CHAPTER V
CONCLUSIONS

Separation and recovery ratio of CO_2 on combining zeolite and cms packed fin coil heat exchanger were studied using TSA processes under dry and wet exhaust flue gas (Td = 5C). Mixing and layer adsorbent packed method using zeolite and cms were employed in this case. The separation performances were examined considering the adsorbent packed method, and the switching time of adsorption/desorption. The maximum CO_2 consentration appeared at 12 minutes cycle time, meanwhile short cycle time provides maximum CO_2 recovery ratio on dry and wet condition. According **figure 4.1 and 4.4**, shows the CO_2 concentration dan recovery ratio under dry condition is higher than wet condition. These results imply that working capacity of mixing and layer adsorbent decrease under wet gas condition. Furthermore, the result indicates a low CO_2 concentration, as the adsorption selectivity of CMS is reduced when N_2 is present and zeolite weak under humid feed gas. In addition, both wet and dry condition shows mixing has higher CO_2 concentration than layer adsorbent. It is inferred because CO_2 separation performance at mixing is evenly distributed in the adsorbent mixture. However the total amount CO_2 desorption of mixing and layer adsorbent is not much different. Conversely, change the desorption inlet on layer adsorbent was effectively improved the separation performance. Zeolite as the adsorbent inlet resulting in slightly increase the CO_2 concentration rather than prior experiment under wet condition. Future research will focus on comparing the performance of these adsorbents when applied to simulated dry and wet exhaust gases, as indicated by the results.