

# MECHANICAL PERMIT APPLICATION



OFFICE OF THE BUILDING DEPARTMENT

30 Providence Road

Grafton, Massachusetts 01519

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## INSTRUCTIONS

TYPE OR PRINT CLEARLY – USE BLACK OR BLUE INK

The applicant **must** fill out sections I, II, III, IV and V. Your permit will not be processed if you do not fill out the required information. Please read all conditions on this application before signing. A separate permit application is required for each building or structure except townhouses or commercial tenant spaces where each **unit** requires a separate permit.

## SECTION I:

### PROPERTY INFORMATION MUST BE COMPLETE

PROJECT ADDRESS: \_\_\_\_\_

BLDG #: \_\_\_\_\_ SUITE #: \_\_\_\_\_ UNIT #: \_\_\_\_\_ APT #: \_\_\_\_\_

CITY: \_\_\_\_\_ STATE: \_\_\_\_\_ ZIP CODE: \_\_\_\_\_

#### BUILDING OR STRUCTURE USE (CHECK ONLY ONE BELOW)

##### RESIDENTIAL

Single Family     Duplex     Multi-Family    \_\_\_\_\_ Units

Garage     Storage Building     Other \_\_\_\_\_

Estimated Valuation: \_\_\_\_\_

#### COMMERCIAL / NON – RESIDENTIAL

Change of Use: YES \_\_\_\_\_ NO \_\_\_\_\_

Specify Use: \_\_\_\_\_

Business Name (if applicable): \_\_\_\_\_

Estimated Valuation: \_\_\_\_\_

## SECTION II:

### OWNER / CONTRACTOR MUST BE COMPLETE

#### PROPERTY OWNER

Name: \_\_\_\_\_

Mailing Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

Phone Number: (    ) \_\_\_\_\_

#### CONTRACTOR

Business Name: \_\_\_\_\_

Mailing Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

Phone Number: (    ) \_\_\_\_\_

License #: \_\_\_\_\_ Expires: \_\_\_\_\_

## SECTION III:

### ARCHITECT / ENGINEER OF RECORD (WHEN REQUIRED)

#### ARCHITECT

Name: \_\_\_\_\_

Mailing Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

Phone Number: (    ) \_\_\_\_\_

#### ENGINEER

Name: \_\_\_\_\_

Mailing Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

Phone Number: (    ) \_\_\_\_\_

**SECTION IV: PROPOSED WORK (If utilizing existing equipment, you MUST submit a heat loss calculation showing existing loads and also proposed new loads)**

Project Description (Describe only the work that requires this permit)

SECTION V: PERMIT FEES		
	PERMIT ISSUANCE	FEE
<b>1</b>	For issuing each permit	
Enter Quantity Below	TYPE OF WORK	FEE (each)
<b>1. FURNACES</b>		
	Forced Air or Gravity-type gas furnace < 100,000 BTU	
	Forced Air or Gravity-type gas furnace > 100,000 BTU	
<b>2. MISCELLANEOUS GAS EQUIPMENT</b>		
	Gas Fireplace	
	Gas Water Heater	
	For each appliance or piece of equipment regulated by the IMC but not classed in other appliance categories or for which no other fee is listed.	
<b>3. HEATERS</b>		
	For the installation or relocation of each suspended heater, recessed wall heater, floor mounted room heater, floor furnace or wall furnace, including vents.	
<b>4. FUEL / GAS PIPING</b>		
	For each gas-piping system (includes 4 outlets or appliances)	
	Additional outlets <u>over four</u> , (price per outlet)	
<b>5. SOLID FUEL APPLIANCES</b>		
	Wood Stoves, Wood Burning Inserts, Pellet Stoves	
<b>6. APPLIANCE VENTS / COMBUSTION AIR DUCTING</b>		
	Appliance venting or combustion air ducting (relocation or replacement) not covered by other permits.	

