ACCA Certified Manual J Load Analysis, Manual S HVAC Equipment Selection & Manual D Duct Design

**If Project Design Form opens in protected mode, please click the “Enable Editing” button**

  

Savoy Engineering Group

[www.load-calculations.com](http://www.load-calculations.com)

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|  |  |
| --- | --- |
| **Type of Service:** | Select all that apply |
| Manual J Load Analysis - Conventional |[ ]
| Manual S Equipment Verification – **Required by ALL Permit Offices** |[ ]
| Manual D Duct Design - Conventional |[ ]
| REScheck Report – **New Construction Only $100** |[ ]
| **STANDARD** Service: **10 Day** Turnaround **$75/hour** |[ ]
| **EXPRESS** Service: **5 Day** Turnaround **$125/hour** |[ ]

|  |  |
| --- | --- |
| **Submitter:** |  |
|  Name: | Click here to enter text. |
|  Company: | Click here to enter text. |
|  E-mail: | Click here to enter text. |
|  Telephone: | Click here to enter text. |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Size of Residence in sq. ft** | < 2,000 sq. ft | 2,000-3,500 | 3,500-5,000 | 5,000-6,500 | 6,500-8,000 | 8,000-12,000 | >12,000 sq. ft |
| Conditioned Space |[ ] [ ] [ ] [ ] [ ] [ ] [ ]

**BEFORE** Savoy Engineering Group will begin ANY project, we MUST receive:

1. Completed Manual J, S & D Project Design Form
2. Floor plans, section cuts, elevations, window & door schedules
3. Once items 1 & 2 above are received, Savoy Engineering Group will send an invoice to the email **entered** on the Project Design Form

|  |  |
| --- | --- |
| **Project Information:** |  |
|  Project Name (ex: Smith Residence) | Click here to enter text. |
|  Project Address: | Click here to enter text. |
|  Project City: | Click here to enter text. |
|  Project State: | Click here to enter text. |
|  Project Zip code: | Click here to enter text. |

|  |  |
| --- | --- |
| **Zoning & Building Orientation:****Please indicate location of EACH HVAC System & duct:**  | **# of HVAC systems’s** – please include HVAC information (ex: HVAC 1 = 1st Fl, HVAC 2 = 2nd Fl or list of rooms for each HVAC system or draw on floor plan) |
| **HVAC 1** | Choose an item. | Click here to enter text. |
| **HVAC 2** | Choose an item. | Click here to enter text. |
| **HVAC 3** | Choose an item. | Click here to enter text. |
| **HVAC 4** | Choose an item. | Click here to enter text. |

|  |  |
| --- | --- |
| **Which way does Front of Building face?** | **Which way does FRONT DOOR face? (if different than building)** |
| Choose an item. | Choose an item. |

|  |  |  |
| --- | --- | --- |
| # of Bedrooms | # of Stories | # of Fireplaces |
| Choose an item. | Choose an item. | Choose an item. |

**Exclude GAS Fireplaces. Only add WOOD Burning Fireplaces**

**We only include the floor plans we receive. If the attic, crawlspace or basement are conditioned, floor plans must be included**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Crawlspace | Bsmt/Cellar | 1st FL | 2nd FL | 3rd FL | Attic |
| Choose an item. | Choose an item. | Choose an item. | Choose an item. | Choose an item. | Choose an item. |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **MISC:** |  Make-Up/Outdoor air | ERV | HRV | Ventilation |
|  Select One |[ ] [ ] [ ]  Choose an item. |

**Construction Materials**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Roof:** | Flat or Sloped | Vented or unvented attic | Roof Material | Roof Color | Roofline or Cavity Ins. | Insulation R-Value | Vaulted Ceilings | Vault Ins. R-Value |
| Select Options | Choose an item. | Choose an item. | Choose an item. | Choose an item. | Choose an item. | Choose an item. | Choose an item. | Choose an item. |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Ceiling Heights(Identify any cathedral ceilings) | Basement | 1st Floor | 2nd Floor | 3rd Floor | Attic | Other |
|  | Click here to enter text. | Click here to enter text. | Click here to enter text. | Click here to enter text. | Click here to enter text. | Click here to enter text. |

|  |  |
| --- | --- |
| **Roof:** Other Info | Click here to enter text. |
| Click here to enter text. |

|  |  |  |  |
| --- | --- | --- | --- |
| **Above Grade Walls:** | Framing | Exterior | Insulation R-Value |
| New Walls | Choose an item. | Choose an item. | Choose an item. |
| Existing Walls | Choose an item. | Choose an item. | Choose an item. |

