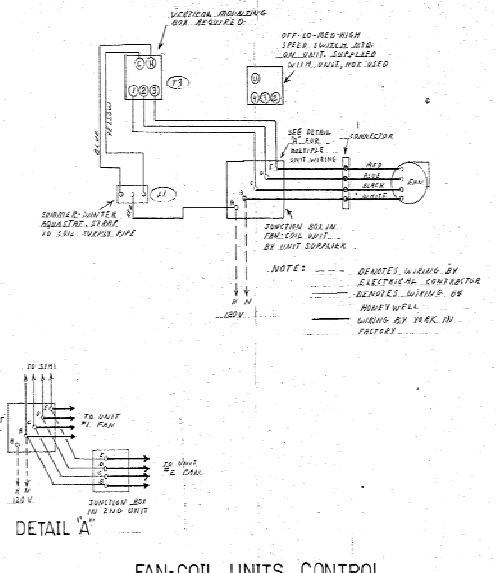
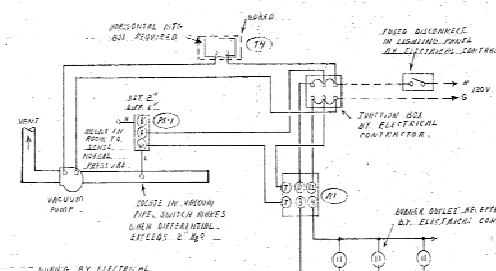


