

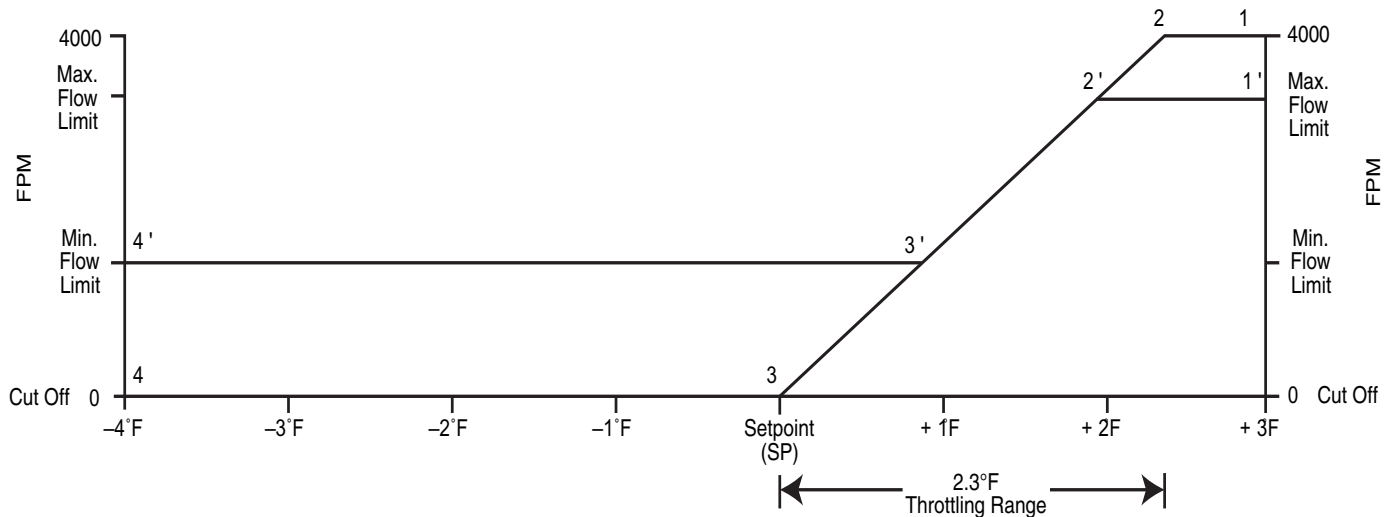
Direct Acting System

Description

Direct acting systems provide variable flow of conditioned (cold) primary air to regulate room temperature. Pressure independent flow allows the conditioned space to receive proportional flow as required to meet room load conditions independent of the inlet supply system pressures. For direct acting systems, the throttling range is defined between setpoint and +2.3°F. Minimum flow may be as necessary to meet ventilation requirements or no flow (shut off). Maximum flow may be up to 4000 FPM, or as required to meet design room load. Room or space conditions are under control during the period of throttling between the minimum and maximum flow limits.

Flow Function:

- a. 1 – 2 or 1' – 2' indicates maximum flow is established by the Max. Flow Limit setting, until room comes under control at 2 or 2'.
- b. Beginning at 2 or 2', flow is regulated over a 2.3°F throttling range by damper until; either Min. Flow Limit at 3' is reached or no flow "shut-off" is reached at 3.
- c. 3' – 4' describes constant flow at the prescribed Min. Flow Limit.
- d. 3 indicates the damper has completely closed to "shut-off" and the damper remains closed 3 – 4 as the space temperature falls below setpoint.
 - Maximum Throttling Range is 2.3°F at 2 – 3 (4000-FPM). Other throttling ranges are proportionately less than 2.3° F, depending on the Max. & Min. Flow levels.



