Conditions

Occupant Sensible Load (BTUH per person) :	250
Occupant Latent Load (BTUH per person) :	200
Duct Insulation Factor :	1
Duct Temperature Difference (Summer) :	20
Duct Temperature Difference (Winter) :	45
Humidity Difference Inside/Outside % (Summer) :	20
Humidity Difference Inside/Outside % (Winter) :	15
Fresh Air Per Person (CFM) :	2
Air Change Factor (Air change per hour) :	.5
Space Shading Factor :	.4
Air Handler Design Cooling (CFM per ton) :	400
Hydronic Heat (BTUH per linear ft) :	600

Insulation Values (U-Factors)

Exposed Walls (Above Ground) :	.080
Exposed Walls (Below Ground) :	.5
Partitions :	.075
Roof/Ceiling :	.055
Floor (Above basement) :	.083
Floor (Concrete slab) :	.001
Floor (Between conditioned spaces) :	.287
Doors :	.500
Windows :	.900

Calculated Room Results - Summer Heat Gains

Wall Heat Gain (BTUH) :	162	Appliance/Elec Motor Latent Heat Gain (BTUH) :	400
Ceiling or Roof Heat Gain (BTUH) :	271	Appliance/Elec Motor Sensible Heat Gain (BTUH) :	2032
Floor Heat Gain (BTUH) :	0	Ventilation Latent Heat Gain (BTUH) :	79
Glass Heat Gain (BTUH) :	226	Ventilation Sensible Gain (BTUH) :	146
Exterior Door & North Window Heat Gain (BTUH) :	116	Summer Total Latent Heat Gain:	479
Solar Heat Gain (BTUH) :	0	Summer Total Sensible Heat Gain (BTUH) :	2953
Total Transmission Heat Gain (BTUH) :	775	TOTAL SUMMER COOLING LOAD (BTUH) :	3432

Calculated Room Results - Winter Heat Losses

Transmission Heat Losses (BTUH) :	1271	Latent Ventilation Heat Losses (BTUH) :	59
Sensible Ventilation Heat Losses (BTUH) :	330	Hydronic Heat (Linear Ft.) :	3
		TOTAL WINTER HEATING LOAD (BTUH) :	1660

Calculated Totals for Entire Structure

Size of Structure (Sq. Ft.):	2893	Total Sensible Heat Gain (BTUH):	76645
Total Heat Loss (BTUH):	43845	Total Cooling Gain (BTUH):	86235
Total Hydronic Heat (Linear Ft.):	73.07	Total Cooling Requirement (Tons):	7.19
Total Latent Heat Gain (BTUH):	9588	Total Cooling CFM:	2874

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Heat Load Detail Report for Mike Lyons

Room 12 of 18

Room Specifications: bath

Room Length (Ft.) :	9	Sq. Ft windows facing NE & NW:	—	Watts Incandescent Light:	200
Room Width (Ft.) :	6	Sq. Ft windows facing South:	8	Watts Fluorescent Light:	200
Room Height (Ft.) :	8	Sq. Ft windows facing SE & SW:	—	Duct Length from A/H to room:	—
Exposed Wall Length (Ft.) :	9	Number of Exterior Doors:	—	Number of Large Electric Motors:	—
Wall against unconditioned room (Ft.) :	—	Sq. Ft. Exterior Doors:	—	Average Electric Motor Horsepower:	—
Sq. Ft windows facing North:	—	Number of People in Room:	1	BTUH Appliance Sensible Heat:	—
Sq. Ft windows facing E & W:	—			BTUH Appliance Latent Heat:	—

Indoor/Outdoor Design Temperatures (degrees Farenheit)

Summer:		Winter:	
Inside (Thermostat setting) :	74	Inside (Thermostat setting) :	72
Outside (Above ground):	97	Outside (Above ground) :	20
Outside (Below ground):	65	Outside (Below ground) :	60
Unconditioned Space :	97	Unconditioned Space :	65
Above Ceiling (Attic/Crawl Space) :	130	Above Ceiling (Attic/Crawl Space) :	45
Concrete Slab (Ground temperature) :	80	Concrete Slab (Ground temperature) :	55
Unconditioned Basement :	60	Unconditioned Basement :	55
Below Floor Crawl Space :	85	Below Floor Crawl Space :	50

Applicable Temperatures: Above Ceiling: Attic or Crawl Space Below Floor: Thermostat Setting Exposed Walls: Above Ground

Design Conditions

Occupant Sensible Load (BTUH per person) :	250
Occupant Latent Load (BTUH per person) :	200
Duct Insulation Factor :	1
Duct Temperature Difference (Summer) :	20
Duct Temperature Difference (Winter) :	45
Humidity Difference Inside/Outside % (Summer) :	20
Humidity Difference Inside/Outside % (Winter) :	15
Fresh Air Per Person (CFM) :	2
Air Change Factor (Air change per hour) :	.5
Space Shading Factor :	.4
Air Handler Design Cooling (CFM per ton) :	400
Hydronic Heat (BTUH per linear ft) :	600

Insulation Values (U-Factors)

Exposed Walls (Above Ground) :	.080
Exposed Walls (Below Ground) :	.5
Partitions :	.075
Roof/Ceiling :	.055
Floor (Above basement) :	.083
Floor (Concrete slab) :	.001
Floor (Between conditioned spaces) :	.287
Doors :	.500
Windows :	.900

Calculated Room Results - Summer Heat Gains

Wall Heat Gain (BTUH) :	132	Appliance/Elec Motor Latent Heat Gain (BTUH) :	200
Ceiling or Roof Heat Gain (BTUH) :	166	Appliance/Elec Motor Sensible Heat Gain (BTUH) :	1782
Floor Heat Gain (BTUH) :	0	Ventilation Latent Heat Gain (BTUH) :	48
Glass Heat Gain (BTUH) :	151	Ventilation Sensible Gain (BTUH) :	90
Exterior Door & North Window Heat Gain (BTUH) :	0	Summer Total Latent Heat Gain:	248
Solar Heat Gain (BTUH) :	0	Summer Total Sensible Heat Gain (BTUH) :	2321
Total Transmission Heat Gain (BTUH) :	450	TOTAL SUMMER COOLING LOAD (BTUH) :	2570

Calculated Room Results - Winter Heat Losses

Transmission Heat Losses (BTUH) :	721	Latent Ventilation Heat Losses (BTUH) :	36
Sensible Ventilation Heat Losses (BTUH) :	203	Hydronic Heat (Linear Ft.) :	2
		TOTAL WINTER HEATING LOAD (BTUH) :	960

Calculated Totals for Entire Structure

Size of Structure (Sq. Ft.):	2893	Total Sensible Heat Gain (BTUH):	76645
Total Heat Loss (BTUH):	43845	Total Cooling Gain (BTUH):	86235
Total Hydronic Heat (Linear Ft.):	73.07	Total Cooling Requirement (Tons):	7.19
Total Latent Heat Gain (BTUH):	9588	Total Cooling CFM:	2874

Disclaimer

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Heat Load Detail Report for Mike Lyons

Room 13 of 18

Room Specifications: hall/stairs

Room Length (Ft.) :	22	Sq. Ft windows facing NE & NW :	—	Watts Incandescent Light:	200
Room Width (Ft.) :	7	Sq. Ft windows facing South:	42	Watts Fluorescent Light:	200
Room Height (Ft.) :	8	Sq. Ft windows facing SE & SW :	—	Duct Length from A/H to room:	—
Exposed Wall Length (Ft.) :	—	Number of Exterior Doors:	—	Number of Large Electric Motors:	—
Wall against unconditioned room (Ft.) :	—	Sq. Ft. Exterior Doors:	—	Average Electric Motor Horsepower:	—
Sq. Ft windows facing North:	—	Number of People in Room:	2	BTUH Appliance Sensible Heat:	—
Sq. Ft windows facing E & W:	—			BTUH Appliance Latent Heat:	—

Indoor/Outdoor Design Temperatures (degrees Farenheit)

Summer:		Winter:	
Inside (Thermostat setting) :	74	Inside (Thermostat setting) :	72
Outside (Above ground):	97	Outside (Above ground) :	20
Outside (Below ground):	65	Outside (Below ground) :	60
Unconditioned Space :	97	Unconditioned Space :	65
Above Ceiling (Attic/Crawl Space) :	130	Above Ceiling (Attic/Crawl Space) :	45
Concrete Slab (Ground temperature) :	80	Concrete Slab (Ground temperature) :	55
Unconditioned Basement :	60	Unconditioned Basement :	55
Below Floor Crawl Space :	85	Below Floor Crawl Space :	50

Applicable Temperatures: Above Ceiling: Attic or Crawl Space Below Floor: Thermostat Setting Exposed Walls: Above Ground

Design Conditions

Occupant Sensible Load (BTUH per person) :	250
Occupant Latent Load (BTUH per person) :	200
Duct Insulation Factor :	1
Duct Temperature Difference (Summer) :	20
Duct Temperature Difference (Winter) :	45
Humidity Difference Inside/Outside % (Summer) :	20
Humidity Difference Inside/Outside % (Winter) :	15
Fresh Air Per Person (CFM) :	2
Air Change Factor (Air change per hour) :	.5
Space Shading Factor :	.4
Air Handler Design Cooling (CFM per ton) :	400
Hydronic Heat (BTUH per linear ft) :	600

Insulation Values (U-Factors)

Exposed Walls (Above Ground) :	.080
Exposed Walls (Below Ground) :	.5
Partitions :	.075
Roof/Ceiling :	.055
Floor (Above basement) :	.083
Floor (Concrete slab) :	.001
Floor (Between conditioned spaces) :	.287
Doors :	.500
Windows :	.900

Calculated Room Results - Summer Heat Gains

Wall Heat Gain (BTUH) :	0	Appliance/Elec Motor Latent Heat Gain (BTUH) :	400
Ceiling or Roof Heat Gain (BTUH) :	474	Appliance/Elec Motor Sensible Heat Gain (BTUH) :	2032
Floor Heat Gain (BTUH) :	0	Ventilation Latent Heat Gain (BTUH) :	138
Glass Heat Gain (BTUH) :	792	Ventilation Sensible Gain (BTUH) :	256
Exterior Door & North Window Heat Gain (BTUH) :	0	Summer Total Latent Heat Gain:	538
Solar Heat Gain (BTUH) :	0	Summer Total Sensible Heat Gain (BTUH) :	3554
Total Transmission Heat Gain (BTUH) :	1266	TOTAL SUMMER COOLING LOAD (BTUH) :	4092

