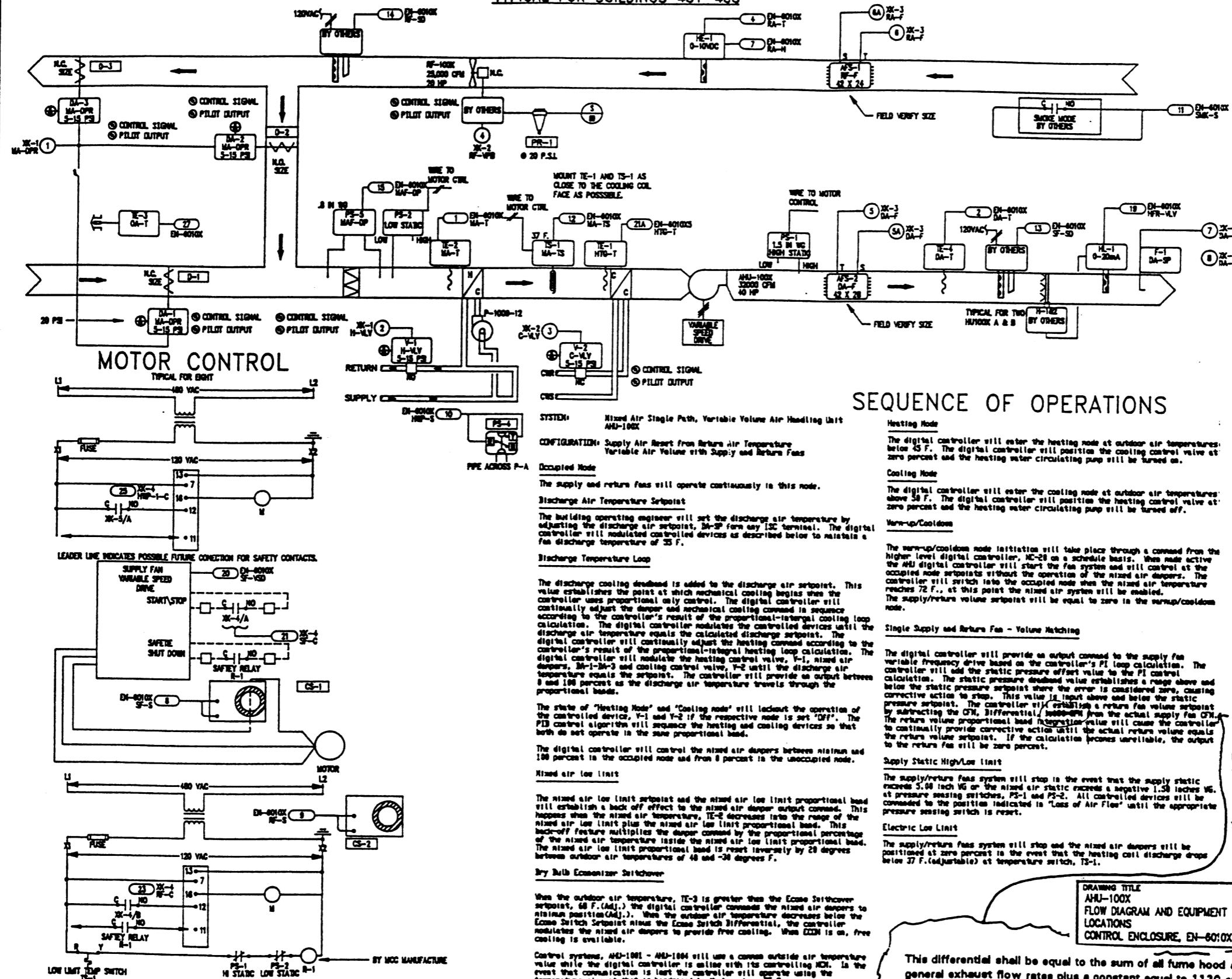


FLOW DIAGRAM AND EQUIPMENT LOCATIONS FOR AIR HANDLING UNIT, AHU-1001-8

TYPICAL FOR BUILDINGS 431-438



DEVICE TAG	QTY	CODE NUMBER	DESCRIPTION
Y-1-Y-2	16		SEE SCHEDULE
B-1-B-2	24		SEE SCHEDULE
B-1-B-3	24		SEE SCHEDULE
PS-1-PS-2	16	1900-5-HR	DUCT PRESS MONITOR-PIPER
PS-1	8	P747A-SC	DIFFERENTIAL PRESS CONTROL
TE-1-TE-2	24	TE-6100-1	17' DISCHARGE AIR ELEMENT
TE-3	8	TE-6000-4	SENSOR, 1000 OHM +/- .2%
TS-1	8	TE-6001-2	TEMP CONTROL 2 VIRE, 2-C
AC-1	8	A7000-1C	AIR GAGE 1-1/2"
CS-1-CS-2	16	G-2010-3	CURRENT SWITCH-MVAC
PS-5	16	P200F-2C	SEN. DIFF. PRESSURE SWITCH
HT-1-HT-2	16	F7100A-600R	AIR FLOW MEASURING STATION
PR-1	16	F7100A-600R	STATIC PROBE
HE-1	8	HE-6310-1	SENSOR RH/TMP TRANS 8/100Z
HL-1	8	HL-1000	HIGH-LIMIT HUMIDITY CONTROLLER
PR-1	8	R-120-14	PRV

ANY MATERIAL WITH A (P) PRECEDING THE DEVICE TAG IS CONSIDERED PROPRIETARY EQUIPMENT AND IS BEING SUPPLIED BY JOHNSON CONTROLS, INC. ALL OTHER MATERIAL IS NON-PROPRIETARY EQUIPMENT.

NOTE:
BASE JOB EQUALS QUANTITIES IN THE BILL OF MATERIALS DIVIDED BY TWO.
ALTERNATE IS THE QUANTITY AS PRINTED IN THE BILL OF MATERIALS.

BASE JOB IS BUILDINGS 431, 432, 434, 435

Heating Coil Pump

The digital controller will enable pump P-1 at the start of the heating node. The controller will start the standby pump in the event that the principle pump fails.

Filter Alarm

The mixed air filter condition will be monitored by differential pressure switch, PS-3. The switch will close in the event that the pressure drop exceeds 50 inches (adjustable) and an alarm will be sent to the ICS network, "Diffty Mixed air Filter".

The smoke detectors' condition will be monitored by the digital controller. The alarm condition will close in the event that smoke is detected in the supply or return ductwork and an alarm will be sent to the ICS network, "Supply(air return) smoke detected". The supply and return fans will stop through a hardware interlock in the event that either smoke detector is activated.