Direct Acting Flow Diagram

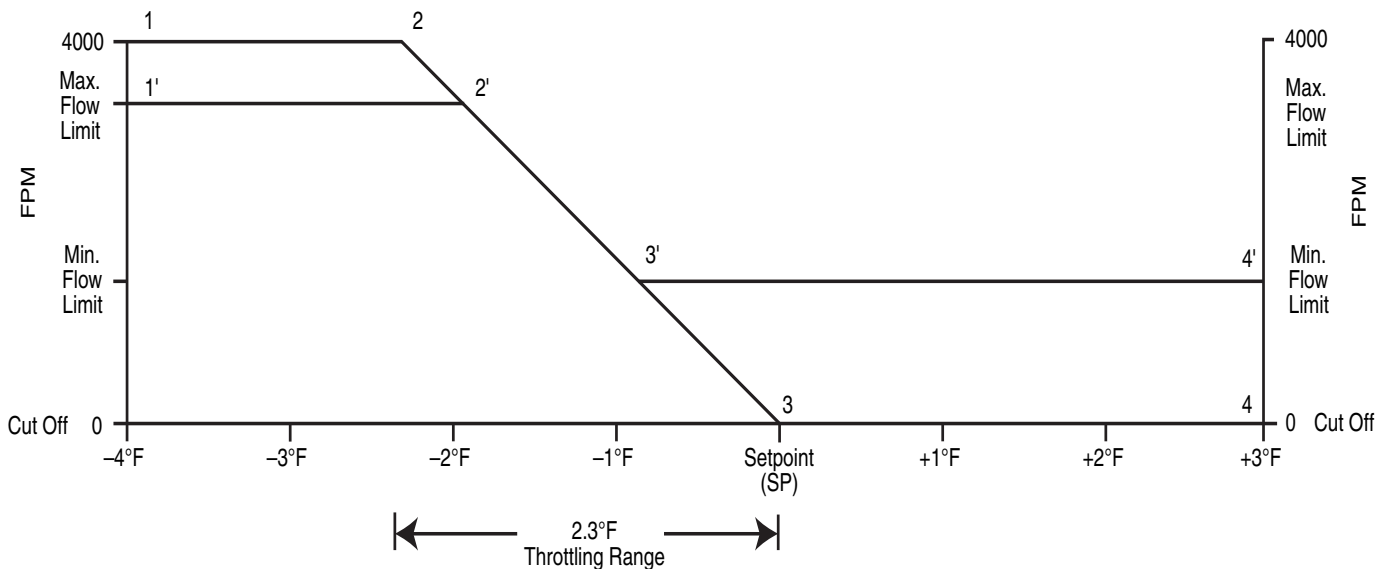
Reverse Acting System

Description

Reverse Acting Systems provide variable flow of conditioned (warm) primary air to regulate room temperature. Pressure independent flow allows the conditioned space to receive proportional flow as required to meet room load conditions independent of inlet supply systems pressures. For reverse acting systems, the throttling range is defined as the range between setpoint and -2.3°F below setpoint. Minimum Flow may be necessary to meet ventilation requirements or no flow "shut-off". Room or space conditions are under control during the period of throttling between the Minimum and Maximum Flow Limits. The space is not in control when conditions require flow rates in excess of, or less than, the maximum and minimum selected flow limits.

Flow Function

- $1 - 2$ or $1' - 2'$ indicates maximum flow is established by the Max. Flow Limit setting, until room comes under control at 2 or $2'$.
- Beginning at 2 or $2'$, flow is regulated over a 2.3°F throttling range by damper until either; Min. Flow Limit at $3'$ is reached or no flow "shut-off" is reached at 3.
- $3' - 4'$ describes constant flow at the prescribed Min. Flow Limit.
- 3 indicates the damper has completely closed to "shut-off" and the damper remains closed $3 - 4$ as the space temperature rises above setpoint.
 - Maximum Throttling Range is 2.3°F at $2 - 3$ (4000-FPM). Other throttling ranges are proportionately less than 2.3°F , depending on the Max. & Min. Flow levels.



Reverse Acting Flow Diagram

Hoffman|Controls