

AIR SYSTEM SIZING SUMMARY FOR BLOCK LOAD

Air System Sizing Summary for .Block Load

Project Name: ATHLETA 7341 (STATION PARK) FARMINGTON, UT
Prepared by: HENDERSON ENGINEERS, INC.

01/20/2021
04:32PM

Air System Information

Air System Name: .Block Load
Equipment Class: PKG ROOF
Air System Type: SZCAV

Number of zones: 1
Floor Area: 3312.0 ft²
Location: Salt Lake City, Utah

Sizing Calculation Information

Calculation Months: Jan to Dec
Sizing Data: User-Modified

Zone CFM Sizing: Sum of space airflow rates
Space CFM Sizing: Individual peak space loads

Central Cooling Coil Sizing Data

Total coil load: 11.8 Tons
Total coil load: 141.9 MBH
Sensible coil load: 141.9 MBH
Coil CFM at Sep 1400: 9600 CFM
Max block CFM: 9600 CFM
Sum of peak zone CFM: 9600 CFM
Sensible heat ratio: 1.000
RTTon: 280.2
BTU/(hr-ft²): 42.8
Water flow @ 10.0 °F rise: N/A

Load occurs at: Sep 1400
OA DB / WB: 88.1 / 57.7 °F
Entering DB / WB: 76.2 / 57.9 °F
Leaving DB / WB: 59.9 / 52.0 °F
Coil ADP: 55.1 °F
Bypass Factor: 0.100
Resulting RH: 37 %
Design supply temp.: 56.0 °F
Zone T-stat Check: 1 of 1 OK
Max zone temperature deviation: 0.0 °F

Central Heating Coil Sizing Data

Max coil load: 40.1 MBH
Coil CFM at Des Htg: 9600 CFM
Max coil CFM: 9600 CFM
Water flow @ 20.0 °F drop: N/A

Load occurs at: Des Htg
BTU/(hr-ft²): 12.1
Ent. DB / Lvg DB: 63.8 / 65.5 °F

Supply Fan Sizing Data

Actual max CFM: 9600 CFM
Standard CFM: 9051 CFM
Actual max CFM/ft²: 2.90 CFM/ft²

Fan motor BHP: n/a
Fan motor kW: 7.34 kW

Outdoor Ventilation Air Data

Design airflow CFM: 665 CFM
CFM/ft²: 0.20 CFM/ft²

CFM/person: 15.94 CFM/person

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AIR SYSTEM DESIGN LOAD SUMMARY FOR BLOCK LOAD

Air System Design Load Summary for .Block Load

Project Name: ATHLETA 7341 (STATION PARK) FARMINGTON, UT
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DESIGN COOLING

COOLING DATA AT Sep 1400
COOLING OA DB / WB: 88.1 °F / 57.7 °F

DESIGN HEATING

HEATING DATA AT Des Htg
HEATING OA DB / WB: 8.7 °F / 8.7 °F

ZONE LOADS

DetailsSensible (BTU/hr)Latent (BTU/hr)

Window & Skylight Solar Loads534 ft²38293-534 ft²-3174-

Wall Transmission1186 ft²1457-1186 ft²3174-

Roof Transmission3276 ft²754-3276 ft²7218-

Window Transmission534 ft²2766-534 ft²18540-

Skylight Transmission0 ft²0-0 ft²0-

Door Loads0 ft²0-0 ft²0-

Floor Transmission3276 ft²0-3276 ft²0-

Partitions0 ft²0-0 ft²0-

Ceiling0 ft²0-0 ft²0-

Overhead Lighting0 W0-00-

Task Lighting7007 W19355-00-

Electric Equipment5780 W18359-00-

People4269178417000

Infiltration-00-00-

Miscellaneous-1500-00-

Safety Factor10% / 0%880500%0

>> Total Zone Loads-968568417-289320

Zone Conditioning-1090788417-295040

Plenum Wall Load0%0-00-

Plenum Roof Load0%0-00-

Plenum Lighting Load0%0-00-

Return Fan Load9600 CFM0-9600 CFM0-

Ventilation Load665 CFM7737-665 CFM356880

Supply Fan Load9600 CFM25049-9600 CFM-250490

Space Fan Coil Fans0-00-

Duct Heat Gain / Loss0%0-0%0-

>> Total System Loads-141863225-401430

Central Cooling Coil-1418630-401430

Central Heating Coil-1418630-401430

>> Total Conditioning-1418630-401430

Key:Positive values are ckg loads
Negative values are hkg loads

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AIR SYSTEM SIZING SUMMARY FOR RTU-2

Air System Sizing Summary for RTU-2

Project Name: ATHLETA 7341 (STATION PARK) FARMINGTON, UT
Prepared by: HENDERSON ENGINEERS, INC.

