

***HPA Energy Lab Conference Rm
HVAC Load Analysis***

for

Flansburg Architects
Boston, MA



CHVAC COMMERCIAL
HVAC LOADS

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General Project Data Input (cont'd)

Building-Level Design Conditions

Design Month	Outdoor Dry Bulb	Outdoor Wet Bulb	Indoor Rel.Hum	Indoor Dry Bulb	Grains Diff	In/Outdoor Correction
August	87	75	60%	76	31.09	-2
Winter	62			75		

Master Roofs

Roof No.	ASHRAE Roof#	Roof U-Fac	Dark Color	Susp. Ceil
1	1	0.053	No	No

Master Walls

Wall No.	ASHRAE Group	Wall U-Fac	Wall Color
1	G	0.091	L

Master Partitions

Partition No.	Partition U-Factor	Cool T-D	Heat T-D
1	0.100	10	0

Master Glass

Glass No.	Summer U-Factor	Winter U-Factor	Glass Shd.Coef.	Interior Shading	Interior Shd.Coef
1	0.750	0.790	0.730	4	0.000
2	0.750	0.790	0.730	4	0.000
3	0.750	0.790	0.730	4	0.000

Master Shading Devices

Shade No.	Dist Horiz Overh Projects	Dist Beyond Right W.Edge	Dist Beyond Left W.Edge	Dist Overh Above Wind	Dist Right Fin Proj	Dist R-Fin Beyond W.Edge	Ht Of Right Fin	Dist Left Fin Proj	Dist L-Fin Beyond W.Edge	Ht Of Left Fin
1	1.00	1.00	1.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00
2	20.00	20.00	20.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00



Building Summary Loads

Building peaks in August at 2pm.

Bldg Load Descriptions	Area Quan	Sen Loss	%Tot Loss	Lat Gain	Sen Gain	Net Gain	%Net Gain
Roof	924	0	0.00	0	1,959	1,959	3.09
Wall	649	0	0.00	0	1,270	1,270	2.00
Glass	564	0	0.00	0	21,636	21,636	34.12
Floor Slab	0	0	0.00	0	0	0	0.00
Skin Loads		0	0.00	0	24,864	24,864	39.21
Lighting	756	0	0.00	0	2,580	2,580	4.07
Equipment	378	0	0.00	0	1,290	1,290	2.03
People	24	0	0.00	4,800	6,000	10,800	17.03
Partition	938	0	0.00	0	938	938	1.48
Cool. Pret.	0	0	0.00	0	0	0	0.00
Heat. Pret.	0	0	0.00	0	0	0	0.00
Cool. Vent.	480	0	0.00	13,951	6,861	20,812	32.82
Heat. Vent.	0	0	0.00	0	0	0	0.00
Cool. Infil.	0	0	0.00	0	0	0	0.00
Heat. Infil.	0	0	0.00	0	0	0	0.00
Draw-Thru Fan	0	0	0.00	0	578	578	0.91
Blow-Thru Fan	0	0	0.00	0	0	0	0.00
Reserve Cap.	0	0	0.00	0	0	0	0.00
Reheat Cap.	0	0	0.00	0	0	0	0.00
Supply Duct	0	0	0.00	0	1,036	1,036	1.63
Return Duct	0	0	0.00	0	518	518	0.82
Misc. Supply	0	0	0.00	0	0	0	0.00
Misc. Return	0	0	0.00	0	0	0	0.00
Building Totals		0	0.00	18,751	44,664	63,415	100.00

Building Summary	Sen Loss	%Tot Loss	Lat Gain	Sen Gain	Net Gain	%Net Gain
Ventilation	0	0.00	13,951	6,861	20,812	32.82
Infiltration	0	0.00	0	0	0	0.00
Pretreated Air	0	0.00	0	0	0	0.00
Zone Loads	0	0.00	4,800	35,672	40,472	63.82
Plenum Loads	0	0.00	0	0	0	0.00
Fan & Duct Loads	0	0.00	0	2,132	2,132	3.36
Building Totals	0	0.00	18,751	44,664	63,415	100.00

Check Figures

Total Building Supply Air (based on a 18° TD):	1,884 CFM
Total Building Vent. Air (25.48% of Supply):	480 CFM
Total Conditioned Air Space:	756 Sq.ft
Supply Air Per Unit Area:	2.4921 CFM/Sq.ft
Area Per Cooling Capacity:	143.1 Sq.ft/Ton
Cooling Capacity Per Area:	0.0070 Tons/Sq.ft
Heating Capacity Per Area:	0.00 Btuh/Sq.ft
Total Heating Required With Outside Air:	0 Btuh
Total Cooling Required With Outside Air:	5.28 Tons



Building Pie Charts

Building peaks in August at 2pm.