Calculated Room Results - Winter Heat Losses

Transmission Heat Losses (BTUH) :	2020	Latent Ventilation Heat Losses (BTUH) :	103
Sensible Ventilation Heat Losses (BTUH) :	578	Hydronic Heat(Linear Ft.) :	5
		TOTAL WINTER HEATING LOAD (BTUH) :	2701

Calculated Totals for Entire Structure

Size of Structure (Sq. Ft.):	2893	Total Sensible Heat Gain (BTUH):	76645
Total Heat Loss (BTUH):	43845	Total Cooling Gain (BTUH):	86235
Total Hydronic Heat (Linear Ft.):	73.07	Total Cooling Requirement (Tons):	7.19
Total Latent Heat Gain (BTUH):	9588	Total Cooling CFM:	2874

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Heat Load Detail Report for Mike Lyons

Room 14 of 18

Room Specifications: bed 3

Room Length (Ft.) :	12	Sq. Ft windows facing NE & NW:	—	Watts Incandescent Light:	200
Room Width (Ft.) :	17	Sq. Ft windows facing South:	—	Watts Flourescent Light:	200
Room Height (Ft.) :	8	Sq. Ft windows facing SE & SW:	—	Duct Length from A/H to room:	—
Exposed Wall Length (Ft.) :	12	Number of Exterior Doors:	—	Number of Large Electric Motors:	—
Wall against unconditioned room (Ft.) :	—	Sq. Ft. Exterior Doors:	—	Average Electric Motor Horsepower:	—
Sq. Ft windows facing North:	12	Number of People in Room:	1	BTUH Appliance Sensible Heat:	—
Sq. Ft windows facing E & W:	—			BTUH Appliance Latent Heat:	—

Indoor/Outdoor Design Temperatures (degrees Farenheit)

Summer:		Winter:	
Inside (Thermostat setting) :	74	Inside (Thermostat setting) :	72
Outside (Above ground):	97	Outside (Above ground) :	20
Outside (Below ground):	65	Outside (Below ground) :	60
Unconditioned Space :	97	Unconditioned Space :	65
Above Ceiling (Attic/Crawl Space) :	130	Above Ceiling (Attic/Crawl Space) :	45
Concrete Slab (Ground temperature) :	80	Concrete Slab (Ground temperature) :	55
Unconditioned Basement :	60	Unconditioned Basement :	55
Below Floor Crawl Space :	85	Below Floor Crawl Space :	50

Applicable Temperatures: Above Ceiling: Attic or Crawl Space Below Floor: Thermostat Setting Exposed Walls: Above Ground

Design Conditions

Occupant Sensible Load (BTUH per person) :	250
Occupant Latent Load (BTUH per person) :	200
Duct Insulation Factor :	1
Duct Temperature Difference (Summer) :	20
Duct Temperature Difference (Winter) :	45
Humidity Difference Inside/Outside % (Summer) :	20
Humidity Difference Inside/Outside % (Winter) :	15
Fresh Air Per Person (CFM) :	2
Air Change Factor (Air change per hour) :	.5
Space Shading Factor :	.4
Air Handler Design Cooling (CFM per ton) :	400
Hydronic Heat (BTUH per linear ft :	600

Insulation Values (U-Factors)

Exposed Walls (Above Ground) :	.080
Exposed Walls (Below Ground) :	.5
Partitions :	.075
Roof/Ceiling :	.055
Floor (Above basement) :	.083
Floor (Concrete slab) :	.001
Floor (Between conditioned spaces) :	.287
Doors :	.500
Windows :	.900

Calculated Room Results - Summer Heat Gains

Wall Heat Gain (BTUH) :	177	Appliance/Elec Motor Latent Heat Gain (BTUH) :	200
Ceiling or Roof Heat Gain (BTUH) :	628	Appliance/Elec Motor Sensible Heat Gain (BTUH) :	1782
Floor Heat Gain (BTUH) :	0	Ventilation Latent Heat Gain (BTUH) :	183
Glass Heat Gain (BTUH) :	0	Ventilation Sensible Gain (BTUH) :	338
Exterior Door & North Window Heat Gain (BTUH) :	116	Summer Total Latent Heat Gain:	383
Solar Heat Gain (BTUH) :	0	Summer Total Sensible Heat Gain (BTUH) :	3041
Total Transmission Heat Gain (BTUH) :	921	TOTAL SUMMER COOLING LOAD (BTUH) :	3424

Calculated Room Results - Winter Heat Losses

Transmission Heat Losses (BTUH) :	964	Latent Ventilation Heat Losses (BTUH) :	137
Sensible Ventilation Heat Losses (BTUH) :	765	Hydronic Heat (Linear Ft.) :	3
		TOTAL WINTER HEATING LOAD (BTUH) :	1867

Calculated Totals for Entire Structure

Size of Structure (Sq. Ft.):	2893	Total Sensible Heat Gain (BTUH):	76645
Total Heat Loss (BTUH):	43845	Total Cooling Gain (BTUH):	86235
Total Hydronic Heat (Linear Ft.):	73.07	Total Cooling Requirement (Tons):	7.19
Total Latent Heat Gain (BTUH):	9588	Total Cooling CFM:	2874

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Heat Load Detail Report for Mike Lyons

Room 15 of 18

Room Specifications: bed 2

Room Length (Ft.) :	12	Sq. Ft windows facing NE & NW:	—	Watts Incandescent Light:	200
Room Width (Ft.) :	17	Sq. Ft windows facing South:	—	Watts Fluorescent Light:	200
Room Height (Ft.) :	8	Sq. Ft windows facing SE & SW:	—	Duct Length from A/H to room:	—
Exposed Wall Length (Ft.) :	12	Number of Exterior Doors:	—	Number of Large Electric Motors:	—
Wall against unconditioned room (Ft.) :	—	Sq. Ft. Exterior Doors:	—	Average Electric Motor Horsepower:	—
Sq. Ft windows facing North:	12	Number of People in Room:	2	BTUH Appliance Sensible Heat:	—
Sq. Ft windows facing E & W:	—			BTUH Appliance Latent Heat:	—

Indoor/Outdoor Design Temperatures (degrees Farenheit)

Summer:		Winter:	
Inside (Thermostat setting) :	74	Inside (Thermostat setting) :	72
Outside (Above ground):	97	Outside (Above ground) :	20
Outside (Below ground):	65	Outside (Below ground) :	60
Unconditioned Space :	97	Unconditioned Space :	65
Above Ceiling (Attic/Crawl Space) :	130	Above Ceiling (Attic/Crawl Space) :	45
Concrete Slab (Ground temperature) :	80	Concrete Slab (Ground temperature) :	55
Unconditioned Basement :	60	Unconditioned Basement :	55
Below Floor Crawl Space :	85	Below Floor Crawl Space :	50

Applicable Temperatures: Above Ceiling: Attic or Crawl Space Below Floor: Thermostat Setting Exposed Walls: Above Ground

Design Conditions

Occupant Sensible Load (BTUH per person) :	250
Occupant Latent Load (BTUH per person) :	200
Duct Insulation Factor :	1
Duct Temperature Difference (Summer) :	20
Duct Temperature Difference (Winter) :	45
Humidity Difference Inside/Outside % (Summer) :	20
Humidity Difference Inside/Outside % (Winter) :	15
Fresh Air Per Person (CFM) :	2
Air Change Factor (Air change per hour) :	.5
Space Shading Factor :	.4
Air Handler Design Cooling (CFM per ton) :	400
Hydronic Heat (BTUH per linear ft) :	600

Insulation Values (U-Factors)

Exposed Walls (Above Ground) :	.080
Exposed Walls (Below Ground) :	.5
Partitions :	.075
Roof/Ceiling :	.055
Floor (Above basement) :	.083
Floor (Concrete slab) :	.001
Floor (Between conditioned spaces) :	.287
Doors :	.500
Windows :	.900

Calculated Room Results - Summer Heat Gains

Wall Heat Gain (BTUH) :	177	Appliance/Elec Motor Latent Heat Gain (BTUH) :	400
Ceiling or Roof Heat Gain (BTUH) :	628	Appliance/Elec Motor Sensible Heat Gain (BTUH) :	2032
Floor Heat Gain (BTUH) :	0	Ventilation Latent Heat Gain (BTUH) :	183
Glass Heat Gain (BTUH) :	0	Ventilation Sensible Gain (BTUH) :	338
Exterior Door & North Window Heat Gain (BTUH) :	116	Summer Total Latent Heat Gain:	583
Solar Heat Gain (BTUH) :	0	Summer Total Sensible Heat Gain (BTUH) :	3291
Total Transmission Heat Gain (BTUH) :	921	TOTAL SUMMER COOLING LOAD (BTUH) :	3874

Calculated Room Results - Winter Heat Losses

Transmission Heat Losses (BTUH) :	964	Latent Ventilation Heat Losses (BTUH) :	137
Sensible Ventilation Heat Losses (BTUH) :	765	Hydronic Heat (Linear Ft.) :	3
		TOTAL WINTER HEATING LOAD (BTUH) :	1867

Calculated Totals for Entire Structure

Size of Structure (Sq. Ft.):	2893	Total Sensible Heat Gain (BTUH):	76645
Total Heat Loss (BTUH):	43845	Total Cooling Gain (BTUH):	86235
Total Hydronic Heat (Linear Ft.):	73.07	Total Cooling Requirement (Tons):	7.19
Total Latent Heat Gain (BTUH):	9588	Total Cooling CFM:	2874

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Heat Load Detail Report for Mike Lyons

Room 16 of 18

Room Specifications: WI

Room Length (Ft.) :	8	Sq. Ft windows facing NE & NW:	--	Watts Incandescent Light:	--
Room Width (Ft.) :	6	Sq. Ft windows facing South:	--	Watts Fluorescent Light:	--
Room Height (Ft.) :	8	Sq. Ft windows facing SE & SW:	--	Duct Length from A/H to room:	--
Exposed Wall Length (Ft.) :	--	Number of Exterior Doors:	--	Number of Large Electric Motors:	--
Wall against unconditioned room (Ft.) :	--	Sq. Ft. Exterior Doors:	--	Average Electric Motor Horsepower:	--
Sq. Ft windows facing North:	--	Number of People in Room:	--	BTUH Appliance Sensible Heat:	--
Sq. Ft windows facing E & W:	--			BTUH Appliance Latent Heat:	--

Indoor/Outdoor Design Temperatures (degrees Farenheit)

