



**Commercial Load Calculator**

**Project Name and Location:**

**Engineer / Designer:**

**Design Conditions:**

Outdoor Summer D.B. =	<input type="text"/>	Outdoor Summer W.B. =	<input type="text"/>
Indoor Summer D.B. =	<input type="text"/>	Indoor Summer W.B. =	<input type="text"/>
Outdoor Winter D.B. =	<input type="text"/>	Indoor Winter D.B. =	<input type="text"/>

**Solar Heat Gain Through Glass:**

	Area sq. ft.	Shading: If inside shading is being used reduce glass area by 50%	Heat Gain
North-Single Pane - Unshaded	<input type="text"/>		<input type="text"/> Btuh
North-Double Pane - Unshaded	<input type="text"/>		<input type="text"/>
South Single Pane - Unshaded	<input type="text"/>		<input type="text"/>
South Double Pane - Unshaded	<input type="text"/>		<input type="text"/>
West Single Pane - Unshaded	<input type="text"/>		<input type="text"/>
West Double Pane - Unshaded	<input type="text"/>		<input type="text"/>
East Single Pane - Unshaded	<input type="text"/>		<input type="text"/>
East Double Pane - Unshaded	<input type="text"/>		<input type="text"/>
Sky Light - Clear Glass	<input type="text"/>		<input type="text"/>
Sky Light - Translucent Glass	<input type="text"/>		<input type="text"/>

**Transmission Gain / Loss Through Glass:**

**Vertical Panels:**

	Area sq. ft.	Heat Loss	Heat Gain
Single Pane	<input type="text"/>	<input type="text"/> Btuh	<input type="text"/> Btuh
Double Pane	<input type="text"/>	<input type="text"/>	<input type="text"/>
Double Pane Low E (e=0.60)	<input type="text"/>	<input type="text"/>	<input type="text"/>
Double Pane Low E (e=0.40)	<input type="text"/>	<input type="text"/>	<input type="text"/>
Double Pane Low E (e=0.20)	<input type="text"/>	<input type="text"/>	<input type="text"/>

**Horizontal Panels / Sky Lights:**

	Area sq. ft.	Heat Loss	Heat Gain
Flat Glass Single Pane	<input type="text"/>	<input type="text"/> Btuh	<input type="text"/> Btuh
Double Pane	<input type="text"/>	<input type="text"/>	<input type="text"/>
Double Pane Low E (e=0.60)	<input type="text"/>	<input type="text"/>	<input type="text"/>
Double Pane Low E (e=0.40)	<input type="text"/>	<input type="text"/>	<input type="text"/>
Double Pane Low E (e=0.20)	<input type="text"/>	<input type="text"/>	<input type="text"/>
Plastic Dome Single Wall	<input type="text"/>	<input type="text"/>	<input type="text"/>
Plastic Dome Double Wall	<input type="text"/>	<input type="text"/>	<input type="text"/>

**Outside Walls:**

**Shaded or North:**

	Area sq. ft.	Heat Loss	Heat Gain
No Insulation Framed or Block	<input type="text"/>	<input type="text"/> Btuh	<input type="text"/> Btuh
R-7 = 2.0" - 2.75" Batt	<input type="text"/>	<input type="text"/>	<input type="text"/>
R-11 = 3.0" - 3.5" Batt	<input type="text"/>	<input type="text"/>	<input type="text"/>
R-19 = 3.5" - 6.5" Batt	<input type="text"/>	<input type="text"/>	<input type="text"/>
R-22 = 6.0" - 7.0" Batt	<input type="text"/>	<input type="text"/>	<input type="text"/>



**Floors:**

	Area sq. ft.	Heat Loss	Heat Gain
Slab On Grade	<input type="text"/>	<input type="text" value="0"/> Btuh	<input type="text"/>
Wood Frame Over Crawl Space	<input type="text"/>	<input type="text" value="0"/>	<input type="text" value="0"/> Btuh

**Internal Heat Gains:**

**Gains From Occupants:**

	People	Latent	Sensible
Seated At Rest	<input type="text"/>	<input type="text" value="0"/> Btuh	<input type="text" value="0"/> Btuh
Seated Very Light Work	<input type="text"/>	<input type="text" value="0"/>	<input type="text" value="0"/>
Seated Light Work	<input type="text"/>	<input type="text" value="0"/>	<input type="text" value="0"/>
Standing / Slow Walk	<input type="text"/>	<input type="text" value="0"/>	<input type="text" value="0"/>
Seated Eating	<input type="text"/>	<input type="text" value="0"/>	<input type="text" value="0"/>
Light Bench Work	<input type="text"/>	<input type="text" value="0"/>	<input type="text" value="0"/>
Moderate Dancing	<input type="text"/>	<input type="text" value="0"/>	<input type="text" value="0"/>
Walking / Light Machine Work	<input type="text"/>	<input type="text" value="0"/>	<input type="text" value="0"/>
Bowling	<input type="text"/>	<input type="text" value="0"/>	<input type="text" value="0"/>
Heavy Machine Work / Lifting	<input type="text"/>	<input type="text" value="0"/>	<input type="text" value="0"/>
Heavy Work / Athletics	<input type="text"/>	<input type="text" value="0"/>	<input type="text" value="0"/>

