

PIKES PEAK REGIONAL BUILDING DEPARTMENT

Residential Duct Design Checklist

The duct design layout will be required with plans submittals per Chapter 6, Section 603 of the 2003 International Mechanical Code (IMC), after codes are adopted. **Master Plans approved on or after Jan. 1, 2001** will be issued permits until May 1, 2006, when plans must be updated and include duct design layouts. **Plans approved before Jan. 1, 2001** will not be issued permits without approved updated plans and duct design layouts as of January 1, 2006.

1. **BASIC PROGRAM INFORMATION & WORK SHEETS**

Identify the approved program used and include associated work sheets for heat loss and gain room by room. Use the most demanding load/orientation (if master plan) based on Table 302.1 of the 2003 International Energy Conservation Code (IECC), and Sections 309.1 and 312.1 of the 2003 International Mechanical Code (IMC).

2. **EQUIPMENT INFORMATION**

Furnace manufacturer _____	Model # _____	BTU maximum output _____
Air Conditioner manufacturer _____	Coil & Condenser Model # _____	Size (tonnage) _____

Using the Sensible Heat Equation: $CFM = BTU \text{ per Hr} / (.9 \times \text{Temp Differential})$
Heating CFM or Cooling CFM (for manual calculations only).

3. **BLOWER FAN CURVE/CHART**

DUCT LAYOUT (Indicate the following:)

- | | | |
|--|---|---|
| <input type="checkbox"/> 4. Supply: | Trunks/plenums | Runouts |
| | Fittings (special use*)
Dimensions
Lengths
Materials used
Locations | Fittings (special use*)
Dimensions
Lengths
Materials used
Locations |
| <input type="checkbox"/> 5. Return: | Trunks/plenums | Runouts |
| | Fittings (special use*)
Dimensions
Lengths
Materials used
Locations | Fittings (special use*)
Dimensions
Lengths
Materials used
Locations |

* Special use fittings are shop fabricated and designed to reduce the equivalent overall length of the duct system.

OTHER INFORMATION TO INCLUDE

6. Matching supply CFMs with associated return CFMs; floor by floor, area by area, total by total.
7. Return on every level; specify opening/grill sizes.
8. Basement or crawlspace has supply and return matching heat/cool load.
9. Filter(s) resistance(s).
10. Register(s) resistance(s).
11. Other items affecting air flow and their resistances, (such as humidifiers, dampers, ducts to exterior for outside/combustion).
12. Duct shall be sized in accordance with ACCA Manual D or other approved methods per Section 603.2, 2003 IMC.
13. Specify any special design that may be incorporated to allow minor variations of actual installation vs. approved plans.

