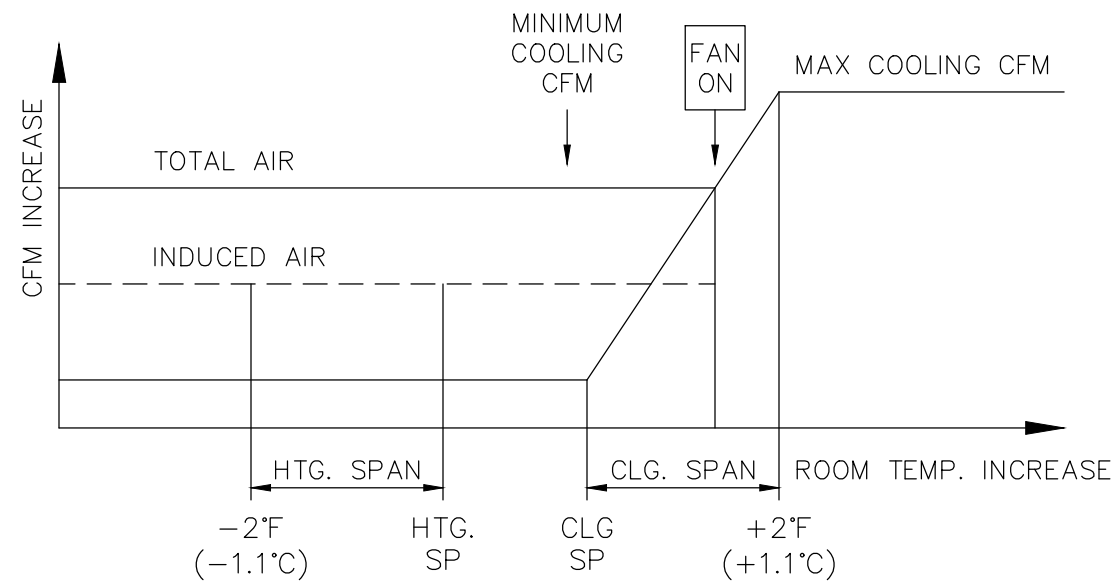
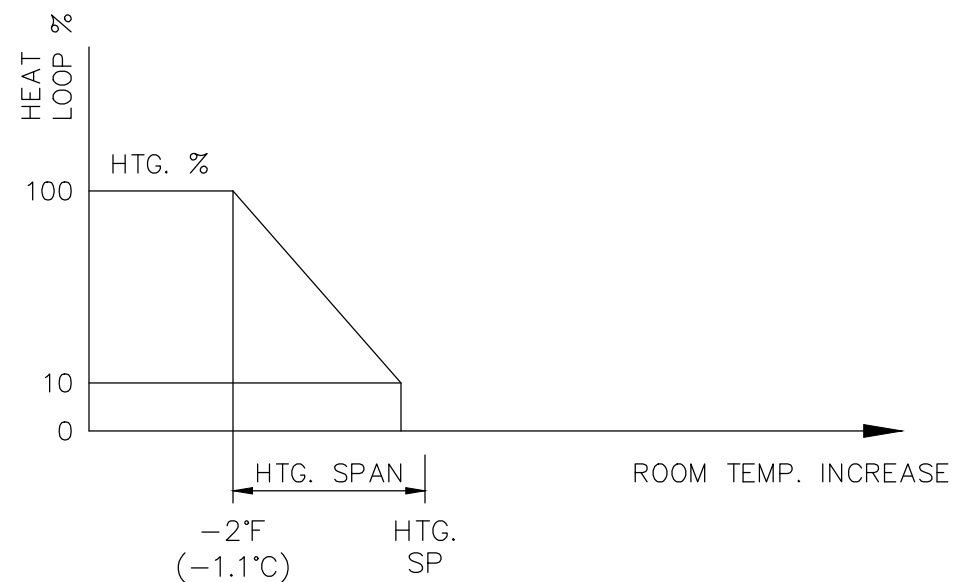


AIRFLOW SEQUENCE DIAGRAM



MODULATION HEAT SEQUENCE DIAGRAM



OCCUPANCY MODE:

