13. Study on Room Pressure Control Technique for High Quality Cleanliness of Rooms
-Part 2　The Performance of the Directly Air Volume Control System for Preventing Air Contamination-

Tokuda Kenich, Masafumi Moteki, Yoshio Ogawa

The differential pressure control system is mainly used to prevent air contamination between adjacent rooms. But, its feedback control system can't successfully meet with rapid air volume change.　The directly Air Volume Control System is the one to which the differential pressure control system gives the place. And its performances were confirmed using the model of animal facilities. They are as follows;

By simulated study on the performance of directly Air Volume Control System at stable state, it became clear that different pressure between a front room and an animal room don't change though air volume of a safety cabinet changes, and air flow direction between a front room and an animal room is kept constant when the door between two rooms are opened.

By experimental study using mock-up it became clear that the differential pressure control system takes relatively long time to control, and the constant different pressure can not been maintained when the air volume of a safety cabinet changes. The experimental study with the same mock-up showed that in the transient state the differential pressure control system maintain the same performance as the results of the simulated study when the air volume of the safety cabinet changes, and the door between a front room and an animal room is opened.

Key words：differential pressure control、air volume control, feedback control, air flow network