Table 58: QPT Pneumatic Control Strategies

Control Package Number	Pressure Independent	Direct Acting Thermostat	Reverse Acting Thermostat	Damper Normally Open	Damper Normally Closed	VAV Cooling	CV Cooling	CV Fan	Electric Heat - Step	Hot Water Heat	Night Shut-Down (Duct Press Sensing)	Night Shut-Down (Main Air Switching)
FP-P-3100	●	●		●		●		●	o	o		
FP-P-3200	●	●			●	●		●	o	o		
FP-P-3300	●		●	●		●		●	o	o		
FP-P-3400	●		●		●	●		●	o	o		
FP-P-3140	●	●		●		●		●	o	o	●	
FP-P-3240	●	●			●	●		●	o	o	●	
FP-P-3340	●		●	●		●		●	o	o	●	
FP-P-3440	●		●		●	●		●	o	o	●	
FP-P-3160	●	●		●		●		●	o	o		●
FP-P-3260	●	●			●	●		●	o	o		●
FP-P-3360	●		●	●		●		●	o	o		●
FP-P-3460	●		●		●	●		●	o	o		●

● - Standard
o - Optional

Control Package Part #

Ex: FP-P-3100

- FP: Fan Parallel Air Terminal
- P: Pneumatic Control System
- 3100: Sequence #

GENERAL

- If power is lost to a fan terminal with Analog controls, the electronically controlled primary damper stops at its last commanded position.
- The controller signal is determined by comparing the signals from the thermostat and flow sensor to provide the required primary airflow regardless of the inlet static pressure conditions
- Pneumatic control packages include: damper actuator and pressure independent controller. Pneumatic thermostats are not included.
- Analog electronic control packages include: damper actuator, pressure independent controller, transformer and room thermostat.

Pressure Independent Primary Flow VAV Cooling / Intermittent Fan Operation Optional Hot Water or Electric Heating

Pneumatic Control Packages:

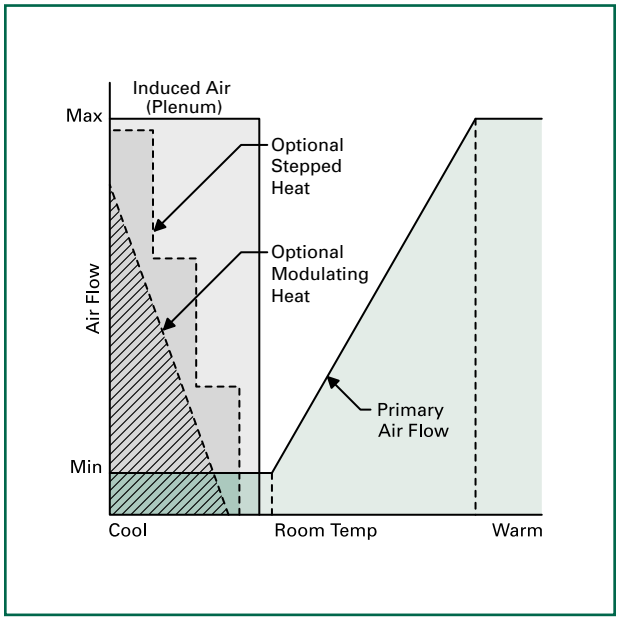
FP-P-3100, 3200, 3300, 3400

Analog Electronic Control Packages:

FP-A-5000, 5001, 5002, 5003, 5004

Sequence of Operation

As the room air temperature increases above the thermostat setpoint, the actuator operates the terminal damper in response to the controller signal towards the open position, up to the maximum primary airflow setting. The terminal fan remains off. As the room air temperature decreases below the thermostat setpoint, the actuator operates the terminal damper in response to the controller signal towards the closed position down to the minimum primary airflow setting. Upon a further drop in room temperature, the fan energizes inducing 100% ceiling plenum air. For units with heating coils, heat is then activated if the temperature continues to fall.



Pressure Independent VAV Cooling / Intermittent Fan Operation with Night Shut-Down Optional Hot Water or Electric Heating

Pneumatic Control Packages:

FP-P-3140, 3240, 3340, 3440
(Duct Pressure Sensing)

FP-P-3160, 3260, 3360, 3460
(Main Air Pressure Switching)

Analog Electronic Control Packages

FP-A-5040, 5041, 5042, 5043, 5044
(Duct Pressure Sensing)

Sequence of Operation

Day Mode

As the room air temperature increases above the thermostat setpoint, the actuator operates the terminal damper in response to the controller signal towards the open position, up to the maximum primary airflow setting. The terminal fan remains off. As the room air temperature decreases below the thermostat setpoint, the actuator operates the terminal damper in response to the controller signal towards the closed position down to the minimum primary airflow setting. Upon a further drop in room temperature, the fan energizes inducing 100% ceiling plenum air. For units with heating coils, heat is then activated if the temperature continues to fall.

Night Shut-Down

Initiated via main air pressure switching (pneumatics only) or when duct pressure drops to zero (AHU OFF sensed by an air pressure switch). The fan is disabled.