

## Abstract

Nowadays, splitted Air Conditioner(AC) is very popular for a room's cooling process. But there is a disadvantage in splitted AC about ventilation. Ventilation is a process that air pass the air hole for respiratory and to get the polutants out of the room. It really determine the room's air suply. If the air suply is not enough, there will be so many negative impact about health. The air suply can be calculated with tracer gas method. The most easy gas to use for tracer gas method was CO<sub>2</sub>, so a tool for tracking the CO<sub>2</sub> concentration was needed. The tool could be obtained by buying it, but it will be more cheaper if it was made. This study found that it could be three times cheaper than if the tool was bought. Making a tool for tracking a CO<sub>2</sub> concentration in using tracer gas method is going to prove that air suply for a room that using splitted AC was not enough. So that it will invite new thinking about how to do cooling process without ingnoring the indoor air supply.

Keywords : Indoor Air Quality, Tracer Gas Decay Method, Arduino.