|  |  |
| --- | --- |
| **Walls:** Other Info | Click here to enter text. |
| Click here to enter text. |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Below Grade Walls – **if conditioned** | Framing | Exterior | Structure Type | Thickness | Insulation R-Value |
| Select Options | Choose an item. | Choose an item. | Choose an item. | Choose an item. | Choose an item. |

|  |  |
| --- | --- |
| **Below Grade Wall:** Other Info | Click here to enter text. |
| Click here to enter text. |

|  |  |
| --- | --- |
| Slab Floor: | Above Grade or Slab Floor |
| Select Options | Choose an item. | Choose an item. | Choose an item. |

|  |  |  |  |
| --- | --- | --- | --- |
| Framed Floor Over Unconditioned Area | Structure Type | Structure Thickness | Insulation R-Value |
| Select Options | Choose an item. | Choose an item. | Choose an item. |

|  |  |
| --- | --- |
| **Floor:** Other Info | Click here to enter text. |
| Click here to enter text. |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Windows: INCLUDE SCHEDULE** | Pane Thickness | Frames | U-Values | SHGC Values | Low-e | Air/Gas |
| Select Options | Choose an item. | Choose an item. | Click here to enter text. | Click here to enter text. | Choose an item. | Choose an item. |

|  |  |
| --- | --- |
| **Windows:** Other Info including existing windows | Click here to enter text. |
| Click here to enter text. |

|  |  |  |
| --- | --- | --- |
| **Doors: INCLUDE SCHEDULE** | Type | Glass Slider |
| Select Options | Choose an item. | Choose an item. |

**If you do not know the equipment you will be purchasing, the below is left blank:**

|  |  |
| --- | --- |
| **Type of Conditioning:** | Choose an item. |
| INCLUDE Make & Model of Coil, Condenser, furnace/boiler & AHRI Certificate for Manual S Equipment Selection |
| HVAC System: | **Make/Brand** | **Coil #** | **Condenser #** | **AHRI #** |
| **HVAC 1** | Click here to enter text. | Click here to enter text. | Click here to enter text. | Click here to enter text. |
| **HVAC 2** | Click here to enter text. | Click here to enter text. | Click here to enter text. | Click here to enter text. |
| **HVAC 3** | Click here to enter text. | Click here to enter text. | Click here to enter text. | Click here to enter text. |
| **HVAC 4** | Click here to enter text. | Click here to enter text. | Click here to enter text. | Click here to enter text. |
| HVAC System: | **Make/Brand** | **Furnace #** | **Boiler #** | **AHRI #** |
| **HVAC 1** | Click here to enter text. | Click here to enter text. | Click here to enter text. | Click here to enter text. |
| **HVAC 2** | Click here to enter text. | Click here to enter text. | Click here to enter text. | Click here to enter text. |
| **HVAC 3** | Click here to enter text. | Click here to enter text. | Click here to enter text. | Click here to enter text. |
| **HVAC 4** | Click here to enter text. | Click here to enter text. | Click here to enter text. | Click here to enter text. |

**To accurately complete the Manual S Equipment Verification or Code Compliance Report:**

1. Have your HVAC contractor select the properly sized coil(s), condenser(s) & furnace(s) using the OEM for **your specific design temperatures** from our ACCA Manual J report - **DO NOT** use AHRI data points of 80 F indoor & 95 F outdoor or your equipment will not be properly sized

2. Forward a list of the sizes, makes & models of each

3. Forward the OEM data for coil(s), condenser(s) & furnace(s)

We will use the OEM data to create the ACCA Manual S Code compliance report

**ACCA Manual S Sizing Rules:**

* AC cooling equipment should be sized at **95-115%** of Design Total Heat Gain, or the next nominal size that is available to satisfy the latent and sensible requirements.
* Heat pump cooling equipment should be sized at **100-115%** (cooling dominant climate) or **100-125%** (heating dominant climate) of Design Total Heat Gain, or the next nominal size that is available to satisfy the latent and sensible requirements unless a larger size is dictated by the heating equipment selection.
* Listed Output Heat Capacity must be sized at **100-140%** of Design Total Heat Loss, or next nominal size unless a larger size is dictated by the cooling equipment selection.
* The Manual S equipment selection impacts the total Unit CFM
* We cannot continue with the Manual D duct design **(if purchased)** until we receive your Manual S HVAC equipment selection. Your project will be placed “**ON HOLD**” until received.
	+ Once we receive your equipment selection, we will continue with the Manual D duct design

