

题目：板料液压折弯机研究与设计

摘 要

折弯机的特征是制造效率高以及折弯精度高，进行折弯首先需要具有不同释放角度的 v 型模具。通过更换上下模具的形状，板料可以弯曲成不同角度的形状。这项设计主要是设计液压折弯机的液压系统。在设计过程中，它不会强制追求机器的先进性要求，而会试图使用标准部件来减少设计成本。这种工程成本主要设计为液压缸和油箱。我会在这个设计的过程里参考很多新的设计手册，在本次研究设计中，我学到了很多知识，通过本次研究设计也让我了解我作为一名设计师应该做什么。除此之外，我还通过对液压缸结构的简化，对液压缸的结构进行了自己的创新，且本次创新在不影响液压缸基本特性的同时，还降低了生产成本。本文严格遵守液压缸的实际手册进行研究，并在研究设计中为油箱增添了部分辅助功能，使其整体设计更加完善，结构布局更加合理。

通过本次研究设计我丰富了自己对液压缸设计中的经验，也提高了自己的实际操作能力。相信在本次研究设计完成后，我能更好的适应将来的工作，更高效的完成工作中的任务，并且沿着数控和智能化折弯机的道路不断的发展，不断的创新。

关键词：液压系统；液压缸；油箱

Abstract

The machine is highly productive and accurate when using plates. When the plates with different thickness are broken, different molds with different V slots need to be selected. The crusher may rotate the plate when using the upper and lower molds of different shapes. Materials are characteristic components.

The bending machine is characterized by high efficiency and high bending precision bending metal material, the first need for a different release Angle of the V-shaped screw. The sheet of metal can be bent into different shapes by changing the shape of the upper and lower dies. This design is mainly designed for hydraulic system of hydraulic press. During the design process, it will not enforce the requirements of the machine, but will try to use standard parts to reduce the pressure of the whole system. The cost of this project is mainly designed for hydraulic cylinders and oil tanks. I will refer to many new design manuals in the design process. In this research design, I have learned a lot of knowledge. Through this research design, I also know what I should do as a designer. In addition, I also simplified the structure of the hydraulic cylinder, the structure of the hydraulic cylinder through their own innovation, and this innovation does not affect the basic characteristics of the hydraulic cylinder, but also reduce the production cost. In this paper, the actual manual of the hydraulic cylinder is strictly followed for the research project approval, and some auxiliary functions are added to the tank in the research design, which makes the overall design more