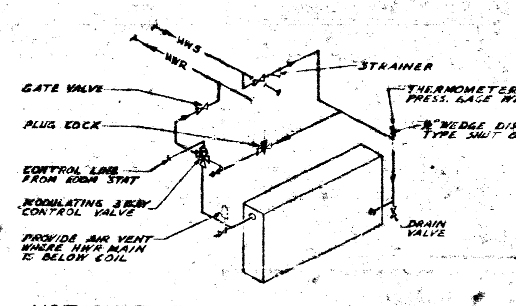
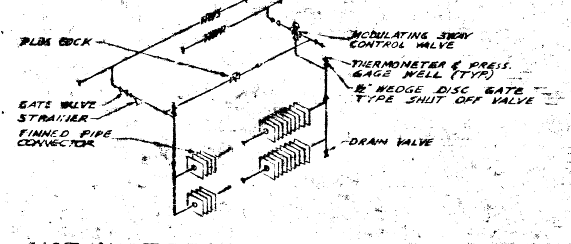
1483-D-II HEVS

LEGEND

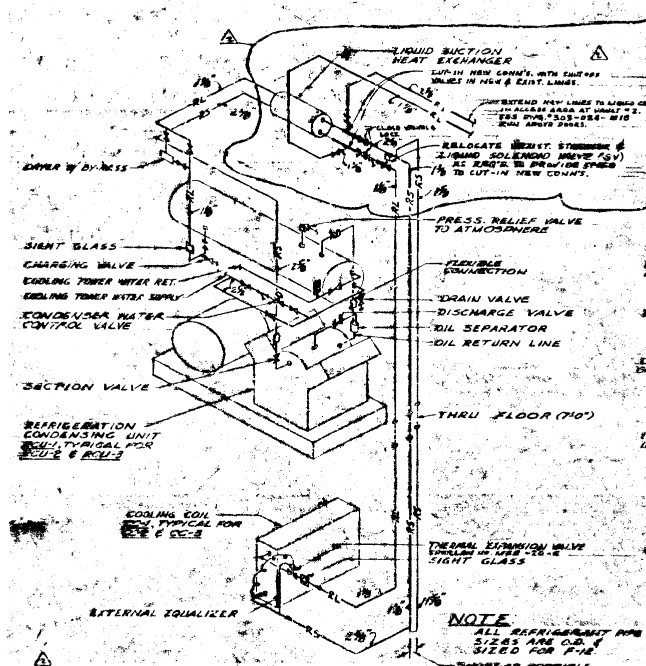
- P.R.V. — PRESS. REDUCING VALVE
- N.C. — NORMALLY CLOSED
- N.O. — NORMALLY OPEN
- TAU — TOP ANGULAR UP BLAST
- B.H. — BOTTOM HORIZONTAL
- B.G. — BOTTOM GRILLE
- T.G. — TOP GRILLE
- C.G. — CEILING GRILLE
- C.D. — CEILING DIFFUSER
- H.R.C.D. — HALF ROUND CEILING DIFFUSER
- O.A. — OUTSIDE AIR
- O.D. — OUTSIDE DIAMETER
- S.D. — SPLITTER DAMPER
- MOD. VOL. — MODULATING VOLUME
- V.C.D. — VOLUME CONTROL DAMPER
- C.W. — CLOCKWISE
- TAU — TOP ANGULAR UP
- W.G. — WATER GAUGE
- R.A. — RETURN AIR
- D.X. — DIRECT EXPANSION
- DUCT WITH INTERNAL INSULATION LINING. DUCT SIZES SHOWN INCLUDE SPACE FOR LINING.
- DUCT DROP
- DUCT RISE
- AUTOMATIC AIR VENT (ELEV. & PLAN)
- SAUNDERS TYPE DIAPHRAGM VALVE
- DOOR GRILLE
- PC — PRESSURE CONTROLLER
- PT — PRESSURE TRANSMITTER
- PI — PRESSURE INDICATOR
- O2RC — OXYGEN CONC. RECORDING CONTROLLER
- dPRC — DIFFERENTIAL PRESSURE RECORDING CONTROLLER
- MANO — MANOMETER
- dPA — DIFFERENTIAL PRESSURE ALARM
- O2A — OXYGEN CONCENTRATION ALARM
- PA — PRESSURE ALARM
- PS — PRESSURE SWITCH
- FE — FLOW ELEMENT
- SPR — STATIC PRESSURE REGULATOR
- ACTS ON HIGH CONDITION
- ACTS ON LOW CONDITION
- FL. SK. — FLOOR SINK
- V.D. — VOLUME DAMPER
- T. — THROAT DIMENSION
- NEEDLE VALVE
- PNEUMATIC RELAY
- IA — INSTRUMENT AIR MAIN
- IA — INSTRUMENT AIR
- INSTRUMENT WIRING
- N.I.C. — NOT IN CONTRACT
- N2 — NITROGEN LINE
- RL — REFRIGERANT LIQUID LINE
- RD — REFRIGERANT DISCHARGE LINE
- RS — REFRIGERANT SUCTION LINE
- CTWS — COOLING TOWER WATER SUPPLY
- CTWR — COOLING TOWER WATER RETURN
- HWS — HEATING WATER SUPPLY
- HWR — HEATING WATER RETURN
- T — THERMOSTAT - MOUNTED UP + 5'
- PES — PNEUMATIC ELECTRIC SWITCH
- GLOBE VALVE
- CHECK VALVE
- TWO & THREE WAY SOLENOID AIR VALVE (ARROW INDICATES THE NORMALLY OPEN PORTS)
- MODULATING CONTROL VALVE
- MODULATING DAMPER MOTOR
- TWO POSITION DAMPER MOTOR
- PLUG COCK
- AUTO. 2-POSITION CONTROL VALVE
- MODUL. CONTROL VALVE W/POSITIONER
- FT — FLOW TRANSMITTER
- BOARD MOUNTED INSTRUMENT
- SW — ELECTRICAL SWITCH
- LS — LIMIT SWITCH
- HC — HAND CONTROL
- F.D. — FIRE DAMPER
- AI — MATERIAL FURNISHED BY ATOMICS INTERNATIONAL AND INSTALLED BY BUILDER
- FOUR WAY SOLENOID VALVE (SOLID ARROW INDICATES THE NORMALLY OPEN PORTS. DOTTED ARROW INDICATES OPEN PORTS IF ENERGIZED)
- POINT OF CONNECTION OF NEW WORK TO EXIST. WORK



