

AHU REPORT GENERATION: DDC FMCS SHALL MONITOR THE FOLLOWING POINTS ON 10 MINUTE (ADJ.) INTERVALS WITHIN A SINGLE TREND. THE TREND SHALL RUN FOR 365 DAY (ADJ.) DURATION AT WHICH POINT THE NEWEST VALUES SHALL AUTOMATICALLY OVERWRITE THE OLDEST VALUES.	
PROVIDED BY PACKAGED MANUFACTURER THROUGH GATEWAY TO FMCS:	POINTS PROVIDED BY FMCS AND SYSTEM:
- SUPPLY AIR TEMP (SAT) [°F] - OUTSIDE AIRFLOW [CFM] - FILTER SWITCH - SUPPLY FAN VFD OUTPUT [% FULL SPEED] - RETURN FAN VFD OUTPUT [% FULL SPEED] - OUTSIDE AIR DAMPER POSITION [% OPEN] - RETURN AIR DAMPER POSITION [% OPEN]	- DATE - TIME - GLOBAL OUTSIDE AIR TEMP [°F] - GLOBAL OUTSIDE AIR DEWPOINT [°F] GLOBAL OUTSIDE AIR HUMIDITY [%RH] - SUPPLY AIR RELATIVE HUMIDITY [%] - ROOM AIR TEMP SETPOINT [°F] - RETURN AIR TEMP (RAT) [°F] - RETURN AIR RELATIVE HUMIDITY [%] - SUPPLY AIRFLOW [CFM]
THIS INFORMATION SHALL BE ACCESSIBLE TO VIEW IN EITHER TABULAR OR GRAPHICAL FORM ON THE FMCS OPERATOR WORKSTATION.	

EXTERNAL CONTROLS PROVIDED BY CONTROLS CONTRACTOR AND WIRED TO FMCS:
- STATIC SWITCH - RETURN TEMPERATURE SENSOR - HUMIDITY SENSOR - DUCT SMOKE DETECTOR - DUCT SMOKE DETECTOR INTERLOCK

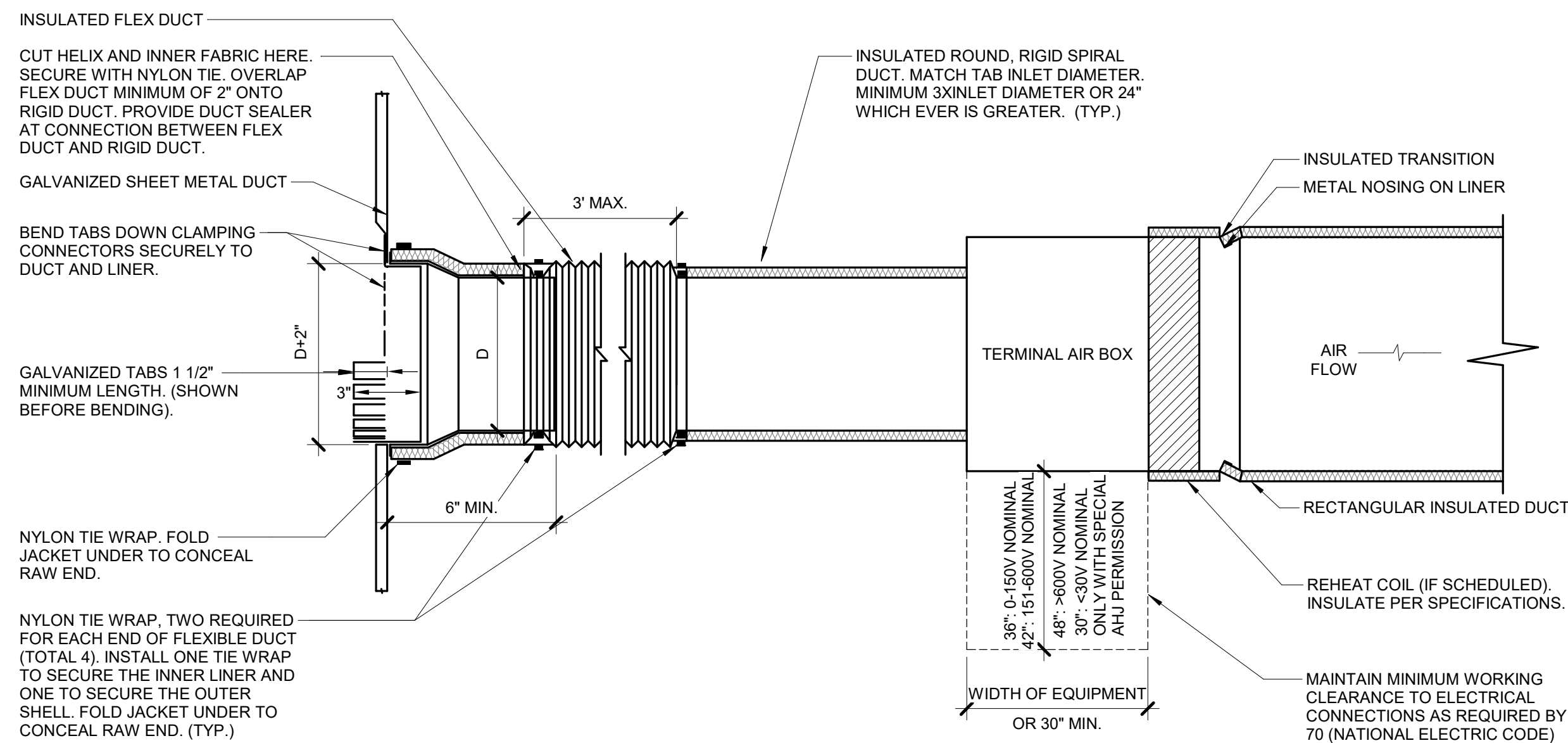
FAN INTERLOCK SCHEDULE		
SYSTEM	INTERLOCKED EXHAUST FANS	REMARKS
AHU-1	EF-7	NOTE 1
AHU-2	NONE	NOTE 1
AHU-3	EF-6	NOTE 1
AHU-4	NONE	NOTE 1
AHU-5	EF-7	NOTE 1
AHU-6	EF-6	NOTE 1
AHU-6	EF-1, EF-2	NOTE 1

