

Project Summary

Location and Weather	
Project	Thesis
Address	JL. Raya Medan Tenggara Medan, 20228 North Sumatera, Indonesia
Calculation Time	Wednesday, May 20, 2015 1:45 AM
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)	15,059
Peak Cooling Month and Hour	June 4:00 PM
Peak Cooling Sensible Load (W)	10,112
Peak Cooling Latent Load (W)	4,947
Maximum Cooling Capacity (W)	15,170
Peak Cooling Airflow (L/s)	573.6
Peak Heating Load (W)	-3,727
Peak Heating Airflow (L/s)	295.4
Checksums	
Cooling Load Density (W/m ²)	50.34
Cooling Flow Density (L/(s·m ²))	1.92
Cooling Flow / Load (L/(s·kW))	38.09
Cooling Area / Load (m ² /kW)	19.87
Heating Load Density (W/m ²)	-12.46
Heating Flow Density (L/(s·m ²))	0.99

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 Mechanical Ventilation with Cooling
Relative Humidity	55.00% (User Specified)
Psychrometric Message	None
Calculated Results	
Peak Cooling Load (W)	2,850
Peak Cooling Month and Hour	June 5:00 AM
Peak Cooling Sensible Load (W)	1,388
Peak Cooling Latent Load (W)	1,462
Peak Cooling Airflow (L/s)	71.5
Peak Heating Load (W)	-1,298
Peak Heating Airflow (L/s)	71.5
Checksums	
Cooling Load Density (W/m ²)	56.63
Cooling Flow Density (L/(s·m ²))	1.42
Cooling Flow / Load (L/(s·kW))	25.07
Cooling Area / Load (m ² /kW)	17.66
Heating Load Density (W/m ²)	-25.79
Heating Flow Density (L/(s·m ²))	1.42

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	145	7.2	-118	8.7
3 Kitchen	31.60	70.47	958	47.7	-871	44.9
5 Bathroom 3	7.79	18.88	178	8.9	-165	11.1
10 Bathroom 2	4.78	11.55	153	7.6	-122	6.8

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 Mechanical Ventilation with Cooling
Relative Humidity	55.00% (User Specified)
Psychrometric Message	None
Calculated Results	
Peak Cooling Load (W)	12,320
Peak Cooling Month and Hour	June 4:00 PM
Peak Cooling Sensible Load (W)	8,626
Peak Cooling Latent Load (W)	3,694
Peak Cooling Airflow (L/s)	502.1
Peak Heating Load (W)	-2,429
Peak Heating Airflow (L/s)	223.9
Checksums	
Cooling Load Density (W/m ²)	49.52
Cooling Flow Density (L/(s·m ²))	2.02
Cooling Flow / Load (L/(s·kW))	40.76
Cooling Area / Load (m ² /kW)	20.20
Heating Load Density (W/m ²)	-9.76
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	554	35.8	-152	19.0
4 Bedroom 4	18.53	41.41	343	22.2	-308	16.7
6 Bedroom 5	18.60	41.66	486	31.5	-122	16.7
7 Bedroom 3	14.22	31.83	420	27.2	-122	12.8
8 Hall	139.93	340.07	4,240	274.5	-985	125.9
9 Bedroom 2	14.13	31.62	320	20.7	-203	12.7
11 LivingRoom	22.28	47.68	1,393	90.2	-465	20.0