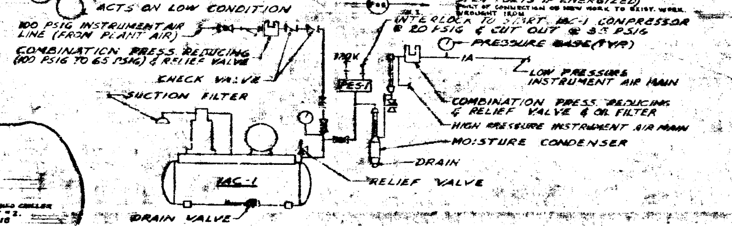
HOT WATER COIL PIPING DIAGRAM



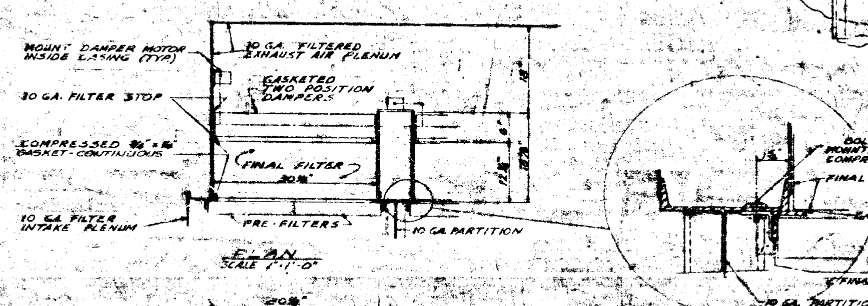
HOT WATER CONVECTOR PIPING DIAGRAM



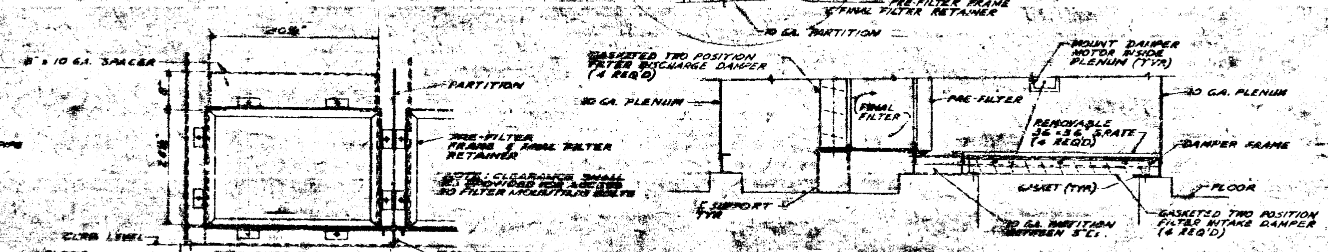
REFRIGERATION SYSTEM PIPING DIAGRAM



INSTRUMENT AIR COMPRESSOR PIPING DIAGRAM



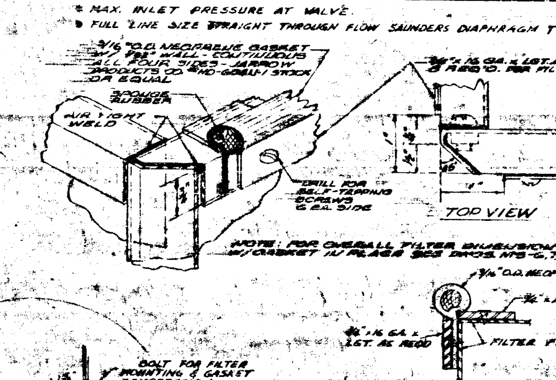
PLAN
SCALE 1"=1'-0"



ELEVATION
SCALE 1"=1'-0"

SECTION AT FLOOR
SCALE 1"=1'-0"

FILTER SUPPORT DETAIL



SPECIAL GASKET FOR FILTERS F-4 THRU F-9 & FILTERS F-10
F-12, F-14, F-16
NO SCALE

POWERED ROOF VENTILATOR

DESIG.	MINIMUM CAPACITY C.F.M.	S.P. IN. W.G.	FAN R.P.M.	MOTOR R.P.M.	MOTOR H.P.	REMARKS
PV-1	1570	¼	1150	1725	⅓	BELT DRIVE
PV-2	320	⅛	1150	1150	1/20	DIRECT DRIVE

HOT WATER BOILER

DESIG.	TYPE	CAPACITY BTU/HR INPUT	CAPACITY BTU/HR NET OUTPUT	WATER P.D.-FT.	WATER G.P.M.	WATER ENT. °F	WATER LV. °F	FUEL	BURNER MOTOR HP
B-1	STEEL FIRE TUBE	1,050,000	630,000	10	60	180	200	#2 DIESEL	¼

CONTROL VALVES

DESIG.	PRESS. PS.I.G.*	SERVICE	DESIGN FLOW CAPACITY	MAX. P.D. P.S.I.	TYPE