Loss of Air Flow

Upon loss of air flow as determined by current sensing switches, CS-1 and CS-2 the following controlled devices will be commanded to the following states:

- Heating valve, V-1 will remain in control.
- Heating water circulating pump will be turned on.
- Cooling valve, V-2 will be positioned at zero percent.
- Mixed air dampers, D-1-D-3 will be positioned at zero percent.
- Return and supply fan positions will be commanded to zero percent.

Unoccupied Mode

The supply and return fans will remain off and the controlled devices will be commanded to the positions indicated above under "Loss of Air Flow".

Shutdown

Upon a command from the higher level digital controller, NC-20, the AHU digital controller will command all analog outputs to zero percent and will turn off all binary outputs.

Power Fail Restart

The power fail restart will delay the startup of the digital controller for 1 minute after a power failure for controller reset condition. This logic will hold the controller in the shutdown mode until the restart timer has expired.

The following point objects will be adjustable from any ICS terminal:

- Discharge air setpoint
- Heating and Cooling (dual-setpoint)
- Cooldown temperature setpoint(return air)
- Supply air static pressure setpoint

The following point objects will be monitored/alarmed at any ICS terminal:

- Electric ice limit temperature switch, TS-1 status
- Mixed air filter differential pressure alarm, PS-3
- Supply and Return fan status, PS-1 and PS-2
- Smoke detectors, SD-1 and SD-2 status
- Heating water circulating pump status

FILE AHU-100X DODC 100-32708-1010			
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BY MCC MANUFACTURE	1007 MAULI ROAD ARLINGTON HEIGHTS ILLINOIS 60005 708/584-1500 Main 708/505-4438 Eng	JOHNSON CONTROLS Systems & Services Division	CONTRACT NUMBER 91390-0009 DRAWING NUMBER 91-9-F-01A