7. REPAIRS OR ADDITIONS		
	For the repair of, alteration of, or addition to each existing heating appliance, refrigeration unit, cooling unit, absorption unit, or for each such system, including installation of controls regulated by the IMC.	
8. BOILERS, COMPRESSORS OR HEAT EXCHANGERS (Note: 1 ton = 12,000 BTU)		
	Boiler / Refrig / Roof top Units 1 – 100,000 BTU Air Conditioner / Heat Pump 0-3 tons	
	Boiler / Refrig / Roof top Units 100,000 – 500,000 BTU Air Conditioner / Heat Pump 3-15 tons	
	Boiler/ Refrig / Roof top Units 501,000 – 1,000,000 BTU Air Conditioner / Heat Pump 15-30 tons	
	Boiler/ Refrig/ Roof top Units 1,000,001 – 1,750,000 BTU Air Conditioner / Heat Pump 30-50 tons	
	Boiler / Refrig / Roof top Units > 1,750,000 BTU Air Conditioner / Heat Pump > 50 tons	
9. AIR HANDLERS		
	Air-to-air heat exchanger	
	Air Handler Unit / Fan-coil Unit < 10,000 CFM	
	Air Handler Unit / Fan-coil Unit > 10,000 CFM	

**NOTE:** The above fees do not apply to air-handling units which are a portion of a factory-assembled appliance, cooling unit, or evaporative cooler for which a permit is required elsewhere in the IMC.

10. EVAPORATIVE COOLERS		
	Evaporative cooler	
11. VENTILATION AND EXHAUST INCLUDE LENGTH OF DUCT		
	For each ventilation fan connected to a single duct (including house fans).	
	For each ventilation system or for ductwork which is not a portion of any heating or air-conditioning system authorized by a permit.	
	Class I and Class II Hoods (including Residential Range Hoods)	

**CONDITIONS**

- The proposed work must be done in accordance with approved plans, specifications and appropriate codes. A separate permit is required for electrical and plumbing.
- This application becomes null and void if not purchased within 180 days.
- This permit becomes null and void if work or construction authorized is not commenced within 180 days or if construction or work is suspended or abandoned for a period of 180 days at any time after work is commenced.
- I hereby certify that I have read and examined this application and know the same to be true and correct. All provisions of laws and ordinances governing this type of work will be complied with whether specified herein or not. The granting of a permit does not presume to give authority to violate or cancel the provisions of any other state or local law regulating construction or the performance of construction and that I make this statement under penalty of perjury.

Signature of Property Owner

Date

or

Signature of Mechanical Contractor

Date

Please Print Name

Please Print Name

**OFFICE USE ONLY**

Report Code: \_\_\_\_ Residential \_\_\_\_ Commercial

Existing Building Permit # \_\_\_\_\_

Special Conditions/ Comments:

Valuation: \_\_\_\_\_

Reviewer: \_\_\_\_\_

Date: \_\_\_\_\_



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

Town / City of \_\_\_\_\_

Contractor \_\_\_\_\_

Mechanical License # \_\_\_\_\_

Building Permit # \_\_\_\_\_ Zone # \_\_\_\_\_

Job Address (Street or Lot #, Block, Subdivision) \_\_\_\_\_

### 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 system sketch:

### ATTACHED

- Yes  No

## HVAC LOAD CALCULATION (IRC M1401.3)

### Design Conditions

#### Winter Design Conditions

Outdoor temperature \_\_\_\_\_ °F

Indoor temperature \_\_\_\_\_ °F

Total heat loss \_\_\_\_\_ Btu

#### Summer Design Conditions

Outdoor temperature \_\_\_\_\_ °F

Indoor temperature \_\_\_\_\_ °F

Grains difference \_\_\_\_\_ Δ Gr @ \_\_\_\_\_ % Rh

Sensible heat gain \_\_\_\_\_ Btu

Latent heat gain \_\_\_\_\_ Btu

Total heat gain \_\_\_\_\_ Btu

### Building Construction Information

#### Building

Orientation (Front door faces) \_\_\_\_\_

North, East, West, South, Northeast, Northwest, Southeast, Southwest

Conditioned floor area \_\_\_\_\_ Sq Ft

Number of bedrooms \_\_\_\_\_

Number of Occupants \_\_\_\_\_

Envelope Tightness \_\_\_\_\_

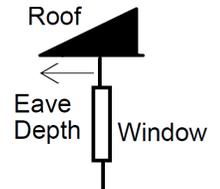
#### Windows

Eave overhang depth \_\_\_\_\_ Ft

Internal shade \_\_\_\_\_

Blinds, drapes, etc.