If you purchased a Manual J load calculation and **DO NOT** need a Manual D duct design, do not complete the following Manual D section. If you **are** purchasing a Manual D duct design, please complete the Manual D section Below

Manual D Duct Design Questions

Needed Items:

* Reflected Ceiling Plan & Framing Plan
* To get as close to the "as-built" duct design, please have your HVAC Contractor sketch on the floor plans the HVAC location(s), supply duct and return duct locations. Otherwise we will do our own design using industry standard selections.
* Supply Register Type(s) (please specify for each floor if different)

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Register Type | Crawlspace | Bsmt/Cellar | 1st FL | 2nd FL | 3rd FL | Attic |
| Floor |[ ] [ ] [ ] [ ] [ ] [ ]
| Wall |[ ] [ ] [ ] [ ] [ ] [ ]
| Ceiling |[ ] [ ] [ ] [ ] [ ] [ ]

* Supply Trunk Material

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Material Type | **HVAC 1** | **HVAC 2** | **HVAC 3** | **HVAC 4** |
| Metal |[ ] [ ] [ ] [ ]
| Vinyl Flex |[ ] [ ] [ ] [ ]
| Metal Flex |[ ] [ ] [ ] [ ]

* Supply Trunk Sizes

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Trunk Type | **HVAC 1** | **HVAC 2** | **HVAC 3** | **HVAC 4** |
| Odd or Even |[ ] [ ] [ ] [ ]
| Odd Only |[ ] [ ] [ ] [ ]
| Even Only |[ ] [ ] [ ] [ ]
| Rectangular |[ ] [ ] [ ] [ ]

* Supply Branch Material

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Material Type | **HVAC 1** | **HVAC 2** | **HVAC 3** | **HVAC 4** |
| Metal |[ ] [ ] [ ] [ ]
| Vinyl Flex |[ ] [ ] [ ] [ ]
| Metal Flex |[ ] [ ] [ ] [ ]

* Supply Branch Sizes

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Branch Type | **HVAC 1** | **HVAC 2** | **HVAC 3** | **HVAC 4** |
| Odd or Even |[ ] [ ] [ ] [ ]
| Odd Only |[ ] [ ] [ ] [ ]
| Even Only |[ ] [ ] [ ] [ ]
| Rectangular |[ ] [ ] [ ] [ ]

* Return Air Register Type(s)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Register Type | **HVAC 1** | **HVAC 2** | **HVAC 3** | **HVAC 4** |
| Floor |[ ] [ ] [ ] [ ]
| Wall |[ ] [ ] [ ] [ ]
| Ceiling |[ ] [ ] [ ] [ ]

* Return Trunk Material

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Material Type | **HVAC 1** | **HVAC 2** | **HVAC 3** | **HVAC 4** |
| Metal |[ ] [ ] [ ] [ ]
| Vinyl Flex |[ ] [ ] [ ] [ ]
| Metal Flex |[ ] [ ] [ ] [ ]

* Return Trunk Sizes

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Trunk Type | **HVAC 1** | **HVAC 2** | **HVAC 3** | **HVAC 4** |
| Odd or Even |[ ] [ ] [ ] [ ]
| Odd Only |[ ] [ ] [ ] [ ]
| Even Only |[ ] [ ] [ ] [ ]
| Rectangular |[ ] [ ] [ ] [ ]

* Return Branch Material

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Material Type | **HVAC 1** | **HVAC 2** | **HVAC 3** | **HVAC 4** |
| Metal |[ ] [ ] [ ] [ ]
| Vinyl Flex |[ ] [ ] [ ] [ ]
| Metal Flex |[ ] [ ] [ ] [ ]

* Return Branch Sizes

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Branch Type | **HVAC 1** | **HVAC 2** | **HVAC 3** | **HVAC 4** |
| Odd or Even |[ ] [ ] [ ] [ ]
| Odd Only |[ ] [ ] [ ] [ ]
| Even Only |[ ] [ ] [ ] [ ]
| Rectangular |[ ] [ ] [ ] [ ]

Savoy Engineering Group allows **ONE 2.0 HOUR FREE** Manual J, S & Drevision. Any revisions after that **WILL** result in an additional engineering services fee so please ensure **ALL** parties review Savoy Engineering Group’s Project Summary prior to submitting your 2.0 HOUR FREE revision. All revisions:

* **MUST** be submitted in writing AND legible
* Are completed on Tuesday & Thursday afternoons in the order received
* **MUST** be submitted PRIOR to on-site duct installation

CALL US: (801)-949-5337 VISIT OUR WEBSITE: [www.load-calculations.com](http://www.load-calculations.com)

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