Summer:		Winter:	
Inside (Thermostat setting) :	74	Inside (Thermostat setting) :	72
Outside (Above ground):	97	Outside (Above ground) :	20
Outside (Below ground):	65	Outside (Below ground) :	60
Unconditioned Space :	97	Unconditioned Space :	65
Above Ceiling (Attic/Crawl Space) :	130	Above Ceiling (Attic/Crawl Space) :	45
Concrete Slab (Ground temperature) :	80	Concrete Slab (Ground temperature) :	55
Unconditioned Basement :	60	Unconditioned Basement :	55
Below Floor Crawl Space :	85	Below Floor Crawl Space :	50

Applicable Temperatures: Above Ceiling: Attic or Crawl Space Below Floor: Thermostat Setting Exposed Walls: Above Ground

Design Conditions

Occupant Sensible Load (BTUH per person) :	250
Occupant Latent Load (BTUH per person) :	200
Duct Insulation Factor :	1
Duct Temperature Difference (Summer) :	20
Duct Temperature Difference (Winter) :	45
Humidity Difference Inside/Outside % (Summer) :	20
Humidity Difference Inside/Outside % (Winter) :	15
Fresh Air Per Person (CFM) :	2
Air Change Factor (Air change per hour) :	.5
Space Shading Factor :	.4
Air Handler Design Cooling (CFM per ton) :	400
Hydronic Heat (BTUH per linear ft) :	600

Insulation Values (U-Factors)

Exposed Walls (Above Ground) :	.080
Exposed Walls (Below Ground) :	.5
Partitions :	.075
Roof/Ceiling :	.055
Floor (Above basement) :	.083
Floor (Concrete slab) :	.001
Floor (Between conditioned spaces) :	.287
Doors :	.500
Windows :	.900

Calculated Room Results - Summer Heat Gains

Wall Heat Gain (BTUH) :	0	Appliance/Elec Motor Latent Heat Gain (BTUH) :	0
Ceiling or Roof Heat Gain (BTUH) :	148	Appliance/Elec Motor Sensible Heat Gain (BTUH) :	0
Floor Heat Gain (BTUH) :	0	Ventilation Latent Heat Gain (BTUH) :	43
Glass Heat Gain (BTUH) :	0	Ventilation Sensible Gain (BTUH) :	80
Exterior Door & North Window Heat Gain (BTUH) :	0	Summer Total Latent Heat Gain:	43
Solar Heat Gain (BTUH) :	0	Summer Total Sensible Heat Gain (BTUH) :	227
Total Transmission Heat Gain (BTUH) :	148	TOTAL SUMMER COOLING LOAD (BTUH) :	270

Calculated Room Results - Winter Heat Losses

Transmission Heat Losses (BTUH) :	71	Latent Ventilation Heat Losses (BTUH) :	32
Sensible Ventilation Heat Losses (BTUH) :	180	Hydronic Heat(Linear Ft.) :	0
		TOTAL WINTER HEATING LOAD (BTUH) :	284

Calculated Totals for Entire Structure

Size of Structure (Sq. Ft.):	2893	Total Sensible Heat Gain (BTUH):	76645
Total Heat Loss (BTUH):	43845	Total Cooling Gain (BTUH):	86235
Total Hydronic Heat (Linear Ft.):	73.07	Total Cooling Requirement (Tons):	7.19
Total Latent Heat Gain (BTUH):	9588	Total Cooling CFM:	2874

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Heat Load Detail Report for Mike Lyons

Room 17 of 18

Room Specifications: master bed

Room Length (Ft.) :	15	Sq. Ft windows facing NE & NW:	—	Watts Incandescent Light:	200
Room Width (Ft.) :	14	Sq. Ft windows facing South:	20	Watts Fluorescent Light:	200
Room Height (Ft.) :	8	Sq. Ft windows facing SE & SW:	—	Duct Length from A/H to room:	—
Exposed Wall Length (Ft.) :	30	Number of Exterior Doors:	—	Number of Large Electric Motors:	—
Wall against unconditioned room (Ft.) :	—	Sq. Ft. Exterior Doors:	1	Average Electric Motor Horsepower:	—
Sq. Ft windows facing North:	—	Number of People in Room:	2	BTUH Appliance Sensible Heat:	—
Sq. Ft windows facing E & W:	42			BTUH Appliance Latent Heat:	—

Indoor/Outdoor Design Temperatures (degrees Farenheit)

Summer:		Winter:	
Inside (Thermostat setting) :	74	Inside (Thermostat setting) :	72
Outside (Above ground):	97	Outside (Above ground) :	20
Outside (Below ground):	65	Outside (Below ground) :	60
Unconditioned Space :	97	Unconditioned Space :	65
Above Ceiling (Attic/Crawl Space) :	130	Above Ceiling (Attic/Crawl Space) :	45
Concrete Slab (Ground temperature) :	80	Concrete Slab (Ground temperature) :	55
Unconditioned Basement :	60	Unconditioned Basement :	55
Below Floor Crawl Space :	85	Below Floor Crawl Space :	50

Applicable Temperatures: Above Ceiling: Attic or Crawl Space Below Floor: Thermostat Setting Exposed Walls: Above Ground

Design Conditions

Occupant Sensible Load (BTUH per person) :	250
Occupant Latent Load (BTUH per person) :	200
Duct Insulation Factor :	1
Duct Temperature Difference (Summer) :	20
Duct Temperature Difference (Winter) :	45
Humidity Difference Inside/Outside % (Summer) :	20
Humidity Difference Inside/Outside % (Winter) :	15
Fresh Air Per Person (CFM) :	2
Air Change Factor (Air change per hour) :	.5
Space Shading Factor :	.4
Air Handler Design Cooling (CFM per ton) :	400
Hydronic Heat (BTUH per linear ft) :	600

Insulation Values (U-Factors)

Exposed Walls (Above Ground) :	.080
Exposed Walls (Below Ground) :	.5
Partitions :	.075
Roof/Ceiling :	.055
Floor (Above basement) :	.083
Floor (Concrete slab) :	.001
Floor (Between conditioned spaces) :	.287
Doors :	.500
Windows :	.900

Calculated Room Results - Summer Heat Gains

Wall Heat Gain (BTUH) :	442	Appliance/Elec Motor Latent Heat Gain (BTUH) :	400
Ceiling or Roof Heat Gain (BTUH) :	647	Appliance/Elec Motor Sensible Heat Gain (BTUH) :	2032
Floor Heat Gain (BTUH) :	0	Ventilation Latent Heat Gain (BTUH) :	188
Glass Heat Gain (BTUH) :	1169	Ventilation Sensible Gain (BTUH) :	348
Exterior Door & North Window Heat Gain (BTUH) :	10	Summer Total Latent Heat Gain:	588
Solar Heat Gain (BTUH) :	3612	Summer Total Sensible Heat Gain (BTUH) :	8260
Total Transmission Heat Gain (BTUH) :	5879	TOTAL SUMMER COOLING LOAD (BTUH) :	8848

Calculated Room Results - Winter Heat Losses

Transmission Heat Losses (BTUH) :	3976	Latent Ventilation Heat Losses (BTUH) :	141
Sensible Ventilation Heat Losses (BTUH) :	788	Hydronic Heat(Linear Ft.) :	8
		TOTAL WINTER HEATING LOAD (BTUH) :	4905

Calculated Totals for Entire Structure

Size of Structure (Sq. Ft.):	2893	Total Sensible Heat Gain (BTUH):	76645
Total Heat Loss (BTUH):	43845	Total Cooling Gain (BTUH):	86235
Total Hydronic Heat (Linear Ft.):	73.07	Total Cooling Requirement (Tons):	7.19
Total Latent Heat Gain (BTUH):	9588	Total Cooling CFM:	2874

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Heat Load Detail Report for Mike Lyons

Room 18 of 18

Room Specifications: master bath

Room Length (Ft.) :	14	Sq. Ft windows facing NE & NW:	—	Watts Incandescent Light:	200
Room Width (Ft.) :	12	Sq. Ft windows facing South:	—	Watts Fluorescent Light:	200
Room Height (Ft.) :	8	Sq. Ft windows facing SE & SW:	—	Duct Length from A/H to room:	—
Exposed Wall Length (Ft.) :	26	Number of Exterior Doors:	—	Number of Large Electric Motors:	2
Wall against unconditioned room (Ft.) :	—	Sq. Ft. Exterior Doors:	—	Average Electric Motor Horsepower:	.5
Sq. Ft windows facing North:	24	Number of People in Room:	2	BTUH Appliance Sensible Heat:	—
Sq. Ft windows facing E & W:	16			BTUH Appliance Latent Heat:	—

Indoor/Outdoor Design Temperatures (degrees Farenheit)

Summer:		Winter:	
Inside (Thermostat setting) :	74	Inside (Thermostat setting) :	72
Outside (Above ground):	97	Outside (Above ground) :	20
Outside (Below ground):	65	Outside (Below ground) :	60
Unconditioned Space :	97	Unconditioned Space :	65
Above Ceiling (Attic/Crawl Space) :	130	Above Ceiling (Attic/Crawl Space) :	45
Concrete Slab (Ground temperature) :	80	Concrete Slab (Ground temperature) :	55
Unconditioned Basement :	60	Unconditioned Basement :	55
Below Floor Crawl Space :	85	Below Floor Crawl Space :	50

Applicable Temperatures: Above Ceiling: Attic or Crawl Space Below Floor: Thermostat Setting Exposed Walls: Above Ground

Design Conditions

Occupant Sensible Load (BTUH per person) :	250
Occupant Latent Load (BTUH per person) :	200
Duct Insulation Factor :	1
Duct Temperature Difference (Summer) :	20
Duct Temperature Difference (Winter) :	45
Humidity Difference Inside/Outside % (Summer) :	20
Humidity Difference Inside/Outside % (Winter) :	15
Fresh Air Per Person (CFM) :	2
Air Change Factor (Air change per hour) :	.5
Space Shading Factor :	.4
Air Handler Design Cooling (CFM per ton) :	400
Hydronic Heat (BTUH per linear ft) :	600

Insulation Values (U-Factors)

Exposed Walls (Above Ground) :	.080
Exposed Walls (Below Ground) :	.5
Partitions :	.075
Roof/Ceiling :	.055
Floor (Above basement) :	.083
Floor (Concrete slab) :	.001
Floor (Between conditioned spaces) :	.287
Doors :	.500
Windows :	.900

Calculated Room Results - Summer Heat Gains

Wall Heat Gain (BTUH) :	383	Appliance/Elec Motor Latent Heat Gain (BTUH) :	400
Ceiling or Roof Heat Gain (BTUH) :	517	Appliance/Elec Motor Sensible Heat Gain (BTUH) :	5425
Floor Heat Gain (BTUH) :	0	Ventilation Latent Heat Gain (BTUH) :	150
Glass Heat Gain (BTUH) :	302	Ventilation Sensible Gain (BTUH) :	279
Exterior Door & North Window Heat Gain (BTUH) :	232	Summer Total Latent Heat Gain:	550
Solar Heat Gain (BTUH) :	1376	Summer Total Sensible Heat Gain (BTUH) :	8514
Total Transmission Heat Gain (BTUH) :	2810	TOTAL SUMMER COOLING LOAD (BTUH) :	9064

Calculated Room Results - Winter Heat Losses

Transmission Heat Losses (BTUH) :	2321	Latent Ventilation Heat Losses (BTUH) :	113
Sensible Ventilation Heat Losses (BTUH) :	630	Hydronic Heat (Linear Ft.) :	5
		TOTAL WINTER HEATING LOAD (BTUH) :	3064

Calculated Totals for Entire Structure

Size of Structure (Sq. Ft.):	2893	Total Sensible Heat Gain (BTUH):	76645
Total Heat Loss (BTUH):	43845	Total Cooling Gain (BTUH):	86235
Total Hydronic Heat (Linear Ft.):	73.07	Total Cooling Requirement (Tons):	7.19
Total Latent Heat Gain (BTUH):	9588	Total Cooling CFM:	2874

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Patrick T. Kerwin, Inc.

