SWITCHABLE AIR INLET OPENING

HP INC
**Switchable Air Inlet Opening**

This switchable air inlet opening mechanism which the air inlet opening and ratio on D cover could be switchable. The inlet opening could be closed while power off or low power mode, and switch to max opening ratio while using at high performance mode.

There are many benefits by implementing the switchable air inlet opening:

- The opening ratio are adjustable, it could be closed while power off, low opening ratio while low power mode and high opening ratio at high performance mode.
- The opening could be closed to avoid dust or particle access into system.
- Clear D cover appearance, no ID impact by enlarging opening ratio.

The switchable mechanism:

- This switchable inlet opening mechanism sets a moving fence plate on D cover core side. The fence plate could be moved by linear actuator (like piezo actuator) and spring. So that the opening can be controlled by providing voltage to the actuator and move the fence plate.
- Laminated structure consisting of a piezoceramic plate, electrodes and polymer materials. The polymer coating simultaneously serves as electrical insulation and as mechanical preload which makes the actuator bendable.

**Piezo actuator structure**

**Disclosed by James Pan, Wisdom Huang and Travis Li, HP Inc.**