

To: Portsmouth Board of Adjustment

From: Walter and Mary Ellen Hoerman (owners)
56 Dennett Street
Portsmouth, NH

Re: Variance for placement of a small condenser less than 10 feet from the property line.

We, Walter and Mary Ellen Hoerman, the owners of 56 Dennett Street, are seeking a variance to place a small condenser next to our house. Due to the fact that our house sits 6 feet from the property line, it is impossible to comply with the ordinance asking it to be placed 10 feet from the property line.

This is part of a larger project that is approximately 75% completed, which included replacing windows and rotted siding, as well as enclosing an existing second floor porch. All of this has been submitted and approved by Planning and the Historic District Commission. This project has all been within the existing footprint of the house.

Upon further design/analyzing of the addition, it became apparent that there was no way our current forced hot air system could be ducted to adequately heat the new room. A mini-split was added to the design, which includes a small 1 x 2ft condenser be placed on the ground.

The only place that the condenser can be placed is on the side of the house where the side yard is only 6 foot wide. The front of the house is flush with the street, the other side of the house is completely driveway only 12 feet wide, and the rear of the house is too far away (greater than the 50 foot range of the mini-split plumbing) and quickly encroaches on the tidal buffer of North Mill Pond. Therefore the only option is the 6 foot wide side yard.

The placement of this small unit is the first part of the project outside the footprint of the existing 1730 house, therefore the first, and only thing needing a variance.

On recommendation of Peter Stith, I will outline this based on the 5 criteria needed for the variance:

10.233.21 The variance will not be contrary to the public interest;

This is a 1 x 2 foot small unit placed on ground level next to pre-existing equipment that will be fully screened from the street and neighbors. The screening is more than 50 feet from the street behind a street-level fence as well. The abutting house has no windows on that side. It is not visible from the other two sides.

There will be no change to the essential character of the neighborhood, and there are no threats to the public health, safety or welfare, or any otherwise injury to public rights. The unit will be not visible behind screening (which has been previously approved by the Historic District Commission), and has no appreciable noise or emissions. It is in a fenced area with no public access or right of way.

10.233.22 The spirit of the Ordinance will be observed;

The spirit of the ordinance is to keep an adequate buffer to avoid encroachment on the neighbors. The decision to make this side yard only 6 feet wide happened sometime in the 1800s when the lot was subdivided. A small unit, screened with minimal noise, will not particular encroach on the abutter, whose side yard has no windows and is brush filled and used for storage.

10.233.23 Substantial justice will be done;

Substantial justice entails benefit to the applicant should not be outweighed by the harm to the general public.

It is hard to define any harm to the general public of a small unit with minimal noise screened from view, more than 50 feet from the street. The screened area is there either way, whether this unit is there or not.

The benefit to the applicant is heat to make a part of our house livable.

10.233.24 The values of surrounding properties will not be diminished;

As stated previously, the screened area where this unit will be will be there even if this unit is not approved. There is no significant change to the neighborhood. Surrounding property values will be completely unchanged.

and

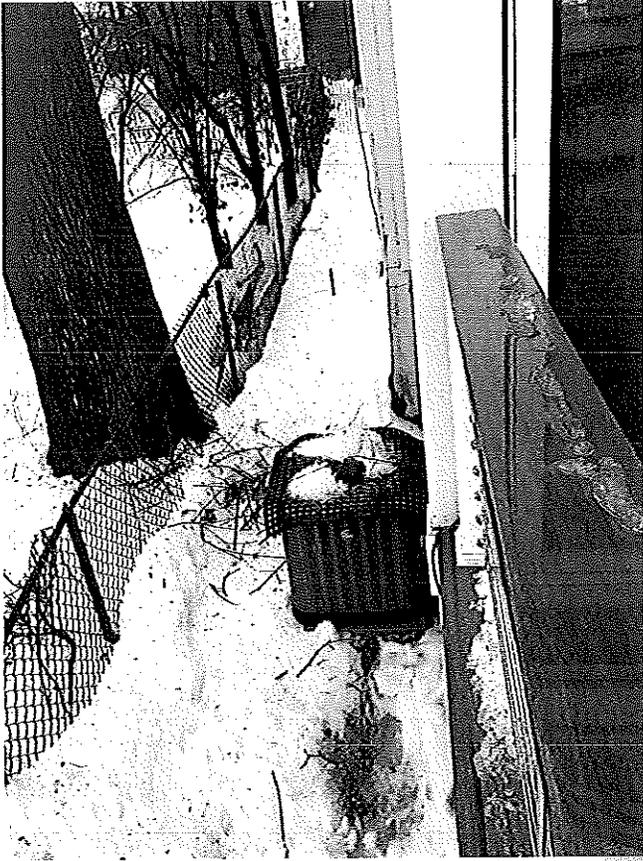
10.233.25 Literal enforcement of the provisions of the Ordinance would result in an unnecessary hardship.

