

SCHEDULES FOR HVAC

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1.1 Water Cooled Chiller Schedule

Tag	CH-1	CH-2
Location	Sub-Basement	Sub-Basement
Chilled Fluid	Water	Water
Condenser Fluid	Water	Water
Design Output Capacity, kW	913	913
IPLV (kW/ton)	0.359	0.359
Evaporator Flow Rate, L/s	41	41
Condenser Flow Rate, L/s	49	49
Entering Chilled Water Temp., °C	12.2	12.2
Leaving Chilled Water Temp., °C	7.2	7.2
Entering Condenser Water Temp., °C	28.9	28.9
Leaving Condenser Water Temp., °C	34.7	34.7
Evaporator Pressure Drop, kPa	46	46
Condenser Pressure Drop, kPa	28.8	28.8
Power Supply, V/ph/Hz	460/3/60	460/3/60
Minimum Circuit Ampacity (MCA), Amps	272	272
Manufacturer	McQuay	McQuay
Model Number	WMC250D	WMC250D
Physical dimensions	3446x968x2134	3446x968x2134
Operating Weight, kg	4099	4099
Design Working Pressure, kPa	1034	1034
Sound Data	See table below	See table below
Accessories	c/w 575V to 460V transformer	c/w 575V to 460V transformer
Remarks	Ref. Spec. Section 23 64 16	Ref. Spec. Section 23 64 16

Sound Data:

Percent Load	Octave Band								A-Weighted
	63 Hz	125 Hz	250 Hz	500 Hz	1 kHz	2 kHz	4 kHz	8 kHz	
100	37.5	51.5	59.5	72.0	75.0	72.5	76.5	75.0	81.5
75	37.0	50.5	62.5	66.5	70.0	69.5	74.0	70.5	78.0
50	37.5	50.0	60.0	65.0	65.5	66.0	71.5	66.0	75.0
25	37.5	49.0	59.0	63.0	65.0	66.0	69.5	64.0	73.5

Sound Pressure (dB) measured in accordance with ANSI/AHRI Standard 575-2008 (A-weighted)

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1.2 Modular Chiller Schedule

Tag	CH-3
Location	Sub-Basement
Type	Water-to-water
Chilled Fluid	Water
Condenser Fluid	Water
Design Output Capacity, kW	176
IPLV (kW/ton)	
Evaporator Flow Rate, L/s	7.4
Condenser Flow Rate, L/s	9.7
Entering Chilled Water Temp., °C	10
Leaving Chilled Water Temp., °C	4.4
Entering Condenser Water Temp., °C	46.1
Leaving Condenser Water Temp., °C	51.6
Evaporator Pressure Drop, kPa	55.2
Condenser Pressure Drop, kPa	55.2
Power Supply, V/ph/Hz	575/3/60
Minimum Circuit Ampacity (MCA), Amps	
Manufacturer	Tandem Chillers
Model Number	WHPX070DZV
Physical dimensions	
Operating Weight, kg	
Design Working Pressure, kPa	
Sound Data	
Accessories	
Remarks	Ref. Spec. Section 23 81 40

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1.3 Water-To-Air Heat Pump Schedule

Tag	HP-1
Area Served	Sub-basement
Type	Water-to-air
Fan Data	
Design Air Flow, L/s	1019
E.S.P., Pa	125
Fan Speed, rpm	
Cooling Data	
Total Cap., kW	23.2
Sensible Cap., kW	18.8
EAT DB/WB, °C	26.6/19.4
EWT, °C	29.4
LWT, °C	36
EER	17.0
Heating Data	HP-1 HAS ABILITY TO HEAT BUT WILL NOT BE USED
Capacity, kW	
EAT, °C	
EWT, °C	
COP	
Water Flow, L/s	1.20
Water P.D., kPa	106.7
Motor Power, kW	0.75
Power Supply (V/Ph/Hz)	208/3/60
Manufacturer	McQuay
Model	Enfinity VFC-070
Accessories	Programmable thermostat, ECM motor
Remarks	Ref. Spec. Section 23 81 46

