

Project Summary

Location and Weather	
Project	Thesis
Address	JL. Raya Medan Tenggara Medan, 20228 North Sumatera, Indonesia
Calculation Time	Tuesday, May 5, 2015 1:03 PM
Report Type	Simple
Latitude	4°
Longitude	99°
Summer Dry Bulb	34 °C
Summer Wet Bulb	26 °C
Winter Dry Bulb	21 °C
Mean Daily Range	11 °C

Building Summary

Inputs	
Building Type	Single Family
Area (m ²)	299.14
Volume (m ³)	697.45
Calculated Results	
Peak Cooling Total Load (W)	15,601
Peak Cooling Month and Hour	June 4:00 PM
Peak Cooling Sensible Load (W)	10,650
Peak Cooling Latent Load (W)	4,951
Maximum Cooling Capacity (W)	15,770
Peak Cooling Airflow (L/s)	607.2
Peak Heating Load (W)	-4,108
Peak Heating Airflow (L/s)	305.0
Checksums	
Cooling Load Density (W/m ²)	52.15
Cooling Flow Density (L/(s·m ²))	2.03
Cooling Flow / Load (L/(s·kW))	38.92
Cooling Area / Load (m ² /kW)	19.17
Heating Load Density (W/m ²)	-13.73
Heating Flow Density (L/(s·m ²))	1.02

Zone Summary - Default

Inputs	
Area (m ²)	50.33
Volume (m ³)	115.87
Cooling Setpoint	25 °C
Heating Setpoint	21 °C
Supply Air Temperature	15 °C
Air Volume Calculation Type	Split System(s) with Natural Ventilation
Relative Humidity	55.00% (User Specified)
Psychrometric Message	None
Calculated Results	
Peak Cooling Load (W)	3,263
Peak Cooling Month and Hour	June 5:00 AM
Peak Cooling Sensible Load (W)	1,618
Peak Cooling Latent Load (W)	1,645
Peak Cooling Airflow (L/s)	81.0
Peak Heating Load (W)	-1,523
Peak Heating Airflow (L/s)	81.0
Checksums	
Cooling Load Density (W/m ²)	64.83
Cooling Flow Density (L/(s·m ²))	1.61
Cooling Flow / Load (L/(s·kW))	24.84
Cooling Area / Load (m ² /kW)	15.42
Heating Load Density (W/m ²)	-30.26
Heating Flow Density (L/(s·m ²))	1.61

Default Spaces

Space Name	Area (m ²)	Volume (m ³)	Peak Cooling Load (W)	Cooling Airflow (L/s)	Peak Heating Load (W)	Heating Airflow (L/s)
1 Bathroom 1	6.16	14.97	184	9.0	-158	9.9
3 Kitchen	31.60	70.47	1,113	54.5	-1,026	50.9
5 Bathroom 3	7.79	18.88	178	8.7	-165	12.6
10 Bathroom 2	4.78	11.55	180	8.8	-148	7.7

Zone Summary - Mechanical HVAC Zone

Inputs	
Area (m ²)	248.81
Volume (m ³)	581.58
Cooling Setpoint	25 °C
Heating Setpoint	21 °C
Supply Air Temperature	16 °C
Air Volume Calculation Type	Split System(s) with Natural Ventilation
Relative Humidity	55.00% (User Specified)
Psychrometric Message	None
Calculated Results	
Peak Cooling Load (W)	12,507
Peak Cooling Month and Hour	June 4:00 PM
Peak Cooling Sensible Load (W)	8,963
Peak Cooling Latent Load (W)	3,544
Peak Cooling Airflow (L/s)	526.1
Peak Heating Load (W)	-2,586
Peak Heating Airflow (L/s)	223.9
Checksums	
Cooling Load Density (W/m ²)	50.27
Cooling Flow Density (L/(s·m ²))	2.11
Cooling Flow / Load (L/(s·kW))	42.07
Cooling Area / Load (m ² /kW)	19.89
Heating Load Density (W/m ²)	-10.39
Heating Flow Density (L/(s·m ²))	0.90

Mechanical HVAC Zone Spaces

Space Name	Area (m ²)	Volume (m ³)	Peak Cooling Load (W)	Cooling Airflow (L/s)	Peak Heating Load (W)	Heating Airflow (L/s)
2 Bedroom 1	21.13	47.29	612	40.6	-211	19.0
4 Bedroom 4	18.53	41.41	283	18.7	-247	16.7
6 Bedroom 5	18.60	41.66	619	41.0	-254	16.7
7 Bedroom 3	14.22	31.83	458	30.4	-160	12.8
8 Hall	139.93	340.07	4,596	304.7	-1,320	125.9
9 Bedroom 2	14.13	31.62	274	18.2	-157	12.7
11 LivingRoom	22.28	47.68	1,093	72.5	-164	20.0