**Lighting:**

	Watts	Sensible
Incandescent Watts	<input type="text"/>	<input type="text" value="0"/> Btuh
Ballasted / Fluorescent Watts	<input type="text"/>	<input type="text" value="0"/>

**Beauty Salon Appliances:**

	Quantity	Latent	Sensible
Hair Dryer - Hand Held	<input type="text"/>	<input type="text" value="0"/> Btuh	<input type="text" value="0"/> Btuh
Hair Dryer - Helmet Type	<input type="text"/>	<input type="text" value="0"/>	<input type="text" value="0"/>
Curlers / Wave Machine	<input type="text"/>	<input type="text" value="0"/>	<input type="text" value="0"/>
Curling Iron Station	<input type="text"/>	<input type="text" value="0"/>	<input type="text" value="0"/>

**Gas Restaurant Appliances:**

	Without Hood			With Hood	
	Btuh Input	Sensible	Latent	Btuh Input	Sensible
Gas Griddle	<input type="text"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text"/>	<input type="text" value="0"/> Btuh
Commercial Water Heater	<input type="text"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text"/>	<input type="text" value="0"/>
Short Order Stove	<input type="text"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text"/>	<input type="text" value="0"/>
Counter Top Deep Fat Fryer	<input type="text"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text"/>	<input type="text" value="0"/>
All Other Gas Appliances	Hood Required			<input type="text"/>	<input type="text" value="0"/>

**Electric Restaurant Appliances:**

	Without Hood			With Hood	
	Input	Sensible	Latent	Input	Sensible
Coffee Brewer # of Burners	<input type="text"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text"/>	<input type="text" value="0"/> Btuh
Coffee Brewer # of Warmers	<input type="text"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text"/>	<input type="text" value="0"/>
Coffee Urn # of Gallons	<input type="text"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text"/>	<input type="text" value="0"/>
Deep Fat Fryer lbs. of Fat	<input type="text"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text"/>	<input type="text" value="0"/>
Dry Food Warmer per sq. ft.	<input type="text"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text"/>	<input type="text" value="0"/>
Griddle / Grille # of Watts	<input type="text"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text"/>	<input type="text" value="0"/>
Roaster # of Watts	<input type="text"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text"/>	<input type="text" value="0"/>
Toster / Waffle # of Watts	<input type="text"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text"/>	<input type="text" value="0"/>

**Steam Restaurant Appliances:**

	Without Hood			With Hood	
	Input	Sensible	Latent	Input	Sensible
Steam Table per sq. ft. of Area	<input type="text"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text"/>	<input type="text" value="0"/> Btuh
Steam Kettle Capacity Gallons	<input type="text"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text"/>	<input type="text" value="0"/>
Compartment Steamer / sq. ft.	<input type="text"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text"/>	<input type="text" value="0"/>

**All Other Restaurant Electric / Steam Appliances:**

Input # of Watts  
Input # of Btuh

With Hood	
Input	Sensible
	0
	0

**Freezer / Refrig./ Water Cooler /Vending /Drink Mach.:**

All With Condensor In Conditioned Space

Compressor Btuh	Sensible
	0

**Office Equipment / Appliances:**

Personal Computers  
Large Copier - Running  
Large Copier - Standby  
Small Copier - Running  
Small Copier - Standby  
Large Fax Machine  
Small Fax Machine

Quantity	Sensible
	0
	0
	0
	0
	0
	0
	0

**Miscellaneous Loads:**

Motors - Horse Power  
Watts  
Sensible Btuh  
Latent Btuh

Quantity	Sensible	Latent
	0	
	0	
	0	
		0

**Ventilation and Infiltration:**

*Ventilation for Occupants:*  
Assemblies Occupancy < 4 hrs.  
Office / School / Shop / Kitchen

People	CFM	Latent	Sensible
	0	0	0
25	375	0	0

**Requirements (CFM / Person) For Other Applications from ASHRAE 62:**

CFM/Person	CFM	Latent	Sensible
	0	0	0

Retail Stores per Square Foot	Area sq. ft.	CFM	Latent	Sensible
		0	0	0

**Requirements (CFM / sq. ft) For Other Applications from ASHRAE 62:**

CFM/sq. ft	CFM	Latent	Sensible
	0	0	0

Infiltration @ 1/2 Air Change/Hr:	Volume	CFM	Latent	Sensible
Building Cubic ft. (L x W x H)		0	0	0

Building Exhaust If Present:	CFM	Latent	Sensible
		0	0

Highest of Ventilation and Infiltration CFM	CFM	Heat Loss	Latent Gain / Sensible Gain
	375	0	0

Total Cooling Load	Tons	Total Btuh	Sensible	Latent	Recommended CFM
	0	0	0	0	0

Total Heat Loss 0 Btuh

Diversity Downsizing With VariTrac Zoning = 0 Tons

**References:** *Trane Application Guide pub. # 22-3010-05, ASHRAE Handbook of Fundamentals 1967 and 1989, ASHRAE Guide and Data Book 1963, ASHRAE Standard 62, ASHRAE GRP-158, ACCA Manual "N"*

Disclaimer: The Trane Company is not responsible or accountable for any errors in calculations or assumptions made by users of this program. All calculations should be checked and re-checked manually, or by other methods to insure accuracy.