



Job Name Facebook Woodland Hill - Initial
 Location CA
 Engineer
 Contractor

Job Number 906-R020
 Quote Number QBSCHAITEL08042017-3
 Representative Jake Barker
 Rep Office San Francisco

Mechanical Modules

(2) ASP060XN14H2AS1AAAEN-410A

Accessory Modules

(1) FCP4HBAAE-Free-Cool Module-FCP4 (1 front, 0 rear)

PERFORMANCE DATA									
Load	Capacity (Tons)	KW	KW/Ton	EER	COP	Flow Rate (GPM)	Leaving °F	ΔP(ft)	Ambient°F
100%	119.1	142.5	1.196	10.03	2.940	208.9	44.00	7.134	98.00
75%	89.33	76.47	0.8561	14.02	4.110	208.9	44.00	7.134	81.88
50%	59.55	39.00	0.6549	18.32	5.370	208.9	44.00	7.134	65.75
25%	29.78	16.75	0.5626	21.33	6.250	208.9	44.00	7.134	55.00

The 25, 50 % points have incorporated a cycling penalty per AHRI 550/590.

With Ambient Relief (per AHRI 550/590)

	kW/Ton	EER	COP
NPLV.IP	0.7150	16.79	4.926

EVAPORATOR DESIGN DATA (Based on 100% Water)	
Entering Temperature °F	58.00
Leaving Temperature °F	44.00
Design Flow (GPM)	208.9
Pressure Drop (Full Load)	3.088 PSI / 7.134 ft H2O
Minimum Flow	46.30
System Min Flow For Bypass Sizing	69.40
Number Of Passes	1
Fouling Factor (h-ft ² -°F/Btu)	.000100
Header Size	8"
Header Connection Type	Grooved Coupling
Header Exchanger Style	Brazed Plate
Number of Compressors (per mod.)	4

CONDENSER DESIGN DATA Based On Sea Level Elevation	
Design Ambient °F	98.00
Minimum Ambient °F	45.00
Coil Type	
Fan Qty (per module)	4
Fan Horsepower	2

ELECTRICAL DATA	1	2	3	4
(2) ASP060X2	2	0	0	0
(1) Free-Cool Module-FCP4	1	0	0	0
Future MCA = **502 MOP = 600				
MCA	* 255			
MOP	300			
Voltage	460/60/3			

PHYSICAL DATA	
Length (inches)	See Job Specific Drawing
Width (inches)	See Job Specific Drawing
Height (inches)	See Job Specific Drawing
Estimated Dry Weight (lbs)	See Job Specific Drawing
Estimated Operating Weight (lbs)	See Job Specific Drawing
Refrigerant Type	R-410A
Refrigerant Charge (lbs)	100 per module

CHILLER DATA	
Options	With Ambient Relief (per AHRI 550/590)
Compressor RLA (per compressor)	26
Fan FLA (per fan)	3.3
Compressor Description	Scroll
Nominal Capacity (tons per module)	60

Dimensions are estimated and do not include J-Boxes

*Parallel feeds not required (Assumes no larger than 500 MCM/kcmil wire)
 **Parallel feeds are required (Assumes no larger than 500 MCM/kcmil wire)

Software Version #: 1.0.4435.29000

Performance Run Date: 9/7/2017 1:58:03 PM

Custom Unit which is outside of the scope of AHRI Water-Cooled Water Chilling Packages Using Vapor Compression Cycle Certification Program but is rated in accordance with AHRI Standard 550/590 (I-P).





Job Name YNO 102 Initial - Low Sound
 Location CA
 Engineer _____
 Contractor _____

Job Number _____
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 Representative Jake Barker
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Performance Data

Chiller Model Number	Compressor Description	Nominal Capacity
(2) ASP060XN14H2AS1AAAEN-410A	Scroll	60

PERFORMANCE DATA											
Load	Capacity (Tons)	kW	kW/ton	EER	COP	SST	SCT	Flow Rate (GPM)	Leaving °F	ΔP (ft)	Ambient °F
100%	59.55	71.25	1.196	10.03	2.940	39.00	123.0	104.4	44.00	7.116	98.00
75%	44.67	38.24	0.8561	14.02	4.110	39.00	106.9	104.4	44.00	7.116	81.88
50%	29.78	19.50	0.6549	18.32	5.370	39.00	86.75	104.4	44.00	7.116	65.75
25%	14.89	8.376	0.5626	21.33	6.250	39.00	76.00	104.4	44.00	7.116	55.00

NPLV.IP	0.7150
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Evaporator contains a glycol or other secondary coolants for freeze protection with a leaving chilled fluid temperature above 32°F and is certified in accordance with the AHRI Water-Cooled Water Chilling Packages Using Vapor Compression Cycle Certification Program,

Software Version #: 1.0.4435.29000

Performance Run Date: 9/7/2017 2:01:25 PM

Product Overview:

Model Description	Compressor Description
(2) ASP060XN14H2AS1AAAEN-410A	Scroll

Services & Special Features:

- Multiple, independent refrigeration systems
- Stainless Steel Evaporator
- Lead Compressor Sequencing (24hrs)
- Automatic Internal Rescheduling If Fault Occurs
- Automatic Logging Of Any Fault Condition
- Electronic Chilled Water Control
- Quick Interconnect Modular Design
- Designed For Quiet Operation
- Pressure Controlled 1140 RPM Fan Motors
- Filters In Evaporator Supply Headers
- Stainless Steel Inlet Header
- R-410A Refrigerant