TC-1	30	RC-1	12 G.P.M.	2	PNEUMATIC 3-WAY MIXING
TC-2	30	RC-2	7 G.P.M.	2	PNEUMATIC 3-WAY MIXING
TC-4	30	WF-1	0.5 G.P.M.	2	PNEUMATIC 3-WAY MIXING
TC-5	30	WF-2 & WF-3	1.5 G.P.M.	2	PNEUMATIC 3-WAY MIXING
TC-6	30	UV-1	35 G.P.M.	2	PNEUMATIC 3-WAY MIXING
CV-11,21,31	1.0	N2 SUPPLY	0.1 SCFM	1	PNEUMATIC MODUL. (N.C.)
CV-12,22,32	1.0	N2 SUPPLY	10.0 SCFM	0.65	PNEUMATIC MODUL. (N.C.)
CV-16,26,36	0	VAULT EXH.	0.1 SCFM	0.325	PNEUMATIC MODUL. (N.C.)
CV-17,27,37	0	VAULT EXH.	10 SCFM	0.144	PNEUMATIC MODUL. (N.C.)
CV-50	164.7	HOLD-UP TANK EXH.	50 SCFM	150	PNEUMATIC MODUL. (N.C.)
CV-13,23,33	1.0	N2 SUPPLY	85 SCFM	•	PNEUMATIC 2-POSITION (N.C.)
CV-18,28,38	0	VAULT EXH.	85 SCFM	•	PNEUMATIC 2-POSITION (N.C.)
CV-51,52,53	150	HOLD-UP TANK INLET	5 SCFM	•	PNEUMATIC 2-POSITION (N.C.)
CV-41	0	HIGH FLOW METERING	85 SCFM	•	PNEUMATIC 2-POSITION (N.C.)
[illegible]	1.0	[illegible] CLOSURE	85 SCFM	•	PNEUMATIC 2-POSITION (N.C.)
[illegible]	1.0	VAULT VAC. CLEAN. CLOSURE	200 SCFM	•	PNEUMATIC 2-POSITION (N.C.)

