

Project Title..... Sample Run Date..12/14/10 21:16:30  
 Project Address..... Address \*\*\*\*\*  
 City \*v8.1\*  
 Documentation Author... Sample Author \*\*\*\*\*  
 Enercomp, Inc.  
 1721 Arroyo Drive  
 Auburn, CA 95603  
 800-755-5908  
 Climate Zone..... 10  
 Compliance Method..... MICROPAS8 v8.1 for 2008 CEC Standards (r03)

Building Permit #
Plan Check / Date
Field Check/ Date

MICROPAS8 v8.1 File-SAMPLE Wth-CTZ10S08 User#-MP0101 User-Enercomp, Inc. Run-2700ft2 Standard CZ12
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GENERAL INFORMATION

Floor Area..... 2700 sf  
 Volume..... 25750 cf  
 Front Orientation..... Front Facing 0 deg (N)  
 Sizing Location..... RIVERSIDE EXP STA  
 Latitude..... 34 degrees  
 Winter Outside Design..... 29 F  
 Winter Inside Design..... 70 F  
 Summer Outside Design..... 101 F  
 Summer Inside Design..... 75 F  
 Summer Range..... 36 F  
 Interior Shading Used..... Yes  
 Exterior Shading Used..... Yes  
 Overhang Shading Used..... Yes  
 Latent Load Fraction..... 0.20

HEATING AND COOLING LOAD SUMMARY

Description	Heating (Btu/hr)	Cooling (Btu/hr)
Opaque Conduction and Solar.....	16139	6162
Glazing Conduction and Solar.....	6140	9478
Infiltration.....	10200	4352
Internal Gain.....	n/a	2520
Ducts.....	4172	2806
Sensible Load.....	36651	25318
Latent Load.....	n/a	5140
Minimum Total Load	36651	30458

Note: The loads shown are only one of the criteria affecting the selection of HVAC equipment. Other relevant design factors such as air flow requirements, outside air, outdoor design temperatures, coil sizing, availability of equipment, oversizing safety margin, etc., must also be considered. It is the HVAC designer's responsibility to consider all factors when selecting the HVAC equipment.

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HEATING LOAD CALCULATIONS

DESIGN CONDITIONS FOR ZONE 'HOUSE':

WINTER DESIGN TEMPERATURES:

    Inside Temperature..... 70.0 F  
 Outside Temperature..... 29.0 F

DESIGN TEMPERATURE DIFFERENCES

    Standard..... 41.0 F

CONDUCTIVE HEAT LOSS:

Description	Orientation	Area (sf)	U-factor (Btu/hr- sf-F)	TD (F)	Heat Loss (Btu/hr)
Wall	North	501.0	x 0.0857	x 41.0	= 1760
Wall	East	541.0	x 0.0857	x 41.0	= 1900
Wall	South	541.0	x 0.0857	x 41.0	= 1900
Wall	West	541.0	x 0.0857	x 41.0	= 1900
Attic	Horizontal	1450.0	x 0.0460	x 41.0	= 2735
Door	North	40.0	x 0.5000	x 41.0	= 820
FloorExt	Horizontal	200.0	x 0.0480	x 41.0	= 394
Exterior Mass	n/a	31.6	x 0.7300	x 41.0	= 946
Exterior Mass	n/a	126.4	x 0.7300	x 41.0	= 3783
CONDUCTIVE TOTALS FOR OPAQUE SURFACES					16139
Window	North	117.0	x 0.3200	x 41.0	= 1535
Window	East	117.0	x 0.3200	x 41.0	= 1535
Window	South	117.0	x 0.3200	x 41.0	= 1535
Window	West	117.0	x 0.3200	x 41.0	= 1535
CONDUCTIVE TOTALS FOR GLAZING SURFACES					6140

INFILTRATION: (Type: Standard)

    25750 cuft x 0.54 ac/hr x 0.018 Btu/cuft-F x 41.0 = 10200

SUBTOTAL 32479

DUCT HEAT LOSS: Duct Location: Attic 0.128 x 32479 = 4172

TOTAL HEATING LOAD: 36651

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COOLING LOAD CALCULATIONS

DESIGN CONDITIONS FOR ZONE 'HOUSE':

SUMMER DESIGN CONDITIONS:

Inside Temperature..... 75.0 F  
 Outside Temperature.....101.0 F  
 Temperature Range..... 36.0 F

DESIGN EQUIVALENT TEMPERATURE DIFFERENCES

Standard..... 26.0 F

CONDUCTIVE AND SOLAR HEAT GAIN:

Description	Orientation	Area (sf)	U-factor (Btu/hr-sf-F)	CLTD (F)	Heat Gain (Btu/hr)
Wall	North	501.0 x	0.0857 x	14.0	= 601
Wall	East	541.0 x	0.0857 x	24.0	= 1112
Wall	South	541.0 x	0.0857 x	17.0	= 788
Wall	West	541.0 x	0.0857 x	24.0	= 1112
Attic	Horizontal	1450.0 x	0.0310 x	47.8	= 2149
Door	North	40.0 x	0.5000 x	14.0	= 280
FloorExt	Horizontal	200.0 x	0.0480 x	12.4	= 119
TOTAL FOR OPAQUE SURFACES					6162

GLAZING CONDUCTIVE AND SOLAR HEAT GAIN:

Description	Orientation	Area (sf)	GLF (Btu/hr-sf)	Heat Gain (Btu/hr)
Window	North	117.0 x	13.0	= 1517
Window	East	117.0 x	27.0	= 3159
Window	South	117.0 x	14.0	= 1642
Window	West	117.0 x	27.0	= 3159
TOTAL FOR GLAZING SURFACES				9478

INFILTRATION: (Type: Standard)

25750 cuft x 0.36 ac/hr x 0.018 Btu/cuft-F x 26.0 = 4352

INTERNAL GAIN (Ig):

1.00 x ( 4 x 230.0 + 1600) = 2520  
 Dwelling Units People Appliance

SUBTOTAL 22512

