细颗粒状物料自动装料机构设计

摘 要

本文采用了类比调查法，通过对市面上的传统颗粒状物料装料机构的分析探讨，找出优缺点，提出了创新性的想法。通过查阅资料进行新型细颗粒自动装料机的总体布局设计和机构的传动方案设计。利用 CAD 软件进行零部件的尺寸设计，并在此基础上利用 UG 软件完成机构的机械结构设计，进行零部件的三维建模、装配和运动仿真，根据三维模型和仿真分析结果对设备进行验证，证明设计的正确性。本篇论文描述了一种通过气动传动系统控制的新型立式颗粒状物料装料机,介绍了细颗粒状物料装料机的工作原理，装料速度可以人为控制，料斗可拆卸更换，用于盛装不同种类和活性的颗粒状物料，更为多元化。

关键词：细颗粒自动装料；运动仿真；气压传动

Abstract

This paper adopts analogy survey method. It is analyzed and discussed the traditional mechanism of granular material and loading in the market. Then it finds advantages and disadvantages and comes up with innovative thoughts. A new type of fine particle automatic charging machine of the general layout design and the transmission design of the mechanism are carried out by looking up the data. The measure design of dimensions of parts took advantage of CAD software. On this basis, UG software is used to complete the mechanical structure design of the mechanism, and to carry out 3D modeling, assembly and motion simulation. According to the results of 3D modeling and simulation, the equipment is verified and whether the design is proved to be correct or not. This paper describes that a new type of vertical granular material and loading machine is controlled by pneumatic transmission, and introduces the working principle of the fine granular material charging machine. And the charging speed can be controlled by humankind, and the hopper can be disassembled and replaced. It is used to hold different kinds of active granular materials as well as more diversified.

Key words: fine particle automatic charging; motion simulation; pneumatic transmission

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