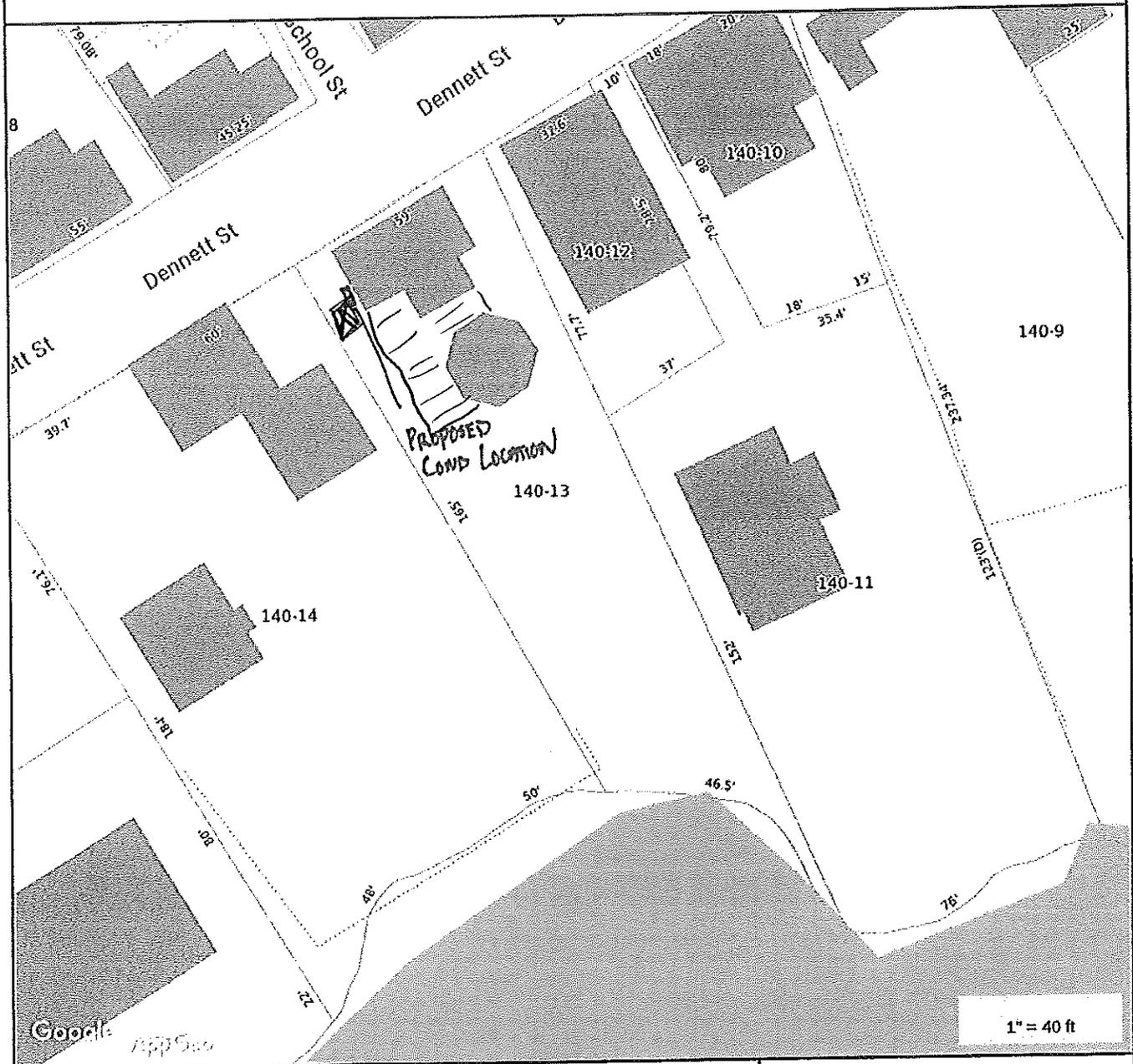
This unit is necessary to add heat to the new room that is already constructed. A room without heat is unusable and unsafe in New Hampshire. There is no other viable option for heat to this room.

The unit cannot be placed anywhere but within this 6 foot side yard. Any other place is further than safe for the piping for the unit. The only other yard with any room is the rear yard, which is much more visible, is too far away, and within the tidal buffer on North Mill Pond.

Enclosed are the details of the condenser as well as a sketch of the placement. If you need any further information, please contact me.

Walter & Mary Ellen Hoerman
56 Dennett Street
Portsmouth, NH 03801
603-828-2688
whoerman@gmail.com





MAP FOR REFERENCE ONLY
NOT A LEGAL DOCUMENT

City of Portsmouth, NH makes no claims and no warranties, expressed or implied, concerning the validity or accuracy of the GIS data presented on this map.

Geometry updated 4/1/2019
Data updated 7/17/2019

HOERMAN RESIDENCE

Sheet List	Sheet Name
Sheet Number	COVER
ADIT	FLOOR PLANS



ISAM DESIGN, LLC
7100 TOWERS LANE, SUITE 100
MOUNTAIN VIEW, CO 80030
www.isamdesign.com

ARCHITECT:
ISAM DESIGN, LLC
7100 TOWERS LANE, SUITE 100
MOUNTAIN VIEW, CO 80030
PH: 303.440.1100
WWW.ISAMDESIGN.COM

CONSULTANT:
ADDRESS
PHONE
FAX

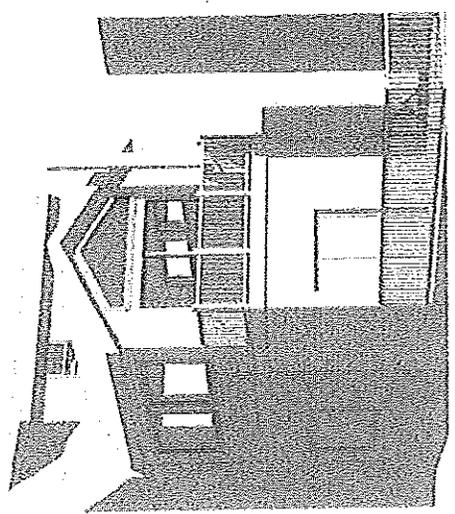
OWNER:
ADDRESS
PHONE
FAX

DATE:

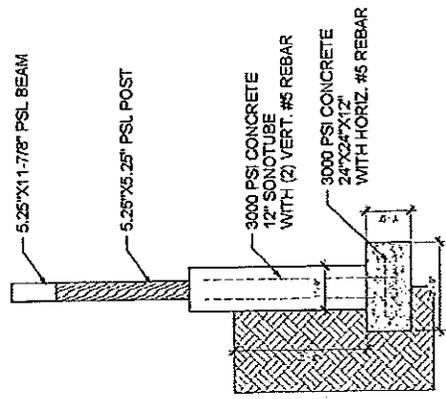
HOERMAN RESIDENCE COVER

Project No.	2006
Date	10.23.06
Drawn By	MI
Checked By	MI
Scale	AS SHOWN

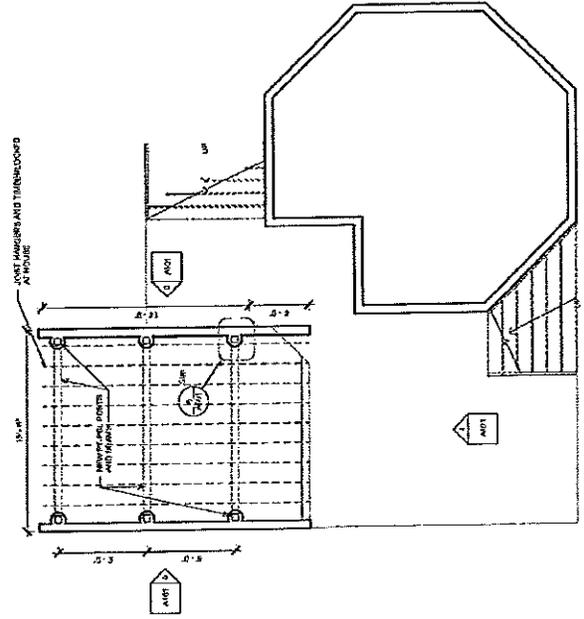
A001



3D View 1



3 Foundation
1/4" = 1'-0"



3 Crawlspace
1/4" = 1'-0"



SYMBOLS LEGEND:

VIEW NAME	SCALE	TITLE	ROOM NAME	ROOM DESCRIPTION	ROOM TITLE
1	1/4" = 1'-0"	BUILDING SECTION	CLOZ	CLOZ	PARTITION WITH WALL
2	1/4" = 1'-0"	WALL SECTION	FLOOR, WINDOW, & CEILING	FLOOR, WINDOW, & CEILING	DOOR, WINDOW, PARTITION, FLOOR
3	1/4" = 1'-0"	DETAIL	CONCRETE MATERIAL	CONCRETE MATERIAL	CEILING
4	1/4" = 1'-0"	EXTERNAL ELEVATION	FACE OF 1/4" x 1/4" x 1/4" CENTER LINE	FACE OF 1/4" x 1/4" x 1/4" CENTER LINE	MISC. MATERIALS
5	1/4" = 1'-0"	INTERIOR ELEVATION	INTERIOR	INTERIOR	

3 SYMBOLS LEGEND
1/4" = 1'-0"

MATERIALS LEGEND:

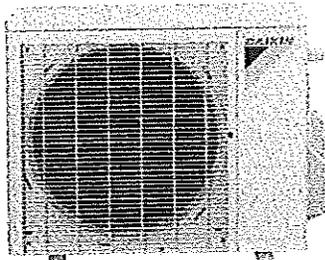
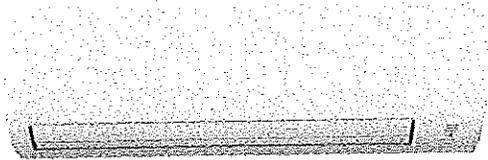
CONCRETE	WOOD
BRICK	GLASS
PAINT	ROOFING
INSULATION	MECHANICAL
...	...

3 MATERIALS LEGEND
3/4" = 1'-0"

Job Name:	
Tag#	



Submittal Data Sheet	FTX12NMVJU / RXL12QMVJU
1-Ton Wall Mounted Heat Pump System	



Complete warranty details available from your local dealer or at www.daikincomfort.com. To receive the 12-Year Parts Limited Warranty, online registration must be completed within 60 days of installation. Online registration is not required in California or Quebec. *If product is installed in a commercial application, limited warranty period is 5 years.*

Indoor Specifications

Airflow Rate (cfm)	Cooling		Heating	
	H	M	H	M
	434	311	413	321
	L	SL	L	SL
	247	145	258	219
Sound (dBA) H / M / L / SL	45 / 37 / 30 / 19		45 / 37 / 30 / 26	
Dimensions (H x W x D) (in)	11-1/4 x 30-5/16 x 8-3/4			
Weight (Lbs)	18			

Outdoor Specifications

Compressor	Hermetically Sealed Swing Type			
Refrigerant	R-410A			
Refrigerant Oil	PVE (FVC50K)			
Airflow Rate (cfm)	Cooling		Heating	
	H	M	H	M
	1,144	865	1,006	777
Sound Power Level (dBA)	50			
Dimensions (H x W x D) (in)	21-5/8 x 26-9/16 x 11-3/16			
Weight (Lbs)	70			