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1.4 Pump Schedule

Tag	P-23	P-24	P-25
Function	CH-3 Condenser Water Pump	CH-3 Chilled Water Pump	HP-1 Circulator Pump
Location	Sub-basement	Sub-basement	Sub-basement
Type	Vertical Inline	Vertical Inline	Inline
Impeller	Bronze	Bronze	Bronze
Casing	Cast Iron	Cast Iron	Cast Iron
Medium Pumped	Water	Water	Water
Maximum Operating Temp., °C	60	12	60
Pump Speed, RPM	1800	1800	1800
Design Flow Rate, L/s	10.7	8.2	0.93
Discharge Head, kPa	121	58	59
Suction/Discharge Sizes, mm	75/75	75/75	40/40
Motor Power, kW	2.25	0.75	0.75
Impeller Size, mm	200	150	150
Power Supply, V/ph/Hz	575/3/60	575/3/60	120/1/60
Manufacturer	Armstrong	Armstrong	Armstrong
Model	4380 IVS 3x3x8	4300 IVS 3x3x6	4380 1.5x1.5x6
Accessories	c/w manufacturers approved suction guide diffuser, triple duty valve, and integrated variable speed drive		c/w manufacturers approved suction guide diffuser and triple duty valve
Remarks	Ref. Spec. Section 23 21 23		

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1.5 Air Outlet Schedule

Type	Description	Manufacturer	Model
SA-1	Steel double deflection, 25mm border surface mount, front blades parallel to short dimension, countersunk screw holes, aluminum power coat finish.	E.H. PRICE	520/N/S/A/B15
RA-1	Egg Crate return air grille, 13x13x13 aluminum grid core, 32mm border surface mounted, countersunk screw holes, aluminum power coat finish.	E.H. PRICE	80/F/A/B15

Note: For sizes see drawings.

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1.6 Side-Stream Filter Schedule

Tag	F-1
Service	Condenser Water Side-stream Filter
Location	Sub-basement
Maximum Operating Pressure, kPa	1034
Maximum Operating Temp., °C (°F)	38
Design Flow Rate, L/s (USgpm)	12.6
Total Dynamic Head, kPa (ft. water)	149.5
Suction/Discharge Sizes, mm	75 / 75
Motor Power, kW	3.7
Power Supply, V/ph/Hz	575/3/60
Full Load Amperage, amps	6.1
Manufacturer	LAKOS
Model	TBX-0200-SRV
Physical dimensions, mm	1010 wide x 711 deep x 1302 high
Empty Weight, kg	302
Accessories	c/w optional automatic purge valve, pump basket strainer
Remarks	Ref. Spec. Section 23 21 15 Separator Model #: HTX-0130

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1.7 Indirect Water Heater Schedule

Tag	HX-1	HX-2	HX-3	HX-4
Manufacturer	THERMO 2000 Inc.	THERMO 2000 Inc.	THERMO 2000 Inc.	THERMO 2000 Inc.
Model	TURBOMAX 109	TURBOMAX 109	TURBOMAX 109	TURBOMAX 109
Dimensions				
Capacity, L	450	450	450	450
Height, mm	1880	1880	1880	1880
Diameter, mm	737	737	737	737
Boiler Input, kW	117	117	117	117
Boiler Input Water Temperature, °C	82.2	82.2	82.2	82.2
Domestic Cold Water Temperature, °C	4.4	4.4	4.4	4.4
Domestic Hot Water Temperature, °C	60	60	60	60
First Hour Recovery Rate, L/hr	2010	2010	2010	2010
Continuous Recovery Rate, L/hr	1828	1828	1828	1828
Heat Transfer Area, m ²	5.47	5.47	5.47	5.47
Utility Connection	50	50	50	50
Boiler Connection	DN50	DN50	DN50	DN50
Shipping Weight, kg (lbs)	252	252	252	252

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1.8 Air Separator Schedule

Tag	AS-1
Service	Water System
Location	Mechanical Room
Type	Tangential c/w Strainer
Fluid Velocity, m/s	1.2
Flow Rate, L/S (USgpm)	10
Diameter, mm (in)	305
Height, mm (in)	622
Overall Width, mm (in)	530
Distance to Remove Strainer , mm (in)	420
In/Out Sizes, mm (in)	100
Manufacturer	Amtrol
Model	4-AS-L

END OF SECTION