TITLE

SWIRL FLOW CEILING FAN

The present invention relates to the field of ceiling fans. More specifically, the swirl flow ceiling fan having a rotating diffuser, inducer and a stationary enclosure to provide a uniform thermal distribution within an enclosed space.

BACKGROUND OF INVENTION

Conventional ceiling fans with blades are a fundamental feature of most residential buildings. It also finds its applications in other domains: industries, warehouses, offices, back offices, server rooms, etc. The ceiling fans are mainly used for thermal comfort, better air distribution, better air quality, cost and energy savings.

Humans have used ceiling fans for a very long time for thermal comfort. Thermal comfort is nothing but reducing the skin temperature by forced airflow in a warmer environment. Air movement across the skin carries away the heat from the body to provide comfort.

However, the traditional ceiling fan's comfort zone is limited. It means that persons nearer to the air throw area get the maximum comfort, and as the person moves away from the air throw area, it brings either minimum comfort or none, depending upon the distance.

Therefore, Heating, Ventilation, and Air conditioning (HVAC) systems have come in. They strive to provide uniform air temperature across the room or the area covered under the scheme. However, its energy consumption is relatively very high compared to ceiling fans.

Another aspect of the ceiling fan is providing air distribution parallel with air conditioning systems to enable uniform temperature distribution within an enclosed space. Ventilation for acceptable internal air quality (IAQ), requires outside air. It assumes that the outside air is of good quality. However, most of the time, the ambient air quality is questionable. Insufficiently treated ventilation air makes the IAQ worse.