Efficiency

Cooling		Heating	
SEER	20.0	HSPF	12.0
EER	12.5	COP	3.90

Performance

Cooling (Btu/hr)	
Rated (Min/Max)	10,900 (4,400 / 13,300)
Sensible @ AHRI	9,100
Moisture Removal gal/h	.45
Operating Range	50°F - 115°F
Rated Cooling Conditions:	Indoor: 80°F DB/67°F WB Outdoor: 95°F DB/75°F WB

Heating (Btu/hr)	
1: @ 47° Rated (Min/Max)	13,600 (4,400 / 18,800)
2: @ 17° Rated	8,800
3: @ 5° Max	14,330
Operating Range	-13°F - 60°F
1: Rated Heating Conditions:	Indoor: 70°F DB/60°F WB Outdoor: 47°F DB/43°F WB
2: Rated Heating Conditions:	Indoor: 70°F DB/60°F WB Outdoor: 17°F DB/15°F WB
3: Rated Heating Conditions:	Indoor: 70°F DB/60°F WB Outdoor: 5°F DB/5°F WB

Electrical

	208/60/1	230/60/1
System MCA	13.0	13.0
System MFA	15	15
Compressor RLA	12.0	12.0
Outdoor fan motor FLA	.17	.17
Outdoor fan motor W	20	20
Indoor fan motor FLA	.23	.23
Indoor fan motor W	28	28

MFA: Max. fuse amps MCA: Min. circuit amps (A) FLA: Full load amps (A)
RLA: Rated load amps (A) W: Fan motor rated output (W)

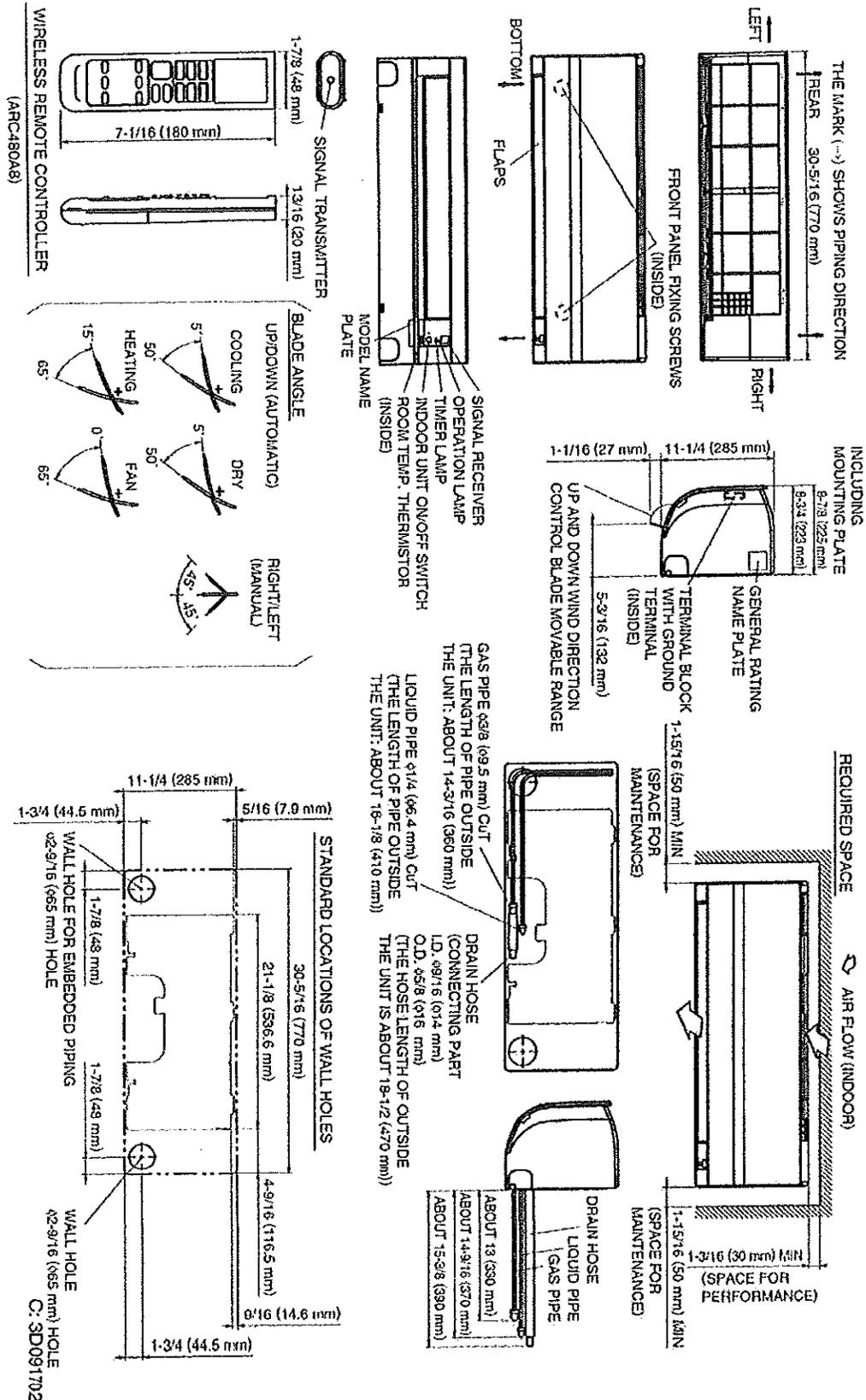
Piping

Liquid (in)	1/4
Gas (in)	3/8
Drain (in)	5/8
Max. Interunit Piping Length (ft)	65.625
Max. Interunit Height Difference (ft)	49.25
Chargeless (ft)	32.8
Additional Charge of Refrigerant (oz/ft)	.21

Daikin North America LLC 5151 San Felipe, Suite 500 Houston, TX 77056

(Daikin's products are subject to continuous improvements. Daikin reserves the right to modify product design, specifications and information in this data sheet without notice and without incurring any obligations)

FTX12NMVJU Dimensional Data



Daikin North America LLC 5151 San Felipe, Suite 500 Houston, TX 77056

(Daikin's products are subject to continuous improvements. Daikin reserves the right to modify product design, specifications and information in this data sheet without notice and without incurring any obligations)



This combination qualifies for a Federal Energy Efficiency Tax Credit when placed in service between 1/1/2015 and 12/31/2020.