THE AIR TERMINAL UNIT SHALL BE IN THE OCCUPIED MODE WHEN THE LOCAL SPACE OCCUPANCY INPUT(S) INDICATE THAT THE SPACE IS OCCUPIED OR WHEN THE INPUT FROM THE SYSTEM SCHEDULER IS OCCUPIED. THE AIR TERMINAL UNIT SHALL BE IN THE UNOCCUPIED MODE WHEN THE LOCAL SPACE OCCUPANCY INPUT(S) INDICATE THAT THE SPACE IS UNOCCUPIED AND THE INPUT FROM THE SYSTEM SCHEDULER IS UNOCCUPIED.

COOLING – OCCUPIED MODE:

THE FAN SHALL BE NORMALLY ON UNTIL THE PRIMARY AIR FLOW RATE EXCEEDS THE INITIAL SETTING OF 10% OF THE MAXIMUM COOLING AIR FLOW RATE. THIS FAN ON SETPOINT SHALL BE ADJUSTED LATER AFTER THE SPACE IS FORMALLY OCCUPIED TO PROVIDE ADEQUATE RESPONSE TO THE LOCALIZED HEAT GAIN IN THE SPACE SERVED BY THE AIR TERMINAL UNIT. UPON A RISE IN ZONE TEMPERATURE ABOVE ZONE TEMPERATURE SETPOINT, SUBJECT TO THE ZONE TEMPERATURE SETPOINT DEADBAND, THE AIRFLOW SETPOINT SHALL BE ADJUSTED BETWEEN MINIMUM AND MAXIMUM BASED ON THE DIFFERENCE BETWEEN ZONE TEMPERATURE AND ZONE TEMPERATURE SETPOINT. THE PRIMARY AIR DAMPER SHALL MODULATE TO MAINTAIN THE SUPPLY AIRFLOW AT SETPOINT AS MEASURED BY A MULTI-POINT FLOW SENSING ELEMENT AT THE INLET TO THE AIR TERMINAL UNIT.

HEATING – OCCUPIED MODE:

UPON A FALL IN ZONE TEMPERATURE BELOW THE ZONE TEMPERATURE SETPOINT WITH THE PRIMARY AIR FLOW RATE AT THE MINIMUM SETPOINT, SUBJECT TO THE DEADBAND, THE PARALLEL FAN SHALL REMAIN ON AS THE FIRST STAGE OF HEAT. THE PRIMARY AIR DAMPER SHALL MODULATE TO MIX THE PRIMARY AIR AND PLENUM RETURN AIR TO MAINTAIN A ZONE TEMPERATURE WITHIN THE DEADBAND. UPON A FURTHER FALL IN ZONE TEMPERATURE BELOW THE ZONE TEMPERATURE SETPOINT WITH THE PRIMARY AIR FLOW RATE AT THE MINIMUM SETPOINT, SUBJECT TO THE DEADBAND AS SHOWN, THE ELECTRIC RESISTANCE HEATING COIL(S) SHALL BE TURNED ON AS THE SECOND STAGE OF HEAT AND MODULATE TO MAINTAIN THE ZONE TEMPERATURE SETPOINT.

HEATING – UNOCCUPIED MODE OR MORNING WARMUP:

THE PRIMARY AIR DAMPER SHALL BE CLOSED. UPON A FALL IN ZONE TEMPERATURE BELOW THE ZONE TEMPERATURE SETPOINT, THE PARALLEL FAN SHALL BE TURNED ON AS THE FIRST STAGE OF HEAT. UPON A FURTHER FALL IN ZONE TEMPERATURE BELOW THE ZONE TEMPERATURE SETPOINT, THE ELECTRIC RESISTANCE HEATING COIL(S) SHALL BE TURNED ON AS THE SECOND STAGE OF HEAT AND MODULATE TO MAINTAIN THE ZONE TEMPERATURE SETPOINT.



PARALLEL FAN POWERED AIR TERMINAL UNIT COMFORT RESPONSE OPERATION

REV. NO. 001	DWG. NO.
REV. DATE : 04-23-21	MP-021
DRAWN BY : RM	SCALE : NTS