* MAX. INLET PRESSURE AT VALVE.
• FULL LINE SIZE STRAIGHT THROUGH FLOW SAUNDERS DIAPHRAGM TYPE VALVE

FANS*

DESIG.	TYPE	ARR. & CLASS	ROTAT.	DISCH.	C.F.M. EACH	S.P. IN. W.G.	APPROX. OU. FPM	MOTOR H.P.	MOTOR R.P.M.	REMARKS
S-1A,B,C, S-2A,B,C	[illegible] FAN	4 I	CW	TAU	1320	2.7	6400	1.5	1750	—
S-3A,B,C	[illegible] FAN	4 I	CW	TAU	1100	3.2	2750	1.5	1750	—
E-1	[illegible]	9 III	CW	BH	18,020	10.75	3100	30	1750	—
E-2A,B,C	[illegible] TURBO-MITE	[illegible]	CCW	[illegible]	[illegible]	[illegible]	—	[illegible]	[illegible]	[illegible]

* C.F.M. LISTED ABOVE IS CORRECTED FOR 1830 FT. ELEVATION. S.P. LISTED IS FOR STANDARD (SEA LEVEL) CONDITIONS.

FILTERS

DESIG.	TYPE	MEDIA	SIZE EACH	* C.F.M.	FACE VEL. FPM	CLEAN S.P. WG.	DIRTY S.P. W.G.	ARRANGEMENT
F-1	THROW-AWAY	GLASS FIBER	16"x20"x2"	270	122	0.07	0.25	1 HIGH x 1 WIDE
F-2	ABSOLUTE	GLASS FIBER	30"x26"x12"	18,090	217	0.68	1.63	[illegible] HIGH x 4 WIDE
F-3	THROW-AWAY	GLASS FIBER	16"x26"x2"	18,020	195	0.11	0.25	3 HIGH, 8 WIDE
F-4 THRU 9	ABSOLUTE	GLASS FIBER	30"x24"x12"	1525	303	1.2	2.2	1 HIGH x 1 WIDE
F-10 THRU 15	ABSOLUTE	GLASS FIBER	8"x8"x6"	42	94	0.6	1.6	1 HIGH x 1 WIDE
F-16	ABSOLUTE	GLASS FIBER	24"x24"x6"	175	44	0.25	1.25	1 HIGH x 1 WIDE

* CFM'S LISTED FOR F-2 & F-3 ARE TOTAL FOR BANK OF FILTERS, ALL OTHER CFM'S LISTED ARE FOR INDIVIDUAL FILTER ELEMENTS.

UNIT VENTILATOR*

DESIG.	TYPE	CFM	AIR TEMP. D.B. °F ENT.	AIR TEMP. D.B. °F LV.	WATER TEMP. °F ENT.	WATER TEMP. °F LV.	G.P.M.	COIL WD. FT. WG.	APPROX. FAN OV. F.P.M.	EXT. S.P. IN. W.G.	MOTOR H.P.	FILTER
UV-1	[illegible]	13,650	35.2	62.3	200	160	38.0	3.0	1,620	0.86	5	THROW-AWAY
UV-2	HORIZONTAL	3,000	—	—	—	—	—	—	1,320	0.18	½	THROW-AWAY
UV-3	HORIZONTAL	2,500	—	—	—	—	—	—	1,150	0.22	⅓	THROW-AWAY

* C.F.M. LISTED ABOVE IS CORRECTED FOR 1830 FT. ELEVATION. EXTERNAL S.P. LISTED FOR STANDARD (SEA LEVEL) CONDITIONS. S.P. LISTED IS THAT EXTERNAL TO UNIT CASING COILS & FILTER.