Certificate of Product Ratings

AHRI Certified Reference Number : 8849458

Date : 12-24-2020

Model Status : Production Stopped

AHRI Type : HRCU-A-CB-O (Mini-Split Heat Pump, with Remote Outdoor Unit Air-Source, Free Delivery)

Outdoor Unit Brand Name : DAIKIN

Outdoor Unit Model Number : RXL12QMVJU

Indoor Type : Mini-Splits (Non-Ducted)

Indoor Model Number(s) : FTX12NMVJU

Rated as follows in accordance with the latest edition of AHRI 210/240 with Addendum 1, Performance Rating of Unitary Air-Conditioning & Air-Source Heat Pump Equipment and subject to rating accuracy by AHRI-sponsored, independent, third party testing:

Cooling Capacity (95F) : 10900

EER (95F) : 12.50

SEER : 20.00

High Heat (47F) : 13600

Low Heat (17F) : 8800

HSPF : 12.00

Sold in? : USA

†"Active" Model Status are those that an AHRI Certification Program Participant is currently producing AND selling or offering for sale; OR new models that are being marketed but are not yet being produced. "Production Stopped" Model Status are those that an AHRI Certification Program Participant is no longer producing BUT is still selling or offering for sale. Ratings that are accompanied by WAS indicate an involuntary re-rate. The new published rating is shown along with the previous (i.e. WAS) rating.

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CERTIFICATE VERIFICATION

The information for the model cited on this certificate can be verified at www.ahrirectory.org, click on "Verify Certificate" link and enter the AHRI Certified Reference Number and the date on which the certificate was issued, which is listed above, and the Certificate No., which is listed at bottom right.



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CERTIFICATE NO.:

132532881359293509



Table of abbreviations

Term	Description
Air Flow Rate	Air Flow Rate
Bse Refr	Standard factory refrigerant charge (16.4ft actual piping length) excluding extra refrigerant charge. For calculation of extra refrigerant charge refer to the databook
CC	Available cooling capacity
COP 47°C	COP value at nominal condition and at ambient temperature of 47°F
COP 17°C	COP value at nominal condition and at ambient temperature of 17°F
IEER	IEER value at nominal condition
Ex Refr	Extra refrigerant charge
FCU	Device model name
HC	Available heating capacity (integrated heating capacity)
HSPF	HSPF Rating
Max HC	Available heating capacity
Max SC	Available sensible cooling capacity
Max TC	Available total cooling capacity
MCA	Minimum Circuit Amps
Model	Device model name
MOP	Maximum Overcurrent Protection
Name	Logical name of the device
Piping	Largest distance from indoor unit to outdoor unit
PS	Power supply (voltage and phases)
Rq CC	Required cooling capacity
Rq HC	Required heating capacity
Rq SC	Required sensible cooling capacity
Rq TC	Required total cooling capacity
RunAmps	Running Amps
SEER	SEER Rating
Sound	Sound pressure level low and high
St curr	Starting current
Tmp C	Outdoor conditions in cooling
Tmp C	Indoor conditions in cooling
Tmp H	Indoor temperature in heating



Table of abbreviations

Term	Description
Tmp H	Outdoor conditions in heating (dry bulb temp. / RH)
WxHxD	WidthxHeightxDepth
Weight	Weight of the device

Sales Consultant:
 Job#: 122420-JDowling
 Date: 12/24/2020

Heat Pump (Average Load Procedure)

Design Conditions

Location:	Portsmouth Pease International Tradeport,	Elevation:	102 ft	Daily Range:	Medium
Input Data:	Outdoor Dry Bulb	Indoor Dry Bulb	Latitude:	43° N	Design Grains: 26
Summer:	96	72	Heated Area	189 Sq.Ft.	
Winter:	5	72	Cooled Area	189 Sq.Ft.	

Heat/Loss Summary (July Heat Load Calculations)

	Gross Area	Loss	Sensible Gain	Latent Gain
Walls	393.75	0	0	0
Windows	115.5	4375	6381	0
Doors	0	0	0	0
Ceilings	189	387	185	0
Skylights	0	0	0	0
Floors	0	0	0	0
Room Internal Loads		0	1143	400
Blower Load			0	0
Hot Water Piping Load		0	0	0
Winter Humidification Load		417	0	0
Infiltration		1417	255	178
Ventilation		0	0	0
Duct Loss/Gain EHLF=0 ESGF=0		0	0	0
AED Exursion		n/a	0	n/a
Subtotal		6596	7964	578



Approved ACCA
 MJ8 Calculations

Total Heating	6596	Btuh	2 kw of electric heat
Total Cooling	8542	Btuh	11 Linear ft. of Hydronic Baseboard
0.8 Nominal Tons of Sensible Cooling			0.71 Nominal Tons of Total Cooling

*Calculations are based on the ACCA Manual J 8th Edition and are approved by ACCA. All computed calculations are estimates based on building use, weather data, and inputted values such as R-Values, window types, duct loss, etc. Equipment selection should meet both the latent and sensible gain as well as building heat loss.

