Experimental results of multi-chamber ventilation measurement system

Air flow rates between zones
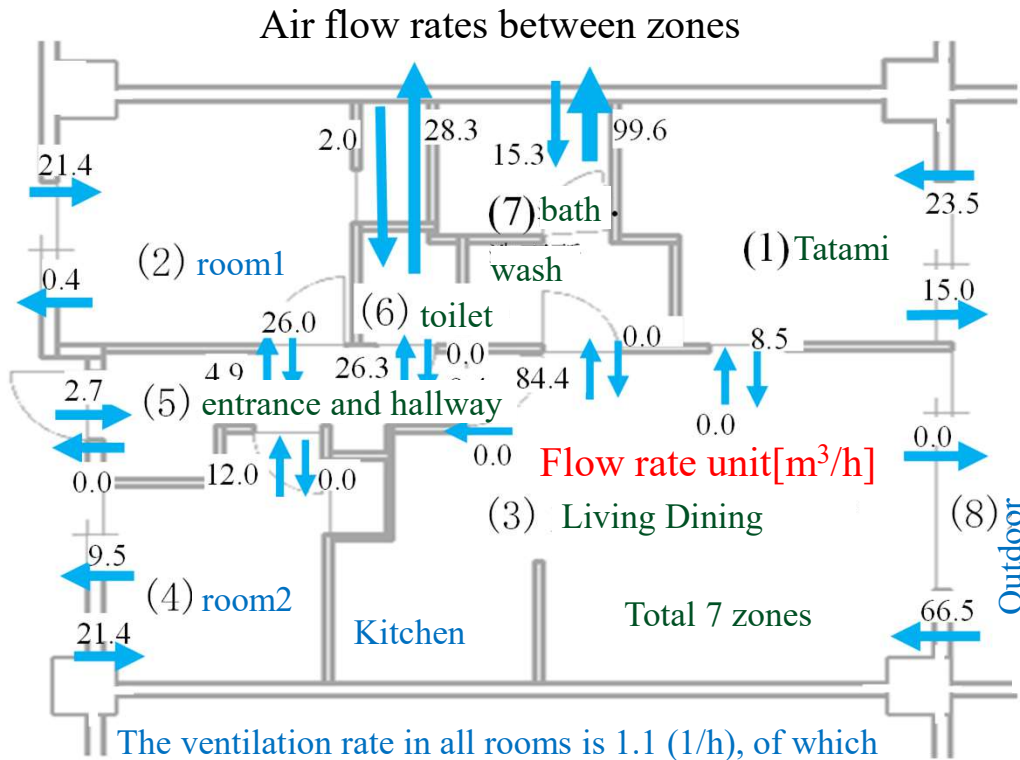
The ventilation rate in all rooms is 1.1 (1/h), of which mechanical exhaust ventilation rate is 0.92 (1/h), which is close to the design ventilation rate.

The system identified gas transfer network model was given the measured gas supply and the gas concentrations were compared.

The predicted calculated concentration is in good agreement with the measured concentration.
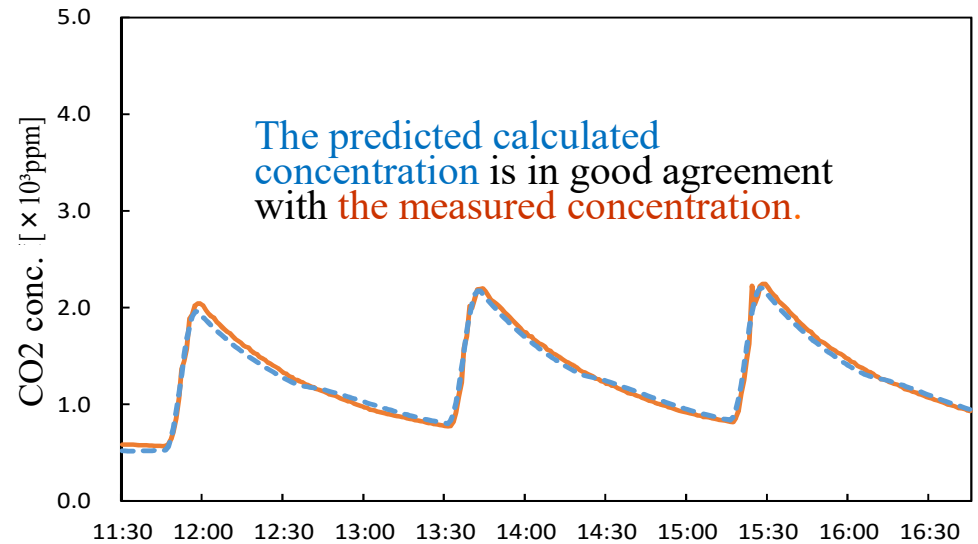
The coefficient of determination COD of reliability evaluation index is 0.926

In addition, we have established our own evaluation index.

The discrepancy rate β of the assumed premises was 0.958.

(Here, the closer β is to 1, the more normal it is; if it is too large, it is suspected that the premise does not hold.)

System identified effective mixing volume

Volume(m³)	$m_{1,1}$	$m_{2,2}$	$m_{3,3}$
Estimated	13.94	14.98	44.81
Geometric	20.22	24.13	47.53

$m_{4,4}$	$m_{5,5}$	$m_{6,6}$	$m_{7,7}$
13.91	8.52	2.71	7.36
17.98	8.84	5.17	14.4

slightly smaller than the geometric volume