



ANSI Standards Compliant Air Curtains for Effective Insect Barrier

World's leading chocolatier faced severe facility audit observations of ineffective air curtains installed at their plant's external openings. These air curtains were unable to stop insects from entering inside the work area, in spite of perfect electro-mechanical working of currently installed air curtains. Auditors insisted installation of ANSI standard compliant air curtains to address the menace of insects for creating a safer and hygienic production / packing environment.

Problem

For the given door size 3.0m x 4.0m – 6 openings current air curtains installed at the facility were not generating a sufficiently powerful air draft, which did not reach the floor level with the strength required to repel insects. Since these air barriers did not reach floor level at speeds which could separate insides clean work environs from outside ambient conditions of dust & insects, the installation was rendered ineffective in spite of the unit's normal electro-mechanical functioning. These ineffective air curtains were to operate automatically in sync with the fast roll up shutters and doors which

further aggravated the situation as contaminants got pushed inwards into the protected area by outside wind currents.

Acme air curtain team was invited to address and correct this situation. Brief was, to offer high speed, high cfm air barrier units which reached the floor level, to cut off the insides from outsides, at 6.0m+ air speeds and 1.5 times the cfm of dust and thermal barrier unit. Unit should be powered by energy efficient motors and shall have corrosion resistant coating since it is a food processing plant.



Site Conditions

All 3.0m x 4.0m openings had roll up shutter canopy on the insides with puf panel installation surface. Inside area having comfort air conditioning. Since the buyer wanted to prevent dust & insect from entering within, very effectively. Losing some conditioned air was not a major issue, if we could provide 100% insect barrier air drafts that attain 6m/sec+ floor level velocities, keeping away flying or crawling insects from coming in.

Solution

We suggested inside installation - immediately atop the opening on pre-fabricated steel structures. Acme recommended 2 air curtain units per opening with side mounted motor generating very high air speeds + cfm air drafts to isolate insides from outsides.

Vertical side flaps partitions, to prevent air ingress from sides, were suggested to buyer because the air draft created by air curtains was a trifle away from the actual opening due to the rollup canopy

End result

We have provided heavy duty, high velocity + high cfm industrial air curtain units with side mounted motors for near 100% insect barrier effect for door size of 120w x 145h – 6 openings. Units have been supplied with its own operating panel and auto actuation system. These units had to generate an air draft to meet the ansi standards of velocity I.E. 6m/sec+ and floor level velocities + cfm. The onsite velocity testing of our units by client have surpassed expectations of ansi standards by 20%.

Client is considering replacing all their existing air curtains with. Acme air curtains across their plants within india and asia.