Sales Consultant:
 Job#: 122420-JDowling
 Date: 12/24/2020

Equipment Selection

Design Conditions

Design Location: Portsmouth Pease	Relative Humidity: 50%
Elevation: 102 ft	Summer Outdoor Design: 95
Latitude: 43° N	Winter Outdoor Design: 5
Daily Range: Medium	Summer Indoor Design: 72
Design Grains 26	Winter Indoor Design: 72

Heating Equipment

Mfg:	Altitude Correction Factor: 0
Model:	Heating Input (btuh):
AHRI Ref #:	Heating Output (btuh): 13600
Efficiency (AFUE):	Calculated HeatPump Output @ Design (btuh): 13819

Cooling Equipment

Mfg: DAIKIN MANUFACTURING	Altitude Correction Factor: 0
Outdoor Unit Model: RXL12QMVJU	Rated Total Cooling (btuh): 10900
Coil: FTX12NMVJU	Sensible Cooling (btuh): 9592
Furnace:	Latent Cooling (btuh): 1308
AHRI Ref #: 8849458	SEER - EER@95: 20 - 12.5
	Heat Pump HSPF: 12

Summary

<u>MJ8 Calculations</u>	<u>Status</u>	<u>Equipment Capacities</u>
Sensible Gain (btuh): 7964	Sufficient	Sensible Capacity (btuh): 9592
Latent Gain (btuh): 578	Sufficient	Latent Capacity (btuh): 1308
Total Heat Gain (btuh): 8542	Sufficient	Total Capacity (btuh): 10900
Heat Loss (btuh): 6596	Sufficient	Heating Capacity (btuh): 13819

Sales Consultant:

Job#: 122420-JDowling

Date: 12/24/2020

New Room (Average Load Procedure)

Design Conditions

Location:	Portsmouth Pease International Tradeport,	Elevation:	102 ft	Daily Range:	Medium	
Input Data:	Outdoor Dry Bulb	Indoor Dry Bulb	Latitude:	43° N	Design Grains:	26
Summer:	95	72	Heated Area	189 Sq.Ft.		
Winter:	5	72	Cooled Area	189 Sq.Ft.		

Heat/Loss Summary (July Heat Load Calculations)

	Gross Area	Loss	Sensible Gain	Latent Gain
Walls	393.75	0	0	0
Windows	116.5	4375	6381	0
Doors	0	0	0	0
Ceilings	189	387	186	0
Skylights	0	0	0	0
Floors	0	0	0	0
Room Internal Loads		0	1143	400
Blower Load		417	0	0
Hot Water Piping Load			0	0
Winter Humidification Load			0	0
Infiltration		1417	255	178
Ventilation		0	0	0
Duct Loss/Gain		0	0	0
AED Exoursion		n/a	0	n/a
Subtotal		6596	7964	578



Approved ACCA
 MJ8 Calculations

Total Heating	6596	Btuh	2 kw of electric heat
Total Cooling	8542	Btuh	11 Linear ft. of Hydronic Baseboard

