

ABSTRACT

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DESIGN DUST COLLECTOR SYSTEM TYPE CYCLONE SEPARATOR AT
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Keyword : Cyclone Separator, Dust Collector system, Pressure Drop, Silo

(xv + 63 + Appendices)

One way to overcome air pollution caused by the production process is by making a system of tools to separate dust from air, so that the air produced remains clean and keeps humans from the harmful effects of dust. Cyclone separator is a method of removing particulates from an air, gas or liquid stream without the use of a filter, through vortex separation. The effects of rotation and gravity are used to separate mixtures of solids and gas. The mechanism used is to utilize centrifugal force because the particles rotate in the cyclone and remove air during separation. In this study, a design scheme for a cyclone separator type dust collector system that serves to reduce air pollution in the work environment is made, which includes the design of line ducting dimensions, blowers, cyclones and silos. By using Autodesk software, you are able to provide 2D and 3D designs The total pressure drop calculation results on the dust system is 5.74 Kpa, the total air flow rate is 30434 m³/h and the required blower power is 43 Kw in the planning of the dust collector system design.

Bibilography (1959 – 2020)