THERMAL IMPROVEMENT SOLUTION BY INLET OUTFLOW INCREASED PISTON

HP INC
Thermal improvement solution by inlet outflow increased Piston

The inlet airflow is limited by ID shape. Thermal engineer was struggled the number of holes for thermal air outlet and inlet. This disclosure provides a solution which increases the room from D cover to a table surface. The disclosure uses one piston installed inside a rubber foot. When the thermal sensor detects the temperature over heat, the piston lifts the notebook pc to let more air inlet the thermal system.

Figure 1. Some holes are beneath the notebook pc

The major problem is some of the holes are beneath the system. The holes are defined by an Industrial designer and engineering team. They will discuss how many thermal holes can be opened to let air in. Considering the appearance, some of holes are defined at beneath the system. It may help let air in, but it is limited.

Some people provided the solution which increases the number of holes. However, this solution was rejected by ID very often. ID doesn’t want too many holes on system because the notebook pc looks ugly. Our disclosure goes different way. We don’t increase the number of holes, but we change the angle from a table to notebook pc.

Figure 2. The notebook is lifted by the piston rubber foot
The way to control the piston is by a signal processed by the thermal sensor. The thermal sensor will collect temperature data in the notebook pc. When the temperature is over a certain degree, the sensor passes one signal to trigger the piston lifts. The piston is stuck on the rubber foot on one side; the other side is stuck on D cover.

Figure 3. Piston rubber foot drawing

There are the advantages when a designer implemented this idea:

1) Keep ID shape intact.
2) Manage the structure stronger, because the intact structure can share a force more than discontinuous structure design.

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