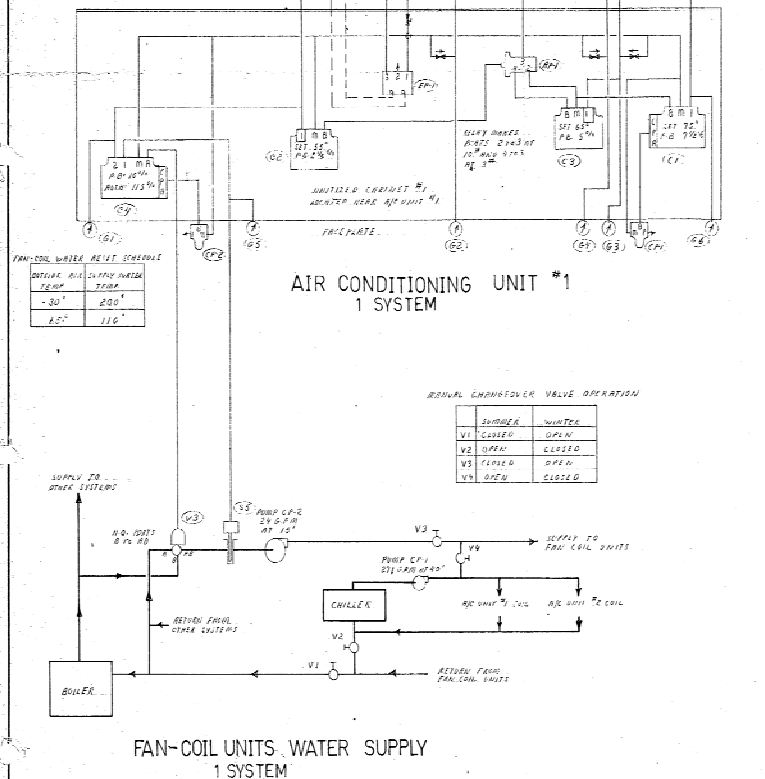
AIR CONDITIONING UNIT #1
1 SYSTEM



FAN-COIL UNITS CONTROL
45 STAT
45 AQUASTAT
56 UNITS



CO-RAY-VAC UNITS
2 SYSTEMS



FAN-COIL UNITS WATER SUPPLY
1 SYSTEM

RECORD CHARACTER VALVE OPERATION

VALVE	WINTER
V1	CLOSED OPEN
V2	OPEN CLOSED
V3	CLOSED OPEN
V4	CLOSED
V5	CLOSED

AIR CONDITIONING UNIT #1

DL	1	D42	Dampert Air-Bumper	1	AND3921A	Door c/w Lock and outlets		
DL	1	M905R1007	Dampert Motor E/A	1	AND3920A	Unit's Utilized Cabinet #1		
MG	2	M905R1007	Dampert Motors	1	AND3920A	Hemphill		
SL	2,3,4	L901A1003	40 to 160" Gauge	1	27995-1	port. Plate		
DL,2,3,4	N	Q6073A	40 to 160" Gauge	1		FAN COIL UNIT WATER SUPPLY		
F1	1	L18021002	Pressurestat	1	F1908R1037	Dual Controller		
F2	1	L1005R1006	Fusestat	1	L901A1002	10 to 240° Sensor		
W1	1	T275A1003	Controller	1	3180A68	6" Wall		
W2	1	311660	Bulb Holder	1	804973C	40 to 240° Gauge		
FS1	1	FS1-1	Flow Switch	1	V51500	Motorized Valve, Assy c/o		
EP1	1	R901A1004	3" Relay 120V	1	275150	Valve		
EP2	1	R901A1004	Switching Relay	1	VS01A1004	1 1/2" Valve C.T. 75		
CI	1	313489	Panel Mfg.	1	M905R1003	"M" Motor		
C2	1	M905A1009	Controller c/w C.P.A.	1	S903A1003	Control Point Adjuster		
C3	2	R905A1002	Limit Controller	2	309699	0 to 300° Gauge		
C4	2	S904A1003	Control Point Adjuster	2	315767	Warmer-Cooler Scaleplate		
F3	1	311787	Adjustment Warmer-Cooler Plate	1		FAN COIL UNITS CONTROL		
F4	1	F901A1001	Onvs. Sensor	1	72	45	T69A1003	Fan-Coil stat
F5	1	311667	Flitting	1	46	16076R1007	Changeover Aquastat	
F6	1	311623	Insulator	1				
F7	1	VS1500	Motorized Valve	1				
F8	1	VS1500	3" Fld. Valve	1				
F9	1	VS1500	3" Fld. Valve	1				
F10	1	VS1500	3" Fld. Valve	1				
F11	1	VS1500	3" Fld. Valve	1				
F12	1	VS1500	3" Fld. Valve	1				
F13	1	VS1500	3" Fld. Valve	1				
F14	1	VS1500	3" Fld. Valve	1				
F15	1	VS1500	3" Fld. Valve	1				
F16	1	VS1500	3" Fld. Valve	1				
F17	1	VS1500	3" Fld. Valve	1				
F18	1	VS1500	3" Fld. Valve	1				
F19	1	VS1500	3" Fld. Valve	1				
F20	1	VS1500	3" Fld. Valve	1				
F21	1	VS1500	3" Fld. Valve	1				
F22	1	VS1500	3" Fld. Valve	1				
F23	1	VS1500	3" Fld. Valve	1				
F24	1	VS1500	3" Fld. Valve	1				
F25	1	VS1500	3" Fld. Valve	1				
F26	1	VS1500	3" Fld. Valve	1				
F27	1	VS1500	3" Fld. Valve	1				
F28	1	VS1500	3" Fld. Valve	1				
F29	1	VS1500	3" Fld. Valve	1				
F30	1	VS1500	3" Fld. Valve	1				
F31	1	VS1500	3" Fld. Valve	1				
F32	1	VS1500	3" Fld. Valve	1				
F33	1	VS1500	3" Fld. Valve	1				
F34	1	VS1500	3" Fld. Valve	1				
F35	1	VS1500	3" Fld. Valve	1				
F36	1	VS1500	3" Fld. Valve	1				
F37	1	VS1500	3" Fld. Valve	1				
F38	1	VS1500	3" Fld. Valve	1				
F39	1	VS1500	3" Fld. Valve	1				
F40	1	VS1500	3" Fld. Valve	1				
F41	1	VS1500	3" Fld. Valve	1				
F42	1	VS1500	3" Fld. Valve	1				
F43	1	VS1500	3" Fld. Valve	1				
F44	1	VS1500	3" Fld. Valve	1				
F45	1	VS1500	3" Fld. Valve	1				
F46	1	VS1500	3" Fld. Valve	1				
F47	1	VS1500	3" Fld. Valve	1				
F48	1	VS1500	3" Fld. Valve	1				
F49	1	VS1500	3" Fld. Valve	1				
F50	1	VS1500	3" Fld. Valve	1				