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PROPOSAL FOR:

**France
Paul Jones Dr.
Paul Jones Dr., Brick 08723**

11/24/03

Patrick T. Kerwin, Inc.

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Heat Load Summary Report for France

Room Name	Square Ft.	Heating Loss BTUH	Hydronic Heat Linear Ft.	Latent / Sensible Gain BTUH	Cooling Gain BTUH	Cooling Tons	Cooling CFM
sun porch	196	15095	25.16	1689 / 16477	18166	1.51	606
kitchen	80	1207	2.01	272 / 1479	1750	0.15	58
living room	288	6781	11.3	1122 / 7200	8323	0.69	277
bed 1	100	2130	3.55	490 / 3729	4219	0.35	141
bath 1	45	685	1.14	40 / 747	788	0.07	26
bath 2	45	685	1.14	40 / 747	788	0.07	26
bed 2	156	1818	3.03	540 / 1652	2192	0.18	73
bed 3	196	3072	5.12	575 / 3328	3903	0.33	130
laundry	55	848	1.41	649 / 1264	1913	0.16	64
TOTALS	1161	32319	53.87	5417 / 36623	42041	3.5	1401

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Heat Load Detail Report for France

Room 1 of 9

Room Specifications: sun porch

Room Length (Ft.) :	14	Sq. Ft windows facing NE & NW:	—	Watts Incandescent Light:	—
Room Width (Ft.) :	14	Sq. Ft windows facing South:	84	Watts Fluorescent Light:	—
Room Height (Ft.) :	10	Sq. Ft windows facing SE & SW:	—	Duct Length from A/H to room:	—
Exposed Wall Length (Ft.) :	42	Number of Exterior Doors:	1	Number of Large Electric Motors:	—
Wall against unconditioned room (Ft.) :	—	Sq. Ft. Exterior Doors:	21	Average Electric Motor Horsepower:	—
Sq. Ft windows facing North:	—	Number of People in Room:	4	BTUH Appliance Sensible Heat:	—
Sq. Ft windows facing E & W:	100			BTUH Appliance Latent Heat:	—

Indoor/Outdoor Design Temperatures (degrees Farenheit)

Summer:		Winter:	
Inside (Thermostat setting) :	74	Inside (Thermostat setting) :	72
Outside (Above ground):	97	Outside (Above ground) :	20
Outside (Below ground):	65	Outside (Below ground) :	60
Unconditioned Space :	97	Unconditioned Space :	65
Above Ceiling (Attic/Crawl Space) :	130	Above Ceiling (Attic/Crawl Space) :	45
Concrete Slab (Ground temperature) :	80	Concrete Slab (Ground temperature) :	55
Unconditioned Basement :	60	Unconditioned Basement :	55
Below Floor Crawl Space :	85	Below Floor Crawl Space :	50

Applicable Temperatures: Above Ceiling: Attic or Crawl Space Below Floor: Crawl Space Exposed Walls: Above Ground

Design Conditions

Occupant Sensible Load (BTUH per person) :	250
Occupant Latent Load (BTUH per person) :	200
Duct Insulation Factor :	1
Duct Temperature Difference (Summer) :	20
Duct Temperature Difference (Winter) :	45
Humidity Difference Inside/Outside % (Summer) :	20
Humidity Difference Inside/Outside % (Winter) :	15
Fresh Air Per Person (CFM) :	2
Air Change Factor (Air change per hour) :	.5
Space Shading Factor :	.4
Air Handler Design Cooling (CFM per ton) :	400
Hydronic Heat (BTUH per linear ft) :	600

Insulation Values (U-Factors)

Exposed Walls (Above Ground) :	.080
Exposed Walls (Below Ground) :	.5
Partitions :	.075
Roof/Ceiling :	.055
Floor (Above basement) :	.083
Floor (Concrete slab) :	.001
Floor (Between conditioned spaces) :	.287
Doors :	.500
Windows :	.900

Calculated Room Results - Summer Heat Gains

Wall Heat Gain (BTUH) :	773	Appliance/Elec Motor Latent Heat Gain (BTUH) :	800
Ceiling or Roof Heat Gain (BTUH) :	604	Appliance/Elec Motor Sensible Heat Gain (BTUH) :	1000
Floor Heat Gain (BTUH) :	179	Ventilation Latent Heat Gain (BTUH) :	889
Glass Heat Gain (BTUH) :	3470	Ventilation Sensible Gain (BTUH) :	1649
Exterior Door & North Window Heat Gain (BTUH) :	203	Summer Total Latent Heat Gain:	1689
Solar Heat Gain (BTUH) :	8600	Summer Total Sensible Heat Gain (BTUH) :	16477
Total Transmission Heat Gain (BTUH) :	13829	TOTAL SUMMER COOLING LOAD (BTUH) :	18166

Calculated Room Results - Winter Heat Losses

Transmission Heat Losses (BTUH) :	10701	Latent Ventilation Heat Losses (BTUH) :	667
Sensible Ventilation Heat Losses (BTUH) :	3727	Hydronic Heat (Linear Ft.) :	25
		TOTAL WINTER HEATING LOAD (BTUH) :	15095

Calculated Totals for Entire Structure

Size of Structure (Sq. Ft.):	1161	Total Sensible Heat Gain (BTUH):	36623
Total Heat Loss (BTUH):	32319	Total Cooling Gain (BTUH):	42041
Total Hydronic Heat (Linear Ft.):	53.87	Total Cooling Requirement (Tons):	3.5
Total Latent Heat Gain (BTUH):	5417	Total Cooling CFM:	1401

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Heat Load Detail Report for France

Room 2 of 9

Room Specifications: kitchen

Room Length (Ft.) :	10	Sq. Ft windows facing NE & NW:	--	Watts Incandescent Light:	--
Room Width (Ft.) :	8	Sq. Ft windows facing South:	--	Watts Fluorescent Light:	--
Room Height (Ft.) :	8	Sq. Ft windows facing SE & SW:	--	Duct Length from A/H to room:	--
Exposed Wall Length (Ft.) :	10	Number of Exterior Doors:	--	Number of Large Electric Motors:	--
Wall against unconditioned room (Ft.) :	--	Sq. Ft. Exterior Doors:	--	Average Electric Motor Horsepower:	--
Sq. Ft windows facing North:	--	Number of People in Room:	1	BTUH Appliance Sensible Heat:	--
Sq. Ft windows facing E & W:	6			BTUH Appliance Latent Heat:	--

Indoor/Outdoor Design Temperatures (degrees Farenheit)

Summer:		Winter:	
Inside (Thermostat setting) :	74	Inside (Thermostat setting) :	72
Outside (Above ground):	97	Outside (Above ground) :	20
Outside (Below ground):	65	Outside (Below ground) :	60
Unconditioned Space :	97	Unconditioned Space :	65
Above Ceiling (Attic/Crawl Space) :	130	Above Ceiling (Attic/Crawl Space) :	45
Concrete Slab (Ground temperature) :	80	Concrete Slab (Ground temperature) :	55
Unconditioned Basement :	60	Unconditioned Basement :	55
Below Floor Crawl Space :	85	Below Floor Crawl Space :	50

Applicable Temperatures: Above Ceiling: Attic or Crawl Space Below Floor: Crawl Space Exposed Walls: Above Ground

Design Conditions

Occupant Sensible Load (BTUH per person) :	250
Occupant Latent Load (BTUH per person) :	200
Duct Insulation Factor :	1
Duct Temperature Difference (Summer) :	20
Duct Temperature Difference (Winter) :	45
Humidity Difference Inside/Outside % (Summer) :	20
Humidity Difference Inside/Outside % (Winter) :	15
Fresh Air Per Person (CFM) :	2
Air Change Factor (Air change per hour) :	.5
Space Shading Factor :	.4
Air Handler Design Cooling (CFM per ton) :	400
Hydronic Heat (BTUH per linear ft) :	600

Insulation Values (U-Factors)

Exposed Walls (Above Ground) :	.080
Exposed Walls (Below Ground) :	.5
Partitions :	.075
Roof/Ceiling :	.055
Floor (Above basement) :	.083
Floor (Concrete slab) :	.001
Floor (Between conditioned spaces) :	.287
Doors :	.500
Windows :	.900

Calculated Room Results - Summer Heat Gains

Wall Heat Gain (BTUH) :	147	Appliance/Elec Motor Latent Heat Gain (BTUH) :	200
Ceiling or Roof Heat Gain (BTUH) :	246	Appliance/Elec Motor Sensible Heat Gain (BTUH) :	250
Floor Heat Gain (BTUH) :	73	Ventilation Latent Heat Gain (BTUH) :	72
Glass Heat Gain (BTUH) :	113	Ventilation Sensible Gain (BTUH) :	133
Exterior Door & North Window Heat Gain (BTUH) :	0	Summer Total Latent Heat Gain:	272
Solar Heat Gain (BTUH) :	516	Summer Total Sensible Heat Gain (BTUH) :	1479
Total Transmission Heat Gain (BTUH) :	1096	TOTAL SUMMER COOLING LOAD (BTUH) :	1750