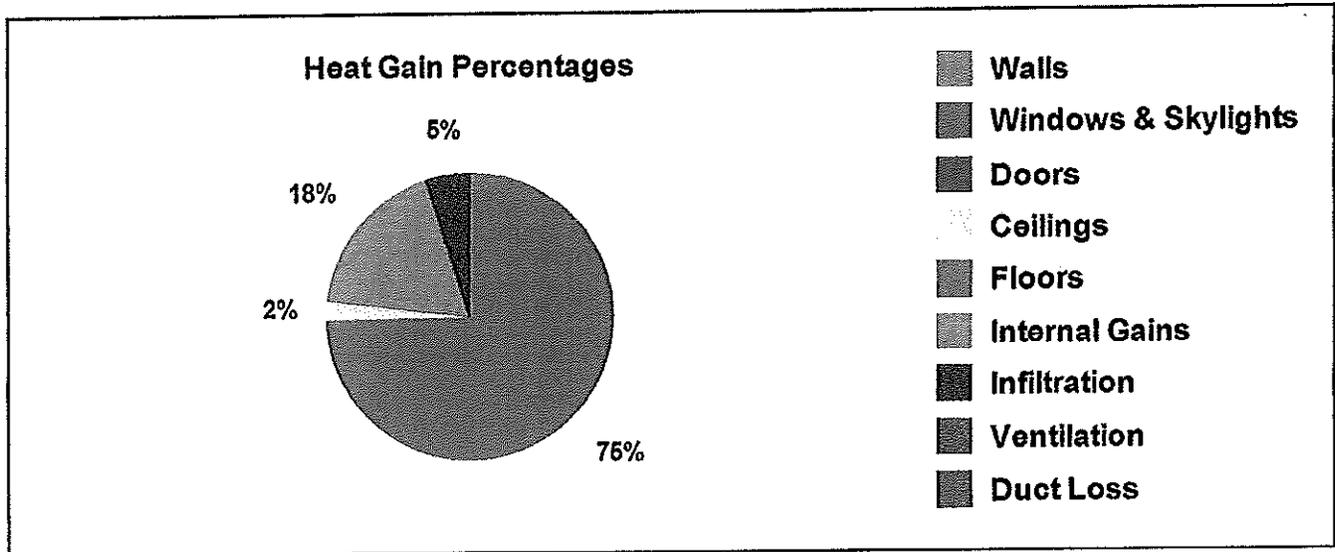
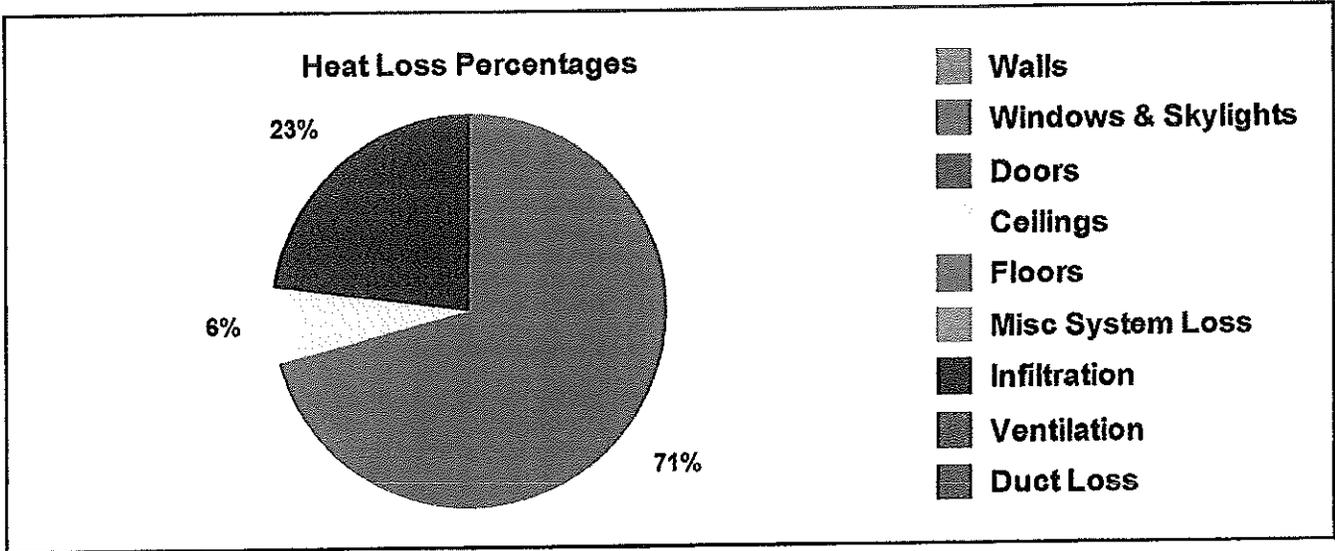
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Sales Consultant:
 Job#: 122420-JDowling
 Date: 12/24/2020

New Room Load Chart



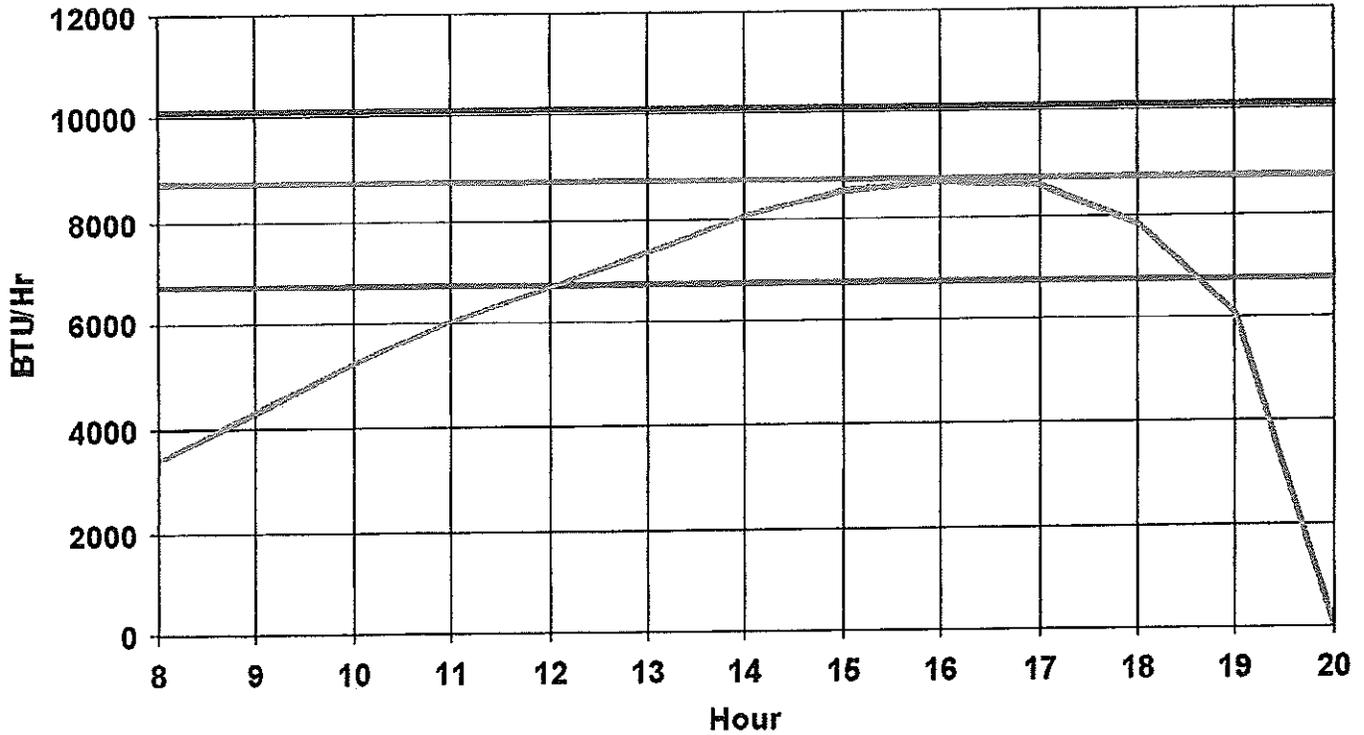
Sales Consultant:

Job#: 122420-JDowling

Date: 12/24/2020

Heat Pump

— AED Curve — DAL — 1.3 — 1.5



AED Excursion: 0 btuh
AED Status: System has Adequate Exposure Diversity.
AED Flag: No AED Flag.