Air Conditioning Unit #1:
When the supply fan is running, electro-pneumatic relay EP1 is energized and passes main air pressure to dampers W1 and W2 moving them to pass the quantity of air shown on the drawings. When the outdoor air temperature is below the setpoint of controller CI, relay EP1 is made point 4 to 1 thus allowing controller CI to position valves V1 and V2 in sequence through low limit controller C1 in order to maintain the space temperature at the setpoint of C1. When the outdoor air temperature is above the setpoint of controller C2, relay EP1 is made point 5 to 2 thus allowing controller C2 to position heating valve V3 and cooling valve V4 in sequence directly in order to maintain the space temperature. The control point of controller C1 can be manually adjusted by means of control point adjuster CP1 located on the face of the panel. Location of the outdoor air temperature, mixed air temperature, supply air temperature and return air temperature is provided on the panel by means of gauges G1 to G4. Pressurestat P1 across the supply fan should sense an abnormally low temperature condition downstream from the heating coil. Pressurestat P2 across the supply fan should sense an abnormally high returning air temperature. When the outdoor air temperature is below the setpoint of flow switch FS1, FS1 stops the supply fan should it sense a no flow condition in the heating coil loop. When the outdoor air temperature is above the setpoint of controller F1, flow switch FS1 is incapable of stopping the fan. When the supply fan is not running, EP relay EP1 is de-energized and the fresh and exhaust air dampers are closed and the return air damper is fully open.

Fan Coil Unit Water Supply:
Controller C4 coordinates signals from supply water temperature sensor S5 and outdoor air temperature sensor S1 in order to position three-way mixing valve V3 in order to supply water to the system at the temperature shown on the fan coil water reset schedule on the drawings.

Fan Coil Units Control:
When aquastat A1 senses that hot water is being supplied to the fan coil units, thermostat T3 starts the fan unit manually selected speed when the room temperature falls below its setpoint. Thermostat T3 is equipped with a high, medium and low speed switch and a positive off switch for the fan. When aquastat A1 senses cold water being supplied to the fan coil units, thermostat T3 starts the fan on its manually chosen speed when the room temperature rises above its setpoint.

Co-Ray-Vac Units:
When the space temperature falls below the setpoint of thermostat T4, T4 starts the vacuum pump. When vacuum switch V5 senses the pipe has been sufficiently evacuated T4 completes an electrical circuit to relay R1 thus allowing power to be delivered to the plug-in receptacles into which the burners are plugged in.

RECEIVED
OCT 23 1968
SEMARS INC
HEATING DIV

HONEYWELL
CONTROLS LIMITED
1100 WEST 30TH AVENUE
MINNAPOLIS, MINN.

DET. MAT. DESCRIPTION REV.

DATE: 311378

DRAWN BY: CHECKED BY: APPROVED BY: TITLE: Metro Transit Garage, Osborne St. & Brandon Ave., Minneapolis, Minn.

DATE: Sept. 3, 1968

SCALE: 1" = 16"

LIMITS UNLESS NOTED:
DIMENSIONS TO FACE UNLESS SPECIFIED
DIMENSIONS TO CENTER UNLESS SPECIFIED
DIMENSIONS TO SURFACE UNLESS SPECIFIED
DIMENSIONS TO EDGE UNLESS SPECIFIED
DIMENSIONS TO CENTERLINE UNLESS SPECIFIED
DIMENSIONS TO CENTER UNLESS SPECIFIED

REV. 40
REV. 39
REV. 38
REV. 37
REV. 36
REV. 35
REV. 34
REV. 33
REV. 32
REV. 31
REV. 30
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REV. 7
REV. 6
REV. 5
REV. 4
REV. 3
REV. 2
REV. 1

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