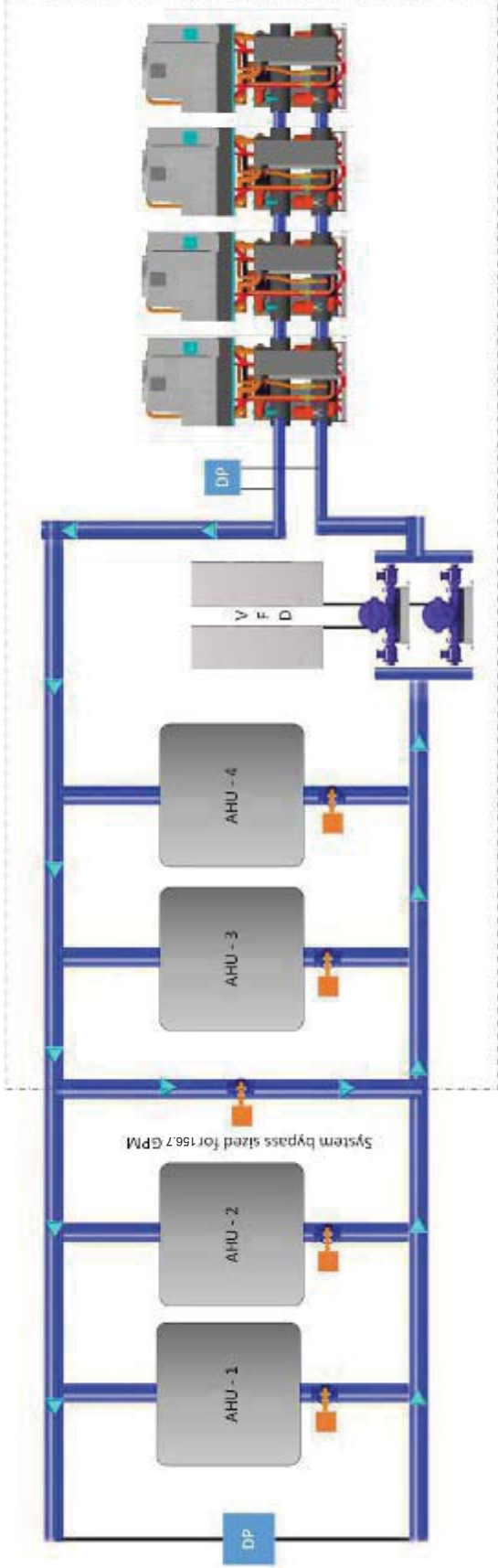
- Electrical Connection Type - Junction Box
- Carbon Steel Painted Lifting Frame - Sized for Future •
- Warranty: Compressor (5 Year)
- Warranty: All Parts (1 Year)
- Var. Flow Evap (Mot. Valve Supply Only)
- Single Point Power Connection - Sized for Future

- Brazed Plate Evaporator
- Free Cool Bypass - Sized for Future
- Interoperability Web Portal for Free Cools (BACnet MS/TP)
- ECM Fans - ZN080
- Compressor Boxes
- 4 Independent Circuits per module
- 84" x 84" Welded Frames on Mechanicals and Free Cool
- Interoperability Web Portal for Mechanicals (BACnet MS/TP)
- Size conduit long enough to field mount junction box on the right hand side of the future modules
- Increased 65kA SCCR

Excluded By Multistack:

- Any Travel and Diagnosis for Warranties
- Multistack recommends a 2-3 minute minimum loop time. Contact Multistack if you have questions regarding system loop time design

Bypass Loop Volume = 240



- Chiller Minimum Flow = 104.4 GPM
- System Bypass Sizing for minimum of 166.7 GPM
- Note: This is a *minimum* requirement for the chiller ONLY! Other system components such as pumps or AHU's may have higher minimum flow requirement and bypass sizing may be adjusted accordingly.
- Bypass valve should be a globe valve or characterized ball valve and its actuator must have a stroke time less than 60 seconds
- DP across evaporator and/or condenser/load and/or source (may be included in Multistack package if Multistack is providing a pump)
- Minimum 2-minute loop time at all conditions, including bypass. To obtain, ensure 240 gallons of water in the bypass loop
- Chiller DP must be maintained at all times
- See Multistack engineering bulletin: Variable Flow Bulletin #F168



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Accessory Detail

Mounting/Lifting Frame	
Materials	Carbon Steel Painted
Design	Standard - no walkway/passage
I-Beam Size	6"
Width of Walkway/Passage	N/A
Bolt together frame-# of pieces	1
End Type	Flush Ends - Both

(1) Free-Cool - FCP4HBAAE		
Location	Primary Loop	
Capacity	47.66	Tons
Ambient Temperature	38.00	F
Entering Temperature	54.84	F
Leaving Temperature	44.00	F
DeltaT	10.84	F
Flow Rate (each)	108.0	GPM
Total Flow Rate	108.0	GPM
Operating Pressure Drop	14.83	ft
Fan Qty	4.000	
Fan Horsepower	2.000	HP
Fan FLA	5.200	A
Module FLA	20.80	A

Notes

WARRANTY ON FREE COOL COILS IS VOID IF NO GLYCOL IS PRESENT!