NOTES:
1. INTERLOCK EXHAUST FAN OPERATION THROUGH THE FMCS WITH RESPECTIVE AHU IN ACCORDANCE WITH AHU SEQUENCE OF OPERATION.

CONTROLS SEQUENCE PROVIDED BY CONTRACTOR IN FIELD:	
WHEN RTU IS INDEXED TO RUN, THE FOLLOWING SHALL OCCUR: - SMOKE DAMPERS AND COMBINATION FIRE/SMOKE DAMPERS SHALL OPEN. - AFTER A 30 SECOND DELAY TO ALLOW FOR OPENING OF COMBINATION FIRE/SMOKE DAMPERS, SUPPLY FAN SHALL BE ENABLED TO RUN. - WHEN THE SUPPLY FAN HAS STARTED THE INTERLOCKED EXHAUST FANS SHALL START AS SHOWN IN THE FAN INTERLOCK SCHEDULE.	
BUILDING OCCUPANCY SCHEDULING: ENABLE RTU TO RUN BASED ON THE FOLLOWING OCCUPANCY SCHEDULE WITH ALLOWANCE FOR ENERGY CODE OPTIMAL START.	
• OCCUPIED MODE:	
• UNOCCUPIED MODE:	MONDAY THROUGH FRIDAY 6:00AM-9:00PM (ADJ.) SATURDAY THROUGH SUNDAY 8:00AM-6:00PM (ADJ.)
CONTRACTOR SHALL FIELD INSTALL MONDAY THROUGH FRIDAY 8:00PM-5:00AM (ADJ.) SATURDAY THROUGH SUNDAY 6:00PM-7:00AM (ADJ.) DUCT STATIC PRESSURE SENSOR, BUILDING PRESSURE SENSOR, SUPPLY AIR TEMPERATURE IN SUPPLY DUCT.	
ALARMS, INTERLOCKS AND SAFETIES: THE FOLLOWING SAFETIES SHALL BE INSTALLED AND WIRED IN THE FIELD: - HIGH STATIC SWITCH (WIRED TO UNIT ENABLE/DISABLE TO TURN FANS OFF) - LOW STATIC SWITCH (WIRED TO UNIT ENABLE/DISABLE TO TURN FANS OFF) - FIRE ALARM RELAY (WIRED TO UNIT ENABLE/DISABLE TO TURN FANS OFF)	