01/20/2021
04:32PM

Air System Information

Air System Name: RTU-2
Equipment Class: PKG ROOF
Air System Type: SZCAV

Number of zones: 1
Floor Area: 1273.0 ft²
Location: Salt Lake City, Utah

Sizing Calculation Information

Calculation Months: Jan to Dec
Sizing Data: User-Modified

Zone CFM Sizing: Sum of space airflow rates
Space CFM Sizing: Individual peak space loads

Central Cooling Coil Sizing Data

Total coil load: 6.3 Tons
Total coil load: 75.5 MBH
Sensible coil load: 74.2 MBH
Coil CFM at Aug 1500: 4800 CFM
Max block CFM: 4800 CFM
Sum of peak zone CFM: 4800 CFM
Sensible heat ratio: 0.982
RTTon: 202.3
BTU/(hr-ft²): 59.3
Water flow @ 10.0 °F rise: N/A

Load occurs at: Aug 1500
OA DB / WB: 83.9 / 69.9 °F
Entering DB / WB: 75.8 / 63.1 °F
Leaving DB / WB: 58.7 / 57.5 °F
Coil ADP: 56.8 °F
Bypass Factor: 0.100
Resulting RH: 53 %
Design supply temp.: 56.0 °F
Zone T-stat Check: 1 of 1 OK
Max zone temperature deviation: 0.0 °F

Central Heating Coil Sizing Data

Max coil load: 25.9 MBH
Coil CFM at Apr 1300: 4800 CFM
Max coil CFM: 4800 CFM
Water flow @ 20.0 °F drop: N/A

Load occurs at: Apr 1300
BTU/(hr-ft²): 20.3
Ent. DB / Lvg DB: 58.7 / 64.6 °F

Supply Fan Sizing Data

Actual max CFM: 4800 CFM
Standard CFM: 4025 CFM
Actual max CFM/ft²: 3.77 CFM/ft²

Fan motor BHP: n/a
Fan motor kW: 3.76 kW

Outdoor Ventilation Air Data

Design airflow CFM: 70 CFM
CFM/ft²: 0.05 CFM/ft²

CFM/person: 4.82 CFM/person

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ZONE SIZING SUMMARY FOR BLOCK LOAD

Zone Sizing Summary for .Block Load

Project Name: ATHLETA 7341 (STATION PARK) FARMINGTON, UT
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01/20/2021
04:32PM

Air System Information

Air System Name: .Block Load
Equipment Class: PKG ROOF
Air System Type: SZCAV

Number of zones: 1
Floor Area: 3312.0 ft²
Location: Salt Lake City, Utah

Sizing Calculation Information

Calculation Months: Jan to Dec
Sizing Data: User-Modified

Zone CFM Sizing: Sum of space airflow rates
Space CFM Sizing: Individual peak space loads

Zone Terminal Sizing Data

Zone Name	Design Supply Airflow (CFM)	Minimum Supply Airflow (CFM)	Zone CFM/ft²	Reheat Coil Load (MBH)	Reheat Coil Water gpm @ 20.0 °F	Zone Htg Unit Coil Load (MBH)	Zone Htg Unit Water gpm @ 20.0 °F	Mixing Box Fan Airflow (CFM)
Zone 1	9600	9600	2.90	0.0	-	0.0	-	0

Zone Peak Sensible Loads

Zone Name	Zone Cooling Sensible (MBH)	Time of Peak Sensible Cooling Load	Zone Heating Load (MBH)	Zone Floor Area (ft²)
Zone 1	101.2	Oct 1500	28.9	3312.0

