

# 摘要

全球科技水平飞速发展，但垃圾污染却始终困扰着所有人。人们期望他们的生存环境能更舒适，更安逸，在污染程度都更低的城市中生存。而对于垃圾的运输则更为重要。现在市面上的垃圾车，运输效率不高，噪音污染严重，而且面对国家愈加严格的环保指标，显得捉襟见肘。因此，研制具备更好的转运能力，自卸功能，举升功能以及更好的运输效率和环保能力的垃圾车来应对城市需求是很重要的。

本设计从整体角度出发，以应对城市中，校园，小区及垃圾中转站之间的运输为主要目的，此外，为了更好的面向市场要求，要尽可能的从实际角度出发，提高实用性和运输性，降低成本选择了更有优势的摆臂式垃圾车。

本文从一开始简明叙述了摆臂式垃圾车改装设计的目的和意义，接着分析论述了垃圾车整体的设计方案，并且进行了举升机构和车厢机构的方案分析和选择计算，此外，本来还对液压系统的设计和摆臂式垃圾车整体的性能要求进行了计算，计算结果表明整车性能满足要求。

关键词：专用汽车；摆臂式垃圾车；运输性；自动化

# Abstract

During the development of industry and science and technology, there are more and more domestic garbage and pollution in our life, People expect to live in cities that are more comfortable, more comfortable and less polluted. The transportation of garbage is more important. At present, the garbage truck in the market has low transportation efficiency and serious noise pollution. But Facing the increasingly strict environmental protection indicators of the country, it is insufficient. Therefore, it is very important to develop a garbage truck with better transport capacity, dump function, lifting function, better transport efficiency and environmental protection ability to meet the urban demand.

From the overall point of view, this design aims to deal with the transportation among the city, campus, community and waste transfer station. In order to better meet the market requirements, we should try our best to improve the practicability and transportability from the practical point of view, and reduce the cost by choosing a more advantageous swing arm garbage truck.

In this paper, the purpose and significance of the refitting design of the swing arm garbage truck are briefly described at the beginning, then the overall design scheme of the garbage truck is analyzed and discussed, and the scheme analysis and selection calculation of the lifting mechanism and the carriage mechanism are carried out. In addition, the selection of the hydraulic system and the overall performance requirements of the swing arm garbage truck are also calculated, and the calculation results show that the vehicle performance is full Foot requirement.

**Keywords :** Special purpose vehicle; Swing arm garbage truck; Transportability; Automation

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