Calculated Room Results - Winter Heat Losses

Transmission Heat Losses (BTUH) :	854	Latent Ventilation Heat Losses (BTUH) :	54
Sensible Ventilation Heat Losses (BTUH) :	300	Hydronic Heat (Linear Ft.) :	2
		TOTAL WINTER HEATING LOAD (BTUH) :	1207

Calculated Totals for Entire Structure

Size of Structure (Sq. Ft.):	1161	Total Sensible Heat Gain (BTUH):	36623
Total Heat Loss (BTUH):	32319	Total Cooling Gain (BTUH):	42041
Total Hydronic Heat (Linear Ft.):	53.87	Total Cooling Requirement (Tons):	3.5
Total Latent Heat Gain (BTUH):	5417	Total Cooling CFM:	1401

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Heat Load Detail Report for France

Room 3 of 9

Room Specifications: living room

Room Length (Ft.) :	16	Sq. Ft windows facing NE & NW :	—	Watts Incandescent Light :	—
Room Width (Ft.) :	18	Sq. Ft windows facing South :	42	Watts Fluorescent Light :	—
Room Height (Ft.) :	10	Sq. Ft windows facing SE & SW :	—	Duct Length from A/H to room :	—
Exposed Wall Length (Ft.) :	28	Number of Exterior Doors :	—	Number of Large Electric Motors :	—
Wall against unconditioned room (Ft.) :	—	Sq. Ft. Exterior Doors :	—	Average Electric Motor Horsepower :	—
Sq. Ft windows facing North :	—	Number of People in Room :	4	BTUH Appliance Sensible Heat :	—
Sq. Ft windows facing E & W :	30			BTUH Appliance Latent Heat :	—

Indoor/Outdoor Design Temperatures (degrees Farenheit)

Summer:		Winter:	
Inside (Thermostat setting) :	74	Inside (Thermostat setting) :	72
Outside (Above ground) :	97	Outside (Above ground) :	20
Outside (Below ground) :	65	Outside (Below ground) :	60
Unconditioned Space :	97	Unconditioned Space :	65
Above Ceiling (Attic/Crawl Space) :	130	Above Ceiling (Attic/Crawl Space) :	45
Concrete Slab (Ground temperature) :	80	Concrete Slab (Ground temperature) :	55
Unconditioned Basement :	60	Unconditioned Basement :	55
Below Floor Crawl Space :	85	Below Floor Crawl Space :	50

Applicable Temperatures: Above Ceiling: Attic or Crawl Space Below Floor: Crawl Space Exposed Walls: Above Ground

Design Conditions

Occupant Sensible Load (BTUH per person) :	250
Occupant Latent Load (BTUH per person) :	200
Duct Insulation Factor :	1
Duct Temperature Difference (Summer) :	20
Duct Temperature Difference (Winter) :	45
Humidity Difference Inside/Outside % (Summer) :	20
Humidity Difference Inside/Outside % (Winter) :	15
Fresh Air Per Person (CFM) :	2
Air Change Factor (Air change per hour) :	.5
Space Shading Factor :	.4
Air Handler Design Cooling (CFM per ton) :	400
Hydronic Heat (BTUH per linear ft) :	600

Insulation Values (U-Factors)

Exposed Walls (Above Ground) :	.080
Exposed Walls (Below Ground) :	.5
Partitions :	.075
Roof/Ceiling :	.055
Floor (Above basement) :	.083
Floor (Concrete slab) :	.001
Floor (Between conditioned spaces) :	.287
Doors :	.500
Windows :	.900

Calculated Room Results - Summer Heat Gains

Wall Heat Gain (BTUH) :	515	Appliance/Elec Motor Latent Heat Gain (BTUH) :	800
Ceiling or Roof Heat Gain (BTUH) :	887	Appliance/Elec Motor Sensible Heat Gain (BTUH) :	1000
Floor Heat Gain (BTUH) :	263	Ventilation Latent Heat Gain (BTUH) :	322
Glass Heat Gain (BTUH) :	1358	Ventilation Sensible Gain (BTUH) :	597
Exterior Door & North Window Heat Gain (BTUH) :	0	Summer Total Latent Heat Gain :	1122
Solar Heat Gain (BTUH) :	2580	Summer Total Sensible Heat Gain (BTUH) :	7200
Total Transmission Heat Gain (BTUH) :	5603	TOTAL SUMMER COOLING LOAD (BTUH) :	8323

Calculated Room Results - Winter Heat Losses

Transmission Heat Losses (BTUH) :	5188	Latent Ventilation Heat Losses (BTUH) :	242
Sensible Ventilation Heat Losses (BTUH) :	1351	Hydronic Heat (Linear Ft.) :	11
		TOTAL WINTER HEATING LOAD (BTUH) :	6781

Calculated Totals for Entire Structure

Size of Structure (Sq. Ft.):	1161	Total Sensible Heat Gain (BTUH):	36623
Total Heat Loss (BTUH):	32319	Total Cooling Gain (BTUH):	42041
Total Hydronic Heat (Linear Ft.):	53.87	Total Cooling Requirement (Tons):	3.5
Total Latent Heat Gain (BTUH):	5417	Total Cooling CFM:	1401

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Heat Load Detail Report for France

Room 4 of 9

Room Specifications: bed 1

Room Length (Ft.) :	10	Sq. Ft windows facing NE & NW:	--	Watts Incandescent Light:	--
Room Width (Ft.) :	10	Sq. Ft windows facing South:	--	Watts Fluorescent Light:	--
Room Height (Ft.) :	8	Sq. Ft windows facing SE & SW:	--	Duct Length from A/H to room:	--
Exposed Wall Length (Ft.) :	10	Number of Exterior Doors:	--	Number of Large Electric Motors:	--
Wall against unconditioned room (Ft.) :	--	Sq. Ft. Exterior Doors:	--	Average Electric Motor Horsepower:	--
Sq. Ft windows facing North:	--	Number of People in Room:	2	BTUH Appliance Sensible Heat:	--
Sq. Ft windows facing E & W:	24			BTUH Appliance Latent Heat:	--

Indoor/Outdoor Design Temperatures (degrees Farenheit)

Summer:		Winter:	
Inside (Thermostat setting) :	74	Inside (Thermostat setting) :	72
Outside (Above ground):	97	Outside (Above ground) :	20
Outside (Below ground):	65	Outside (Below ground) :	60
Unconditioned Space :	97	Unconditioned Space :	65
Above Ceiling (Attic/Crawl Space) :	130	Above Ceiling (Attic/Crawl Space) :	45
Concrete Slab (Ground temperature) :	80	Concrete Slab (Ground temperature) :	55
Unconditioned Basement :	60	Unconditioned Basement :	55
Below Floor Crawl Space :	85	Below Floor Crawl Space :	50

Applicable Temperatures: Above Ceiling: Attic or Crawl Space Below Floor: Crawl Space Exposed Walls: Above Ground

Design Conditions

Occupant Sensible Load (BTUH per person) :	250
Occupant Latent Load (BTUH per person) :	200
Duct Insulation Factor :	1
Duct Temperature Difference (Summer) :	20
Duct Temperature Difference (Winter) :	45
Humidity Difference Inside/Outside % (Summer) :	20
Humidity Difference Inside/Outside % (Winter) :	15
Fresh Air Per Person (CFM) :	2
Air Change Factor (Air change per hour) :	.5
Space Shading Factor :	.4
Air Handler Design Cooling (CFM per ton) :	400
Hydronic Heat (BTUH per linear ft) :	600

Insulation Values (U-Factors)

Exposed Walls (Above Ground) :	.080
Exposed Walls (Below Ground) :	.5
Partitions :	.075
Roof/Ceiling :	.055
Floor (Above basement) :	.083
Floor (Concrete slab) :	.001
Floor (Between conditioned spaces) :	.287
Doors :	.500
Windows :	.900

Calculated Room Results - Summer Heat Gains

Wall Heat Gain (BTUH) :	147	Appliance/Elec Motor Latent Heat Gain (BTUH) :	400
Ceiling or Roof Heat Gain (BTUH) :	308	Appliance/Elec Motor Sensible Heat Gain (BTUH) :	500
Floor Heat Gain (BTUH) :	91	Ventilation Latent Heat Gain (BTUH) :	90
Glass Heat Gain (BTUH) :	453	Ventilation Sensible Gain (BTUH) :	166
Exterior Door & North Window Heat Gain (BTUH) :	0	Summer Total Latent Heat Gain:	490
Solar Heat Gain (BTUH) :	2064	Summer Total Sensible Heat Gain (BTUH) :	3729
Total Transmission Heat Gain (BTUH) :	3063	TOTAL SUMMER COOLING LOAD (BTUH) :	4219

Calculated Room Results - Winter Heat Losses

Transmission Heat Losses (BTUH) :	1687	Latent Ventilation Heat Losses (BTUH) :	67
Sensible Ventilation Heat Losses (BTUH) :	375	Hydronic Heat (Linear Ft.) :	4
		TOTAL WINTER HEATING LOAD (BTUH) :	2130

Calculated Totals for Entire Structure

Size of Structure (Sq. Ft.):	1161	Total Sensible Heat Gain (BTUH):	36623
Total Heat Loss (BTUH):	32319	Total Cooling Gain (BTUH):	42041
Total Hydronic Heat (Linear Ft.):	53.87	Total Cooling Requirement (Tons):	3.5
Total Latent Heat Gain (BTUH):	5417	Total Cooling CFM:	1401

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Heat Load Detail Report for France

Room 5 of 9

Room Specifications: bath 1

Room Length (Ft.) :	9	Sq. Ft windows facing NE & NW:	--	Watts Incandescent Light:	--
Room Width (Ft.) :	5	Sq. Ft windows facing South:	--	Watts Fluorescent Light:	--
Room Height (Ft.) :	8	Sq. Ft windows facing SE & SW:	--	Duct Length from A/H to room:	--
Exposed Wall Length (Ft.) :	5	Number of Exterior Doors:	--	Number of Large Electric Motors:	--
Wall against unconditioned room (Ft.) :	--	Sq. Ft. Exterior Doors:	--	Average Electric Motor Horsepower:	--
Sq. Ft windows facing North:	--	Number of People in Room:	--	BTUH Appliance Sensible Heat:	--
Sq. Ft windows facing E & W:	4			BTUH Appliance Latent Heat:	--

Indoor/Outdoor Design Temperatures (degrees Farenheit)