Number of skylights \_\_\_\_\_



## HVAC EQUIPMENT SELECTION (IRC M1401.3)

### Heating Equipment Data

Equipment type \_\_\_\_\_  
Furnace, Heat pump, Boiler, etc.

Model \_\_\_\_\_

Heating output capacity \_\_\_\_\_ Btu  
Heat pumps - capacity at winter design outdoor conditions

Auxilliary heat output capacity \_\_\_\_\_ Btu

SEER: \_\_\_\_\_ EER: \_\_\_\_\_

### Cooling Equipment Data

Equipment type \_\_\_\_\_  
Air Conditioner, Heat pump, etc.

Model \_\_\_\_\_

Sensible cooling capacity \_\_\_\_\_ Btu

Latent cooling capacity \_\_\_\_\_ Btu

Total cooling capacity \_\_\_\_\_ Btu

HSPF: \_\_\_\_\_ COP: \_\_\_\_\_

### Blower Data

Heating CFM \_\_\_\_\_ CFM

Cooling CFM \_\_\_\_\_ CFM

## HVAC DUCT DISTRIBUTION SYSTEM DESIGN (IRC M1601.1)

Design airflow \_\_\_\_\_ CFM

External Static Pressure (ESP) \_\_\_\_\_ IWC

Component Pressure Losses (CPL) \_\_\_\_\_ IWC

Available Static Pressure (ASP) \_\_\_\_\_ IWC

ASP = ESP - CPL

Longest supply duct: \_\_\_\_\_ Ft

Longest return duct: \_\_\_\_\_ Ft

Total Effective Length (TEL) \_\_\_\_\_ Ft

Friction Rate: \_\_\_\_\_ IWC

Friction Rate = (ASP x 100) / TEL

### Duct Materials Used (circle)

Trunk Duct: Duct board, Flex, Sheet metal,  
Lined sheet metal, Other (specify) \_\_\_\_\_

Branch Duct: Duct board, Flex, Sheet metal,  
Lined sheet metal, Other (specify) \_\_\_\_\_

I declare the load calculations, equipment selection, and duct system 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 \_\_\_\_\_ Date \_\_\_\_\_

Contractor's Signature \_\_\_\_\_

Note: One form is required for each zone.

## Residential Mechanical & Sheet Metal Permits (One and Two family dwellings)

The following is what is required to file for a residential mechanical and or sheet metal permits:

- Mechanical & Sheet Metal Permit Application & Completed Residential Plans Examiner Review Form
  - Debris Disposal Form
  - Workman's Compensation Affidavit (binders are not acceptable)
  - Plans are required for new homes, additions in excess of 100 sf., large scale alterations which involve substantial interior demolition, a new system installed in existing dwelling, and any other work the Building Official determines plans are necessary. All plans shall contain the following information:
    1. Plans must be legible and drawn to scale. Maximum size is 24 x 36
    2. Layout of the HVAC System and/or regulated venting (i.e. Bath vents, kitchen hood vents, dryer vents, etc.) including but not limited to equipment and duct location including registers and returns, fresh air intakes and exhaust locations, duct sizes, and metal gauges of the duct work.
    3. CFM of air flow at each register of the HVAC system.
    4. For HVAC systems show applicable sizing calculations done in accordance with Manual D, J and S of the ACCA (Air Conditioning Contractors of America).
    5. R-Value of duct insulation. (if applicable)
    6. Any other information deemed necessary by the Building Official.
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NOTE: Plans are not required if the project is limited to a new bath vent, new kitchen hood vent, new dryer vent or any other work the Building Official waives the requirement for plans.

The following items **do not need** a residential sheet metal permit according to official interpretation of the sheet metal board:

The replacement of an existing residential fan unit only. Note: If replacing duct work to fan unit will require sheet metal permit.

Change out of residential furnaces and air handlers

Metal Roofing

Metal Flashing

Flue and chimneys for gas fired, oil fired and solid fuel burning equipment