Hours are listed in 24-hour format: 8 is 8am, 20 is 8pm.

FW Webb Company
 218 Knox Marsh Road - Dover, New Hampshire 03820
 603-749-3100 - lyman@fwwebb.com

Hoerman Residence
 Portsmouth, NH 03801

Sales Consultant:
 Job#: 122420-JDowling
 Date: 12/24/2020

Heat Pump Breakdown

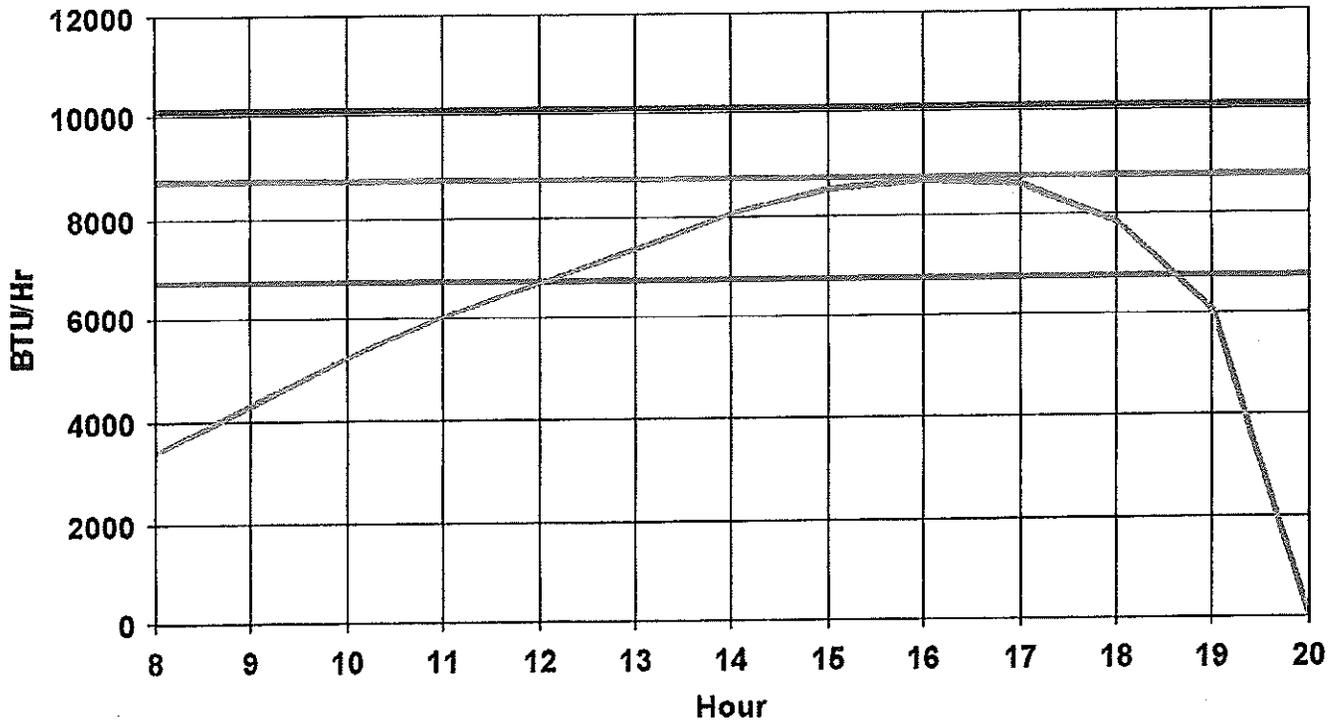
Item Name	U-Value /SHGC	Net Area	Htg. HTM.	Clg. HTM	Sens. Htg.	Sens. Clg.	Lat. Clg.	Total Clg.
Construction Type								
Heat Pump					417	0	0	0
New Room					0	1143	400	1543
Ceiling	0.029	199.22	1.943	0.93	387	185	0	185
West Wall								

Ceiling Below Roof Joists|Dark or Bold Color Asphalt Shingles|NA|R-38 blanket or loose fill

Sales Consultant:
 Job#: 122420-JDowling
 Date: 12/24/2020

Heat Pump

— AED Curve — DAL — 1.3 — 1.5



AED Excursion: 0 btuh
 AED Status: System has Adequate Exposure Diversity.
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Hot Water Piping Load			0	0
Winter Humidification Load			0	0
Infiltration		1417	255	178
Ventilation		0	0	0
Duct Loss/Gain		0	0	0
AED Excursion		n/a	0	n/a
Subtotal		6596	7964	678



**Approved ACCA
 MJ8 Calculations**

Total Heating	6596	Btuh	2 kw of electric heat
Total Cooling	8642	Btuh	11 Linear ft. of Hydronic Baseboard
			0.8 Nominal Tons of Sensible Cooling
			0.71 Nominal Tons of Total Cooling

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