Summer:		Winter:	
Inside (Thermostat setting) :	74	Inside (Thermostat setting) :	72
Outside (Above ground):	97	Outside (Above ground) :	20
Outside (Below ground):	65	Outside (Below ground) :	60
Unconditioned Space :	97	Unconditioned Space :	65
Above Ceiling (Attic/Crawl Space) :	130	Above Ceiling (Attic/Crawl Space) :	45
Concrete Slab (Ground temperature) :	80	Concrete Slab (Ground temperature) :	55
Unconditioned Basement :	60	Unconditioned Basement :	55
Below Floor Crawl Space :	85	Below Floor Crawl Space :	50

Applicable Temperatures: Above Ceiling: Attic or Crawl Space Below Floor: Crawl Space Exposed Walls: Above Ground

Design Conditions

Occupant Sensible Load (BTUH per person) :	250
Occupant Latent Load (BTUH per person) :	200
Duct Insulation Factor :	1
Duct Temperature Difference (Summer) :	20
Duct Temperature Difference (Winter) :	45
Humidity Difference Inside/Outside % (Summer) :	20
Humidity Difference Inside/Outside % (Winter) :	15
Fresh Air Per Person (CFM) :	2
Air Change Factor (Air change per hour) :	.5
Space Shading Factor :	.4
Air Handler Design Cooling (CFM per ton) :	400
Hydronic Heat (BTUH per linear ft) :	600

Insulation Values (U-Factors)

Exposed Walls (Above Ground) :	.080
Exposed Walls (Below Ground) :	.5
Partitions :	.075
Roof/Ceiling :	.055
Floor (Above basement) :	.083
Floor (Concrete slab) :	.001
Floor (Between conditioned spaces) :	.287
Doors :	.500
Windows :	.900

Calculated Room Results - Summer Heat Gains

Wall Heat Gain (BTUH) :	74	Appliance/Elec Motor Latent Heat Gain (BTUH) :	0
Ceiling or Roof Heat Gain (BTUH) :	139	Appliance/Elec Motor Sensible Heat Gain (BTUH) :	0
Floor Heat Gain (BTUH) :	41	Ventilation Latent Heat Gain (BTUH) :	40
Glass Heat Gain (BTUH) :	75	Ventilation Sensible Gain (BTUH) :	75
Exterior Door & North Window Heat Gain (BTUH) :	0	Summer Total Latent Heat Gain:	40
Solar Heat Gain (BTUH) :	344	Summer Total Sensible Heat Gain (BTUH) :	747
Total Transmission Heat Gain (BTUH) :	673	TOTAL SUMMER COOLING LOAD (BTUH) :	788

Calculated Room Results - Winter Heat Losses

Transmission Heat Losses (BTUH) :	486	Latent Ventilation Heat Losses (BTUH) :	30
Sensible Ventilation Heat Losses (BTUH) :	169	Hydronic Heat (Linear Ft.) :	1
		TOTAL WINTER HEATING LOAD (BTUH) :	685

Calculated Totals for Entire Structure

Size of Structure (Sq. Ft.):	1161	Total Sensible Heat Gain (BTUH):	36623
Total Heat Loss (BTUH):	32319	Total Cooling Gain (BTUH):	42041
Total Hydronic Heat (Linear Ft.):	53.87	Total Cooling Requirement (Tons):	3.5
Total Latent Heat Gain (BTUH):	5417	Total Cooling CFM:	1401

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Heat Load Detail Report for France

Room 6 of 9

Room Specifications: bath 2

Room Length (Ft.) :	9	Sq. Ft windows facing NE & NW :	--	Watts Incandescent Light :	--
Room Width (Ft.) :	5	Sq. Ft windows facing South :	--	Watts Fluorescent Light :	--
Room Height (Ft.) :	8	Sq. Ft windows facing SE & SW :	--	Duct Length from A/H to room :	--
Exposed Wall Length (Ft.) :	5	Number of Exterior Doors :	--	Number of Large Electric Motors :	--
Wall against unconditioned room (Ft.) :	--	Sq. Ft. Exterior Doors :	--	Average Electric Motor Horsepower :	--
Sq. Ft windows facing North :	--	Number of People in Room :	--	BTUH Appliance Sensible Heat :	--
Sq. Ft windows facing E & W :	4			BTUH Appliance Latent Heat :	--

Indoor/Outdoor Design Temperatures (degrees Farenheit)

Summer:		Winter:	
Inside (Thermostat setting) :	74	Inside (Thermostat setting) :	72
Outside (Above ground) :	97	Outside (Above ground) :	20
Outside (Below ground) :	65	Outside (Below ground) :	60
Unconditioned Space :	97	Unconditioned Space :	65
Above Ceiling (Attic/Crawl Space) :	130	Above Ceiling (Attic/Crawl Space) :	45
Concrete Slab (Ground temperature) :	80	Concrete Slab (Ground temperature) :	55
Unconditioned Basement :	60	Unconditioned Basement :	55
Below Floor Crawl Space :	85	Below Floor Crawl Space :	50

Applicable Temperatures: Above Ceiling: Attic or Crawl Space Below Floor: Crawl Space Exposed Walls: Above Ground

Design Conditions

Occupant Sensible Load (BTUH per person) :	250
Occupant Latent Load (BTUH per person) :	200
Duct Insulation Factor :	1
Duct Temperature Difference (Summer) :	20
Duct Temperature Difference (Winter) :	45
Humidity Difference Inside/Outside % (Summer) :	20
Humidity Difference Inside/Outside % (Winter) :	15
Fresh Air Per Person (CFM) :	2
Air Change Factor (Air change per hour) :	.5
Space Shading Factor :	.4
Air Handler Design Cooling (CFM per ton) :	400
Hydronic Heat (BTUH per linear ft) :	600

Insulation Values (U-Factors)

Exposed Walls (Above Ground) :	.080
Exposed Walls (Below Ground) :	.5
Partitions :	.075
Roof/Ceiling :	.055
Floor (Above basement) :	.083
Floor (Concrete slab) :	.001
Floor (Between conditioned spaces) :	.287
Doors :	.500
Windows :	.900

Calculated Room Results - Summer Heat Gains

Wall Heat Gain (BTUH) :	74	Appliance/Elec Motor Latent Heat Gain (BTUH) :	0
Ceiling or Roof Heat Gain (BTUH) :	139	Appliance/Elec Motor Sensible Heat Gain (BTUH) :	0
Floor Heat Gain (BTUH) :	41	Ventilation Latent Heat Gain (BTUH) :	40
Glass Heat Gain (BTUH) :	75	Ventilation Sensible Gain (BTUH) :	75
Exterior Door & North Window Heat Gain (BTUH) :	0	Summer Total Latent Heat Gain :	40
Solar Heat Gain (BTUH) :	344	Summer Total Sensible Heat Gain (BTUH) :	747
Total Transmission Heat Gain (BTUH) :	673	TOTAL SUMMER COOLING LOAD (BTUH) :	788

Calculated Room Results - Winter Heat Losses

Transmission Heat Losses (BTUH) :	486	Latent Ventilation Heat Losses (BTUH) :	30
Sensible Ventilation Heat Losses (BTUH) :	169	Hydronic Heat (Linear Ft.) :	1
		TOTAL WINTER HEATING LOAD (BTUH) :	685

Calculated Totals for Entire Structure

Size of Structure (Sq. Ft.):	1161	Total Sensible Heat Gain (BTUH):	36623
Total Heat Loss (BTUH):	32319	Total Cooling Gain (BTUH):	42041
Total Hydronic Heat (Linear Ft.):	53.87	Total Cooling Requirement (Tons):	3.5
Total Latent Heat Gain (BTUH):	5417	Total Cooling CFM:	1401

Disclaimer

These computed results should be treated as estimates only and should be viewed as only one of the many tools required for a professional installation. The installing contractor's experience and expert judgement are also major factors in sizing and installing a complete system. The weather, customer usage, duct installation, and structure design may vary on each estimate and should be taken into account. Correct system sizing is based on the systems ability to meet both latent and sensible heat requirements, not just total BTUs.

Patrick T. Kerwin, Inc.

1624 Beaver Dam Rd. Point Pleasant, NJ 08742
Phone: 7322952167 Fax: 7328995521 E-mail: kerwinhvac@aol.com

Heat Load Detail Report for France

Room 7 of 9

Room Specifications: bed 2

Room Length (Ft.) :	13	Sq. Ft windows facing NE & NW:	—	Watts Incandescent Light:	—
Room Width (Ft.) :	12	Sq. Ft windows facing South:	—	Watts Fluorescent Light:	—
Room Height (Ft.) :	8	Sq. Ft windows facing SE & SW:	—	Duct Length from A/H to room:	—
Exposed Wall Length (Ft.) :	—	Number of Exterior Doors:	—	Number of Large Electric Motors:	—
Wall against unconditioned room (Ft.) :	—	Sq. Ft. Exterior Doors:	—	Average Electric Motor Horsepower:	—
Sq. Ft windows facing North:	28	Number of People in Room:	2	BTUH Appliance Sensible Heat:	—
Sq. Ft windows facing E & W:	—			BTUH Appliance Latent Heat:	—

Indoor/Outdoor Design Temperatures (degrees Farenheit)

Summer:		Winter:	
Inside (Thermostat setting) :	74	Inside (Thermostat setting) :	72
Outside (Above ground):	97	Outside (Above ground) :	20
Outside (Below ground):	65	Outside (Below ground) :	60
Unconditioned Space :	97	Unconditioned Space :	65
Above Ceiling (Attic/Crawl Space) :	130	Above Ceiling (Attic/Crawl Space) :	45
Concrete Slab (Ground temperature) :	80	Concrete Slab (Ground temperature) :	55
Unconditioned Basement :	60	Unconditioned Basement :	55
Below Floor Crawl Space :	85	Below Floor Crawl Space :	50

Applicable Temperatures: Above Ceiling: Attic or Crawl Space Below Floor: Crawl Space Exposed Walls: Above Ground

Design Conditions

Occupant Sensible Load (BTUH per person) :	250
Occupant Latent Load (BTUH per person) :	200
Duct Insulation Factor :	1
Duct Temperature Difference (Summer) :	20
Duct Temperature Difference (Winter) :	45
Humidity Difference Inside/Outside % (Summer) :	20
Humidity Difference Inside/Outside % (Winter) :	15
Fresh Air Per Person (CFM) :	2
Air Change Factor (Air change per hour) :	.5
Space Shading Factor :	.4
Air Handler Design Cooling (CFM per ton) :	400
Hydronic Heat (BTUH per linear ft) :	600

Insulation Values (U-Factors)

Exposed Walls (Above Ground) :	.080
Exposed Walls (Below Ground) :	.5
Partitions :	.075
Roof/Ceiling :	.055
Floor (Above basement) :	.083
Floor (Concrete slab) :	.001
Floor (Between conditioned spaces) :	.287
Doors :	.500
Windows :	.900