PACKAGED AIR CONDITIONER

DESIG.	C.F.M.	* CONDENSER G.P.M.	ENT. °F	LV. °F	MAX P.D.	COOLING ENT. AIR °F D.B.	ENT. AIR °F W.B.	LV. AIR °F D.B.	LV. AIR °F W.B.	TONS	MOTOR H.P. COMPR.	MOTOR H.P. FAN	REMARKS
AC-1	**5,160	45	85	95	15 FT	89.7	67.6	60.9	56.8	15.0	2@7½	2	½" W.G. S.P.**
AC-2		AIR COOLED --- SEE DWG 303-024-M21											

* CONDENSER WATER PRESSURE DROP IS MAX. ALLOWABLE THRU BOTH CONDENSER & WATER REGULATING VALVE.
** C.F.M. LISTED ABOVE IS CORRECTED FOR 1830 FT. ELEVATION. S.P. LISTED IS FOR STANDARD (SEA LEVEL) CONDITIONS & IS THAT EXTERNAL TO UNIT CASING, COILS & FILTERS.

REFRIGERATION CONDENSING UNITS*

DESIG.	TYPE	TONS	TEMPERATURE °F MAX. SAT. SUCTION	MAX. SAT. COND.	CONDENSER ENT. WATER °F	MAX. HT. REJECT BTU/HR	MAX. GPM	P.D. FT.	MOTOR H.P.
RCU-1	RECIPROCATING	12.5	28	115	85	275,000	25	15	25
RCU-2	RECIPROCATING	17.5	28	115	85	275,000	25	15	25
RCU-3	RECIPROCATING	15.0	29	115	85	231,000	15	10	20

* COMPRESSOR SPEED SHALL NOT EXCEED 1750 RPM. BASE MIN. CONDENSER CAPACITY ON 0.001 FOULING FACTOR.

COOLING COILS*

DESIG.	TYPE	SERVICE	ROWS	FACE VEL. FPM	SAT. SUCTION TEMP. °F	AIR TEMP. °F ENT.	AIR TEMP. °F LV.	CFM	CAPACITY BTU/HR.	AIR FRICTION IN. WG.
CC-1	DIRECT EXPAN.	VAULT NO.1	6	580	32	120	47.5	2,800	214,500	0.50
CC-2	DIRECT EXPAN.	VAULT NO.2	6	580	32	120	47.5	2,800	214,500	0.50
CC-3	DIRECT EXPAN.	TRANSFER LOCK	6	550	33	120	47.0	2,325	180,200	0.42

* BASED ON NITROGEN ATMOSPHERE @ 0.0706 LB/FT³ WITH NO LATENT COOLING REQUIRED.

HOT WATER COILS

DESIG.	ROWS	FACE AREA SQ. FT.	FACE VEL. F.P.M.	AIR TEMP. °F ENT.	AIR TEMP. °F LV.	WATER TEMP. °F ENT.	WATER TEMP. °F LV.	C.F.M.	G.P.M.	WATER FRICTION FT. W.G.	AIR FRICTION IN. W.G.
RC-1	2	5.25	533	47.3	87.0	200	180	2800	12.0	0.06	0.14
RC-2	1	3.75	630	47.3	76.4	200	180	2360	7.0	0.20	0.10

HOT WATER CONVECTORS

DESIG.	TYPE	MIN. LENGTH FT.	G.P.M.	CAP. BTU/HR	TIERS	MAX. FRICT. WATER FT.	WATER TEMP. ENT. °F	WATER TEMP. APPROX. LV. °F	REMARKS
WF-1	FINNED TUBE	3	0.60	4,650	2	0.02	200	180	W/EXPANDED METAL COVER
WF-2	FINNED TUBE	4	1.10	11,140	3	0.04	200	180	W/EXPANDED METAL COVER
WF-3	FINNED TUBE	2	0.35	3,440	2	0.02	200	180	W/EXPANDED METAL COVER

HALF SIZE PRINT

APPROVED 8-1-59
U. S. ATOMIC ENERGY COMMISSION

ISSUED FOR CLIENT APPROVAL

SNAP-II FACILITY, SANTA SUSANA, CALIFORNIA
PHASE II
U. S. ATOMIC ENERGY COMMISSION
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