Space Loads and Airflows

Zone Name / Space Name	Mult.	Cooling Sensible (MBH)	Time of Peak Sensible Load	Air Flow (CFM)	Heating Load (MBH)	Floor Area (ft²)	Space CFM/ft²
Zone 1							
CORRIDOR	1	0.9	Jul 2100	50	0.2	139.0	0.36
EMPLOYEE AREA	1	13.9	Jul 2100	810	0.1	43.0	18.84
FITTING	1	10.0	Oct 1500	580	3.7	566.0	1.03
JANITOR	1	0.1	Jul 2100	7	0.0	18.0	0.39
MANAGER	1	7.7	Jul 1900	447	0.1	30.0	14.91
SALES AREA 1	1	66.9	Oct 1500	3889	23.7	2039.0	1.91
STOCKROOM	1	3.1	Jul 2000	182	0.9	420.0	0.43
TOILET	1	0.4	Jul 2100	22	0.1	57.0	0.39

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AIR SYSTEM SIZING SUMMARY FOR RTU-1

Air System Sizing Summary for RTU-1

Project Name: ATHLETA 7341 (STATION PARK) FARMINGTON, UT
Prepared by: HENDERSON ENGINEERS, INC.

01/20/2021
04:32PM

Air System Information

Air System Name: RTU-1
Equipment Class: PKG ROOF
Air System Type: SZCAV

Number of zones: 1
Floor Area: 2039.0 ft²
Location: Salt Lake City, Utah

Sizing Calculation Information

Calculation Months: Jan to Dec
Sizing Data: User-Modified

Zone CFM Sizing: Sum of space airflow rates
Space CFM Sizing: Individual peak space loads

Central Cooling Coil Sizing Data

Total coil load: 7.4 Tons
Total coil load: 88.4 MBH
Sensible coil load: 88.4 MBH
Coil CFM at Sep 1500: 4800 CFM
Max block CFM: 4800 CFM
Sum of peak zone CFM: 4800 CFM
Sensible heat ratio: 1.000
RTTon: 276.8
BTU/(hr-ft²): 43.3
Water flow @ 10.0 °F rise: N/A

Load occurs at: Sep 1500
OA DB / WB: 86.9 / 57.9 °F
Entering DB / WB: 77.7 / 57.1 °F
Leaving DB / WB: 57.3 / 49.5 °F
Coil ADP: 55.1 °F
Bypass Factor: 0.100
Resulting RH: 33 %
Design supply temp.: 56.0 °F
Zone T-stat Check: 1 of 1 OK
Max zone temperature deviation: 0.0 °F

Central Heating Coil Sizing Data

Max coil load: 43.9 MBH
Coil CFM at Des Htg: 4800 CFM
Max coil CFM: 4800 CFM
Water flow @ 20.0 °F drop: N/A

Load occurs at: Des Htg
BTU/(hr-ft²): 21.5
Ent. DB / Lvg DB: 60.4 / 70.5 °F

Supply Fan Sizing Data

Actual max CFM: 4800 CFM
Standard CFM: 4025 CFM
Actual max CFM/ft²: 2.35 CFM/ft²

Fan motor BHP: n/a
Fan motor kW: 3.76 kW

Outdoor Ventilation Air Data

Design airflow CFM: 595 CFM
CFM/ft²: 0.29 CFM/ft²

CFM/person: 21.89 CFM/person

Hourly Analysis Program v5.01

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NEW STORE



GAP INC.
STORE DEVELOPMENT
2 FOLSOM STREET
SAN FRANCISCO, CA 94105

ORACLE ID:

140261

STORE NUMBER:

7341

STORE LOCATION:

STATION PARK
230 NE PROMONTORY
SPACE C-120
FARMINGTON, UT 84025

DESIGN TYPE: DERBY B
GENERATION: 21Q34
PROTOTYPE DATE: 1/8/2021
OPENING: 2021

ARCHITECT INFO:



ARCHITECT OF RECORD:

MARIAH MEYER
8131 METCALF AVE
SUITE 300
OVERLAND PARK, KS 66204

www.brrarch.com

TEL: 913-262-9095
FAX: 913-262-9044

CONSULTANT INFO:



8345 LENEXA DRIVE, SUITE 300
LENEXA, KS 66214
TEL 913.742.5000 FAX 913.742.5001

WWW.HENDERSONENGINEERS.COM

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UT. CORPORATE NUMBER: 4977264-0143
09/30/21

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DRAWN BY: HEI

A/E JOB NUMBER: 65011072

TITLE SHEET:
MECHANICAL LOAD
CALCULATIONS

SHEET NUMBER:

M4-1