Calculated Room Results - Summer Heat Gains

Wall Heat Gain (BTUH) :	0	Appliance/Elec Motor Latent Heat Gain (BTUH) :	400
Ceiling or Roof Heat Gain (BTUH) :	480	Appliance/Elec Motor Sensible Heat Gain (BTUH) :	500
Floor Heat Gain (BTUH) :	142	Ventilation Latent Heat Gain (BTUH) :	140
Glass Heat Gain (BTUH) :	0	Ventilation Sensible Gain (BTUH) :	259
Exterior Door & North Window Heat Gain (BTUH) :	270	Summer Total Latent Heat Gain:	540
Solar Heat Gain (BTUH) :	0	Summer Total Sensible Heat Gain (BTUH) :	1652
Total Transmission Heat Gain (BTUH) :	893	TOTAL SUMMER COOLING LOAD (BTUH) :	2192

Calculated Room Results - Winter Heat Losses

Transmission Heat Losses (BTUH) :	1128	Latent Ventilation Heat Losses (BTUH) :	105
Sensible Ventilation Heat Losses (BTUH) :	585	Hydronic Heat (Linear Ft.) :	3
		TOTAL WINTER HEATING LOAD (BTUH) :	1818

Calculated Totals for Entire Structure

Size of Structure (Sq. Ft.):	1161	Total Sensible Heat Gain (BTUH):	36623
Total Heat Loss (BTUH):	32319	Total Cooling Gain (BTUH):	42041
Total Hydronic Heat (Linear Ft.):	53.87	Total Cooling Requirement (Tons):	3.5
Total Latent Heat Gain (BTUH):	5417	Total Cooling CFM:	1401

Disclaimer

These computed results should be treated as estimates only and should be viewed as only one of the many tools required for a professional installation. The installing contractor's experience and expert judgement are also major factors in sizing and installing a complete system. The weather, customer usage, duct installation, and structure design may vary on each estimate and should be taken into account. Correct system sizing is based on the systems ability to meet both latent and sensible heat requirements, not just total BTUs.

Patrick T. Kerwin, Inc.

1624 Beaver Dam Rd. Point Pleasant, NJ 08742
Phone: 7322952167 Fax: 7328995521 E-mail: kerwinhvacr@aol.com

Heat Load Detail Report for France

Room 8 of 9

Room Specifications: bed 3

Room Length (Ft.) :	14	Sq. Ft windows facing NE & NW:	—	Watts Incandescent Light:	—
Room Width (Ft.) :	14	Sq. Ft windows facing South:	12	Watts Fluorescent Light:	—
Room Height (Ft.) :	8	Sq. Ft windows facing SE & SW:	—	Duct Length from A/H to room:	—
Exposed Wall Length (Ft.) :	16	Number of Exterior Doors:	—	Number of Large Electric Motors:	—
Wall against unconditioned room (Ft.) :	—	Sq. Ft. Exterior Doors:	—	Average Electric Motor Horsepower:	—
Sq. Ft windows facing North:	—	Number of People in Room:	2	BTUH Appliance Sensible Heat:	—
Sq. Ft windows facing E & W:	12			BTUH Appliance Latent Heat:	—

Indoor/Outdoor Design Temperatures (degrees Farenheit)

Summer:		Winter:	
Inside (Thermostat setting) :	74	Inside (Thermostat setting) :	72
Outside (Above ground):	97	Outside (Above ground) :	20
Outside (Below ground):	65	Outside (Below ground) :	60
Unconditioned Space :	97	Unconditioned Space :	65
Above Ceiling (Attic/Crawl Space) :	130	Above Ceiling (Attic/Crawl Space) :	45
Concrete Slab (Ground temperature) :	80	Concrete Slab (Ground temperature) :	55
Unconditioned Basement :	60	Unconditioned Basement :	55
Below Floor Crawl Space :	85	Below Floor Crawl Space :	50

Applicable Temperatures: Above Ceiling: Attic or Crawl Space Below Floor: Crawl Space Exposed Walls: Above Ground

Design Conditions

Occupant Sensible Load (BTUH per person) :	250
Occupant Latent Load (BTUH per person) :	200
Duct Insulation Factor :	1
Duct Temperature Difference (Summer) :	20
Duct Temperature Difference (Winter) :	45
Humidity Difference Inside/Outside % (Summer) :	20
Humidity Difference Inside/Outside % (Winter) :	15
Fresh Air Per Person (CFM) :	2
Air Change Factor (Air change per hour) :	.5
Space Shading Factor :	.4
Air Handler Design Cooling (CFM per ton) :	400
Hydronic Heat (BTUH per linear ft) :	600

Insulation Values (U-Factors)

Exposed Walls (Above Ground) :	.080
Exposed Walls (Below Ground) :	.5
Partitions :	.075
Roof/Ceiling :	.055
Floor (Above basement) :	.083
Floor (Concrete slab) :	.001
Floor (Between conditioned spaces) :	.287
Doors :	.500
Windows :	.900

Calculated Room Results - Summer Heat Gains

Wall Heat Gain (BTUH) :	236	Appliance/Elec Motor Latent Heat Gain (BTUH) :	400
Ceiling or Roof Heat Gain (BTUH) :	604	Appliance/Elec Motor Sensible Heat Gain (BTUH) :	500
Floor Heat Gain (BTUH) :	179	Ventilation Latent Heat Gain (BTUH) :	175
Glass Heat Gain (BTUH) :	453	Ventilation Sensible Gain (BTUH) :	325
Exterior Door & North Window Heat Gain (BTUH) :	0	Summer Total Latent Heat Gain:	575
Solar Heat Gain (BTUH) :	1032	Summer Total Sensible Heat Gain (BTUH) :	3328
Total Transmission Heat Gain (BTUH) :	2503	TOTAL SUMMER COOLING LOAD (BTUH) :	3903

Calculated Room Results - Winter Heat Losses

Transmission Heat Losses (BTUH) :	2205	Latent Ventilation Heat Losses (BTUH) :	132
Sensible Ventilation Heat Losses (BTUH) :	735	Hydronic Heat (Linear Ft.) :	5
		TOTAL WINTER HEATING LOAD (BTUH) :	3072

Calculated Totals for Entire Structure

Size of Structure (Sq. Ft.):	1161	Total Sensible Heat Gain (BTUH):	36623
Total Heat Loss (BTUH):	32319	Total Cooling Gain (BTUH):	42041
Total Hydronic Heat (Linear Ft.):	53.87	Total Cooling Requirement (Tons):	3.5
Total Latent Heat Gain (BTUH):	5417	Total Cooling CFM:	1401

Disclaimer

These computed results should be treated as estimates only and should be viewed as only one of the many tools required for a professional installation. The installing contractor's experience and expert judgement are also major factors in sizing and installing a complete system. The weather, customer usage, duct installation, and structure design may vary on each estimate and should be taken into account. Correct system sizing is based on the systems ability to meet both latent and sensible heat requirements, not just total BTUs.

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Phone: 7322952167 Fax: 7328995521 E-mail: kerwinhvacr@aol.com

Heat Load Detail Report for France

Room 9 of 9

Room Specifications: laundry

Room Length (Ft.) :	11	Sq. Ft windows facing NE & NW:	—	Watts Incandescent Light:	—
Room Width (Ft.) :	5	Sq. Ft windows facing South:	—	Watts Fluorescent Light:	—
Room Height (Ft.) :	8	Sq. Ft windows facing SE & SW:	—	Duct Length from A/H to room:	—
Exposed Wall Length (Ft.) :	5	Number of Exterior Doors:	—	Number of Large Electric Motors:	—
Wall against unconditioned room (Ft.) :	—	Sq. Ft. Exterior Doors:	—	Average Electric Motor Horsepower:	—
Sq. Ft windows facing North:	—	Number of People in Room:	1	BTUH Appliance Sensible Heat:	—
Sq. Ft windows facing E & W:	6			BTUH Appliance Latent Heat:	400

Indoor/Outdoor Design Temperatures (degrees Farenheit)

Summer:		Winter:	
Inside (Thermostat setting) :	74	Inside (Thermostat setting) :	72
Outside (Above ground):	97	Outside (Above ground) :	20
Outside (Below ground):	65	Outside (Below ground) :	60
Unconditioned Space :	97	Unconditioned Space :	65
Above Ceiling (Attic/Crawl Space) :	130	Above Ceiling (Attic/Crawl Space) :	45
Concrete Slab (Ground temperature) :	80	Concrete Slab (Ground temperature) :	55
Unconditioned Basement :	60	Unconditioned Basement :	55
Below Floor Crawl Space :	85	Below Floor Crawl Space :	50

Applicable Temperatures: Above Ceiling: Attic or Crawl Space Below Floor: Crawl Space Exposed Walls: Above Ground

Design Conditions

Occupant Sensible Load (BTUH per person) :	250
Occupant Latent Load (BTUH per person) :	200
Duct Insulation Factor :	1
Duct Temperature Difference (Summer) :	20
Duct Temperature Difference (Winter) :	45
Humidity Difference Inside/Outside % (Summer) :	20
Humidity Difference Inside/Outside % (Winter) :	15
Fresh Air Per Person (CFM) :	2
Air Change Factor (Air change per hour) :	.5
Space Shading Factor :	.4
Air Handler Design Cooling (CFM per ton) :	400
Hydronic Heat (BTUH per linear ft) :	600

Insulation Values (U-Factors)

Exposed Walls (Above Ground) :	.080
Exposed Walls (Below Ground) :	.5
Partitions :	.075
Roof/Ceiling :	.055
Floor (Above basement) :	.083
Floor (Concrete slab) :	.001
Floor (Between conditioned spaces) :	.287
Doors :	.500
Windows :	.900

Calculated Room Results - Summer Heat Gains

Wall Heat Gain (BTUH) :	74	Appliance/Elec Motor Latent Heat Gain (BTUH) :	600
Ceiling or Roof Heat Gain (BTUH) :	169	Appliance/Elec Motor Sensible Heat Gain (BTUH) :	250
Floor Heat Gain (BTUH) :	50	Ventilation Latent Heat Gain (BTUH) :	49
Glass Heat Gain (BTUH) :	113	Ventilation Sensible Gain (BTUH) :	91
Exterior Door & North Window Heat Gain (BTUH) :	0	Summer Total Latent Heat Gain:	649
Solar Heat Gain (BTUH) :	516	Summer Total Sensible Heat Gain (BTUH) :	1264
Total Transmission Heat Gain (BTUH) :	922	TOTAL SUMMER COOLING LOAD (BTUH) :	1913