CONTROLS PROVIDED BY PACKAGED EQUIPMENT MANUFACTURER:	
PACKAGE ROOFTOP UNIT SYSTEM DESCRIPTION: REFER TO SECTION 23.74.11 FOR A DESCRIPTION OF THE RTU AND THE CONTROLS PROVIDED BY THE RTU MANUFACTURER.	
SUPPLY FAN CONTROL: RTU CONTROLLER SHALL MODULATE SIGNAL TO SUPPLY FAN VFD AS REQUIRED TO MAINTAIN DUCT STATIC PRESSURE SETPOINT AS MEASURED BY STATIC PRESSURE TRANSMITTER.	
STATIC PRESSURE RESET: FMCS SHALL RESET SUPPLY DUCT STATIC PRESSURE SETPOINT BELOW THE MAXIMUM SETPOINT AS REQUIRED TO MAINTAIN AT LEAST ONE SUPPLY TAB DAMPER 90% (ADJ.) OPEN. FMCS SHALL MONITOR ALL SUPPLY TERMINAL AIR BOX POSITIONS TO RESET THE SUPPLY DUCT DIFFERENTIAL STATIC PRESSURE.	
EXHAUST FAN CONTROL: RTU CONTROLLER SHALL MONITOR BUILDING PRESSURE SIGNAL AND MODULATE SIGNAL TO EXHAUST FAN VFD AS REQUIRED TO MAINTAIN +0.05" (ADJ.) W.C.	
VENTILATION CONTROL: WHENEVER THE UNIT IS IN OCCUPIED MODE THE OUTSIDE AIR DAMPER SHALL MODULATE TO MAINTAIN MINIMUM OUTSIDE AIR CFM BASED ON QUANTITY OF AIR FROM UNIT MOUNTED AIRFLOW MEASURING STATION.	
SUPPLY AIR TEMPERATURE CONTROL: DISCHARGE AIR TEMPERATURE SHALL BE 55°F (ADJ.). WHENEVER THE SUPPLY AIR TEMPERATURE IS ABOVE SETPOINT, THE FOLLOWING SHALL OCCUR IN SEQUENCE: - MODULATE GAS BURNER OFF. - MODULATE OA DAMPER AS REQUIRED UNTIL SET POINT IS REACHED OR MINIMUM OUTSIDE AIRFLOW SETTING IS REACHED. - IF SET POINT CANNOT BE MAINTAINED BY OA DAMPER CONTROL THE COMPRESSORS SHALL BE ENABLED AND UNIT SHALL MODULATE COMPRESSOR CAPACITY AS REQUIRED TO MAINTAIN SET POINT.	
WHENEVER THE DISCHARGE AIR TEMPERATURE IS BELOW SETPOINT, THE FOLLOWING SHALL OCCUR IN SEQUENCE: - IF THE DISCHARGE AIR TEMPERATURE IS MORE THAN 5°F (ADJ.) BELOW SETPOINT, UNIT SHALL MODULATE COMPRESSORS OFF. - MODULATE OA DAMPER AS REQUIRED UNTIL SET POINT IS REACHED OR MINIMUM OUTSIDE AIRFLOW SETTING IS REACHED. - IF SET POINT CANNOT BE MAINTAINED BY OA DAMPER CONTROL, MODULATE GAS BURNER AS REQUIRED TO MAINTAIN SET POINT.	
SEND AN ALARM TO THE CONTROLLER INTERFACE (FMCS) FOR THE FOLLOWING: - SUPPLY FAN FAULT (AIRFLOW, CURRENT OR VFD) - EXHAUST FAN FAULT (AIRFLOW, CURRENT OR VFD) - DIRTY FILTERS (WHEN FILTER PRESSURE DROP EXCEEDS 0.6" W.C. (ADJ.)) - IF DISCHARGE AIR TEMPERATURE IS MORE THAN 10°F (ADJ.) ABOVE OR BELOW SETPOINT. - EMERGENCY STOP	
WHENEVER RTU IS SHUTDOWN THE RTU CONTROLLER SHALL COMMAND THE FOLLOWING TO OCCUR: - SUPPLY FAN AND EXHAUST FAN SHALL STOP. - OUTSIDE AIR AND EXHAUST AIR DAMPERS SHALL FULLY CLOSE. THE RETURN AIR DAMPER SHALL FULLY OPEN. - HEATING AND COOLING SHALL BE DISABLED. - THE ENERGY RECOVERY WHEEL SHALL STOP. - OUTSIDE AIR AND EXHAUST AIR DAMPER SHALL REMAIN CLOSED. RETURN AIR DAMPER SHALL BE 100% OPEN.	
UNOCCUPIED MODE OPERATION: OUTSIDE AIR AND EXHAUST AIR DAMPER SHALL REMAIN CLOSED. RETURN AIR DAMPER SHALL BE 100% OPEN.	

3 AIR HANDLING UNIT - PACKAGED ROOFTOP UNIT WITH EXHAUST FAN



- NOTES:
1. THIS DETAIL APPLIES ONLY TO TAPS OFF LINED DUCTS.
2. THIS DETAIL APPLIES TO TERMINAL AIR BOXES WITH ROUND INLETS AND RECTANGULAR OUTLETS.
3. DUCT LEADING TO TAB INLET MUST BE STRAIGHT FOR 3.0 DIAMETERS UPSTREAM.

2 TERMINAL AIR BOX - FAN POWERED PARALLEL - LINED

