ABSTRACT

Human spent more than 80% indoor by doing our activites. Bad indoor air quality have negative impact on the residence. The parameter that indicates how good or bad indoor air quality is using many patameter such as CO₂ and PM_{2.5}. One of the affect of bad indoor air quality is Sick Building Syndrome (SBS). The symptoms of SBS is starting from rash until the inabillity to work at prime condition. One of many ways to improove indoor air quality and anticipating SBS is using plant in indoor environment. But the abillity to reduce CO₂ level is still dependant on photosynthesis in considered hour. Because of that, Dynamic Botanic Air Purifier (DBAP) is developed to increse the reduction level of CO₂ with added activated carbon root bedded and fan as an active filter with the percentage result of 40% in a chamber. The results shows that DBAP system with added blue light and HEPA filter in active filter able to reduce CO₂ and PM_{2.5}. The improvement of CO₂ made a difference of 11% in percentage value and added 71.6% value to PM_{2.5}.

Keywords: CO₂, Dynamic Botanic Air Purifier, Indoor Air Quality, PM_{2.5}, RH