



Residential Plans Examiner Review Form for HVAC System Design (Loads, Equipment, Ducts)

Form
RPER 1
15 Mar 09

Header Information

Contractor: company name
your name
Mechanical license: **must have lic.
type and #**
Building plan #:

REQUIRED ATTACHMENTS
Manual J1 Form (and supporting worksheets):
or MJ1AE Form* (and supporting worksheets):
OEM performance data (heating, cooling, blower):
Manual D Friction Rate Worksheet:
Duct distribution sketch:

ATTACHED
Yes ☐ No ☐
Yes ☐ No ☐
Yes ☐ No ☐
Yes ☐ No ☐
Yes ☐ No ☐

Home address (Street or Lot#, Block, Subdivision): 123 main st, 2nd fl

HVAC LOAD CALCULATION (IRC M1401.3)

Design Conditions

Winter Design Conditions

Outdoor temperature: 70 °F
Indoor temperature: 70 °F
Total heat loss: 22886 Btuh

Summer Design Conditions

Outdoor temperature: 83 °F
Indoor temperature: 75 °F
Grains difference: 25 gr/lb @ 50% RH
Sensible heat gain: 10997 Btuh
Latent heat gain: 1705 Btuh
Total heat gain: 12702 Btuh

Building Construction Information

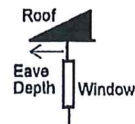
Building

Orientation: Front Door faces Southwest
North, East, West, South, Northeast, Northwest, Southeast, Southwest
Number of bedrooms: 3
Conditioned floor area: 1008 sq ft
Number of occupants: 2

Windows

Eave overhang depth: 0 ft
Internal shade: none
Blinds, drapes, etc.: none
Number of skylights: 0

additional 2 person
total of 4



HVAC EQUIPMENT SELECTION (IRC M1401.3)

Heating Equipment Data

Equipment type: Gas furnace
Furnace, Heat pump, Boiler, etc.
Model: American Standard
ADD2A040A9242A*
Heating output capacity: 32000 Btuh
Heat pumps - capacity at winter design outdoor conditions
Aux. heating output capacity: 0 Btuh

Cooling Equipment Data

Equipment type: Split AC
Air Conditioner, Heat pump, etc.
Model: American Standard
4A7A3018H1
Total cooling capacity: 0 Btuh
Sensible cooling capacity: 0 Btuh
Latent cooling capacity: 0 Btuh

Blower Data

Heating cfm: 470
Cooling cfm: 470
Static pressure: 0.70 in H2O
Fan's rated external static pressure for design airflow

HVAC DUCT DISTRIBUTION SYSTEM DESIGN (IRC M1601.1)

Design airflow:	470 cfm	Longest supply duct:	329 ft	Duct Materials Used	
Equipment design ESP:	0.70 in H2O	Longest return duct:	267 ft	Trunk duct:	Sheet metal
Total device pressure losses:	-0.3 in H2O	Total effective length (TEL):	596 ft	Branch duct:	Round flex vinyl
Available static pressure (ASP):	0.36 in H2O	Friction rate:	0.060 in/100ft		

Friction Rate = ASP ÷ (TEL x 100)

I declare the load calculation, equipment, equipment selection and duct design were rigorously performed based on the building plan listed above. I understand the claims made on these forms will be subject to review and verification.

Contractor's printed name: _____

Contractor's signature: _____ Date: _____

Reserved for County, Town Municipality or Authority having jurisdiction use.

*Home qualifies for MJ1AE Form based on Abridged Edition Checklist



Residential Plans Examiner Review Form for HVAC System Design (Loads, Equipment, Ducts)

Form
RPER 1
15 Mar 09

Header Information

Contractor: company name
your name

Mechanical license: ****must have lic.
type and #****

Building plan #:

Home address (Street or Lot#, Block, Subdivision): 123 main st, 1stfl

REQUIRED ATTACHMENTS

Manual J1 Form (and supporting worksheets):
or MJ1AE Form* (and supporting worksheets):
OEM performance data (heating, cooling, blower):
Manual D Friction Rate Worksheet:
Duct distribution sketch:

ATTACHED

Yes	<input type="checkbox"/>	No	<input type="checkbox"/>
Yes	<input type="checkbox"/>	No	<input type="checkbox"/>
Yes	<input type="checkbox"/>	No	<input type="checkbox"/>
Yes	<input type="checkbox"/>	No	<input type="checkbox"/>
Yes	<input type="checkbox"/>	No	<input type="checkbox"/>

HVAC LOAD CALCULATION (IRC M1401.3)

Design Conditions

Winter Design Conditions

Outdoor temperature: 7 °F
Indoor temperature: 70 °F
Total heat loss: 20145 Btuh

Summer Design Conditions

Outdoor temperature: 83 °F
Indoor temperature: 75 °F
Grains difference: 25 gr/lb @ 50% RH
Sensible heat gain: 10227 Btuh
Latent heat gain: 1880 Btuh
Total heat gain: 12106 Btuh

Building Construction Information

Building

Orientation: Front Door faces Southwest
North, East, West, South, Northeast, Northwest, Southeast, Southwest

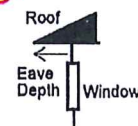
Number of bedrooms: 3
Conditioned floor area: 1008 sq ft
Number of occupants: 2

total number of
occupant 1 more
bedrooms

Windows

Eave overhang depth: 0 ft
Internal shade: none
Blinds, drapes, etc.

Number of skylights: 0



HVAC EQUIPMENT SELECTION (IRC M1401.3)

Heating Equipment Data

Equipment type: Gas furnace
Furnace, Heat pump, Boiler, etc.
Model: American Standard
ADH1B040A9H21B*
Heating output capacity: 38000 Btuh
Heat pumps - capacity at winter design outdoor conditions
Aux. heating output capacity: 0 Btuh

Cooling Equipment Data

Equipment type: Split AC
Air Conditioner, Heat pump, etc.
Model: American Standard
4A7A3016H1
Total cooling capacity: 0 Btuh
Sensible cooling capacity: 0 Btuh
Latent cooling capacity: 0 Btuh

Blower Data

Heating cfm: 473
Cooling cfm: 473
Static pressure: 0.70 in H2O
Fan's rated external static pressure for design airflow

this will only be 0 if
under 18k btu

HVAC DUCT DISTRIBUTION SYSTEM DESIGN (IRC M1601.1)

Design airflow: 473 cfm
Equipment design ESP: 0.70 in H2O
Total device pressure losses: -0.4 in H2O
Available static pressure (ASP): 0.34 in H2O

Longest supply duct: 228 ft
Longest return duct: 296 ft
Total effective length (TEL): 524 ft
Friction rate: 0.065 in/100ft
Friction Rate = ASP ÷ (TEL x 100)

Duct Materials Used
Trunk duct:
Branch duct:

Sheet metal
Round flex vinyl

must have values

below .60 fails

make sure if flex is
used its listed

I declare the load calculation, equipment, equipment selection and duct design were rigorously performed and I understand the claims made on these forms will be subject to review and verification.

listed above. I

Contractor's printed name:

Contractor's signature:

must be signed

Date:

Reserved for County, Town Municipality or Authority having jurisdiction use.

*Home qualifies for MJ1AE Form based on Abridged Edition Checklist