Calculated Room Results - Winter Heat Losses

Transmission Heat Losses (BTUH) :	604	Latent Ventilation Heat Losses (BTUH) :	37
Sensible Ventilation Heat Losses (BTUH) :	206	Hydronic Heat (Linear Ft.) :	1
		TOTAL WINTER HEATING LOAD (BTUH) :	848

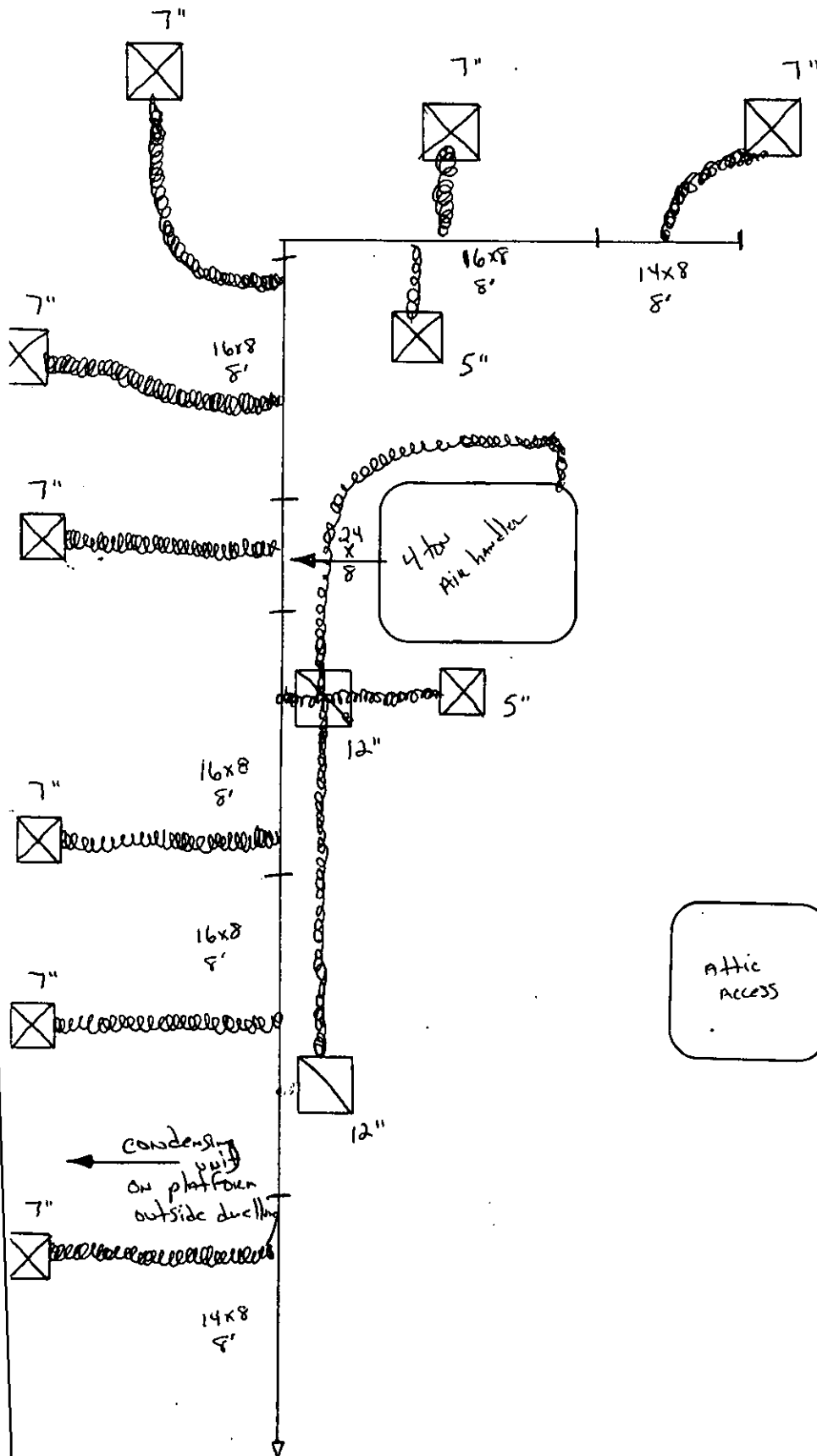
Calculated Totals for Entire Structure

Size of Structure (Sq. Ft.):	1161	Total Sensible Heat Gain (BTUH):	36623
Total Heat Loss (BTUH):	32319	Total Cooling Gain (BTUH):	42041
Total Hydronic Heat (Linear Ft.):	53.87	Total Cooling Requirement (Tons):	3.5
Total Latent Heat Gain (BTUH):	5417	Total Cooling CFM:	1401

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Bob France



* Duct drawing of Attic system.

Township of Brick

Counter Form
(PLEASE PRINT)

Site Location: Paul Jones Drive BRICK 08723
Block: 260 Lot: 9
Owner's Name: Bob France
Owner's Mailing Address: 43 Paul Jones Drive
Brick NJ 08723
Phone: [REDACTED]

BUILDING

Contractor: Patrick T Keenan Inc.
Address: 1624 Benven Dam Rd.
Pt. Pleasant NJ 08724
Phone#: 732-295-2167
Lis # _____
Federal Emp # or SSN 222-354-524

Technical Data

Description of Work:

Installation of 3 1/2 ton
overhead A/C system.

Type of Work

☐ New Building ☐ Siding
☐ Addition ☐ Fence
☒ Alteration ☐ Pool
☐ Roofing ☐ Demolition
☐ Asbestos Abatement ☐ Sign _____ sq ft
☐ Fireplace wd/gas

Building Characteristics

Use Group Present: _____ Proposed: _____
No of Stories: 1
Height of Structure: _____
Area of the largest floor: _____
Area of New Structure: _____
Volume of New Structure: _____
Total Land Disturbed: _____

Cost of Alteration: \$ 5,000

Cost of New Building: \$ _____

Cost of Site Work \$ _____

Total Cost of New Building Work: \$ 5,000

I hereby certify that I am the agent/owner of record and am authorized to make this application and perform the work listed on this application.

Signature: [Signature]

Please Print Name DARIL PETERS

ELECTRICAL

Contractor: Bay Electric INC
Address: 582 ALLEN RD
BRICK N.J. 08723
Phone#: 732-262-2000
Lis #: 5830A
Federal Emp # or SSN 222 340 134

Technical Data

Item	Quantity
Lighting Fixtures	_____
Receptacles	_____
Switches	<u>111</u>
Detectors	_____
Light Poles	_____
Motors w/ Fract. HP	_____
Emergency & Exit Lights	_____
Communication Points	_____
Alarm Devices/FAC Panel	_____
Total	_____
Pool (Receptacles, Switches, Lights, Motor 1HP)	_____
Spa/Hot Tub/Storable Pool	_____
Electric Range	KW
Oven/Surface Unit	KW
Electric Water Heater	KW
Electric Dryer	KW
Dishwasher	KW
Garbage Disposal	HP
A/C Unit - Central Air	<u>3 1/2 TON</u> KW
Space Heater (Air Handler)	<u>1</u> KW
Baseboard Heating	KW
Motors 1+ HP	_____
Transformer/Generator	KW
Light Stander	AMP
Service	AMP
Subpanel	AMP
Motor Control Center	AMP
Sign/Outline Light	KW
Furnace	_____
Steam Boiler	_____
Other:	_____

Estimated Cost of Electrical Work: \$ 500

I hereby certify that I am the agent/owner of record and am authorized to make this application and perform the work listed on this application.

Signature: Salvatore S. Vicari

Please Print Name SALVATORE S. VICARI

CONTRACTOR'S SEAL

Counter Form
PLEASE PRINT

PLUMBING

Contractor: Patach T. Kavin Inc.
Address: 1624 Beaver Dam Rd.
Pt. Pleasant NJ 08742
Phone #: 295-2167
Lis #: 222-354-524
Federal Emp # or SSN _____

Technical Data

Fixtures	Quantity
Water Closets (Toilet)	_____
Urinals/Bidets	_____
Bath Tub (w/or w/out shower head)	_____
Lavatory (BR Sink)	_____
Shower	_____
Floor Drain	_____
Sink	_____
Dishwasher	_____
Drinking Fountain	_____
Washing Machine	_____
Hose Bib	_____
Gas Piping	_____
Fuel Oil Piping	_____
Water Heater	_____
Steam Boiler	_____
Hot Water Boiler	_____
Sewer Pump	_____
Interceptor/Separator	_____
Backflow Preventer	_____
Greasetrap	_____
Air Conditioner (Condensate Drain)	<u>1</u>
Septic Tank Closure	_____
Sewer Service Connection	_____
Water Service Connection	_____
Active Solar System	_____
Auxiliary Meter	_____
Sprinkler Heads	_____
Sump Pump	_____
Pool Heater	_____
Other:	_____

Estimated Cost of Plumbing Work \$100

I hereby certify that I am the agent/owner of record and am authorized to make this application and perform the work listed on this application.

Signature: [Signature]
Please Print Name: Daryl Peters

CONTRACTOR'S SEAL

FIRE

Contractor: _____
Address: _____
Phone #: _____
Lis #: _____
Federal Emp # or SSN _____

Technical Data

Description of Work:

Heating Type: Gas Oil Electric Solar
Heating System is New Existing
Location of Furnace/Boiler: _____
Water Supply Source _____
Method of Valve Supervision _____
Local Alarm Supervision _____
Central Supervision: _____
Proprietary Supervision: _____

Flammable Storage Tanks	_____ capacity	_____ fuel
Combustible Storage Tanks	_____ capacity	_____ fuel
LPG Storage Tanks	_____ capacity	_____ fuel

Item	Quantity
Wet Sprinkler Heads	_____
Dry Sprinkler Heads	_____
Total	_____

Smoke Detectors _____
Heat Detectors _____
Total _____

Stand Pipes _____
Kitchen Hood Exhaust System _____

Pre-Engineered Systems:

CO2 Suppression _____
Halon Suppression _____
Foam Suppression _____
Dry Chemical _____
Wet Chemical _____

Gas/ Oil Fired Appliances:

Gas Stove _____
Gas Dryer _____
Furnace (Gas or Oil) _____
Gas Fireplace _____
Gas Logs _____
Total Appliances _____

Wood Burning Stove _____
Wood Fireplace _____
Other: _____

Estimated Cost of Fire Work _____

I hereby certify that I am the agent/owner of record and am authorized to make this application and perform the work listed on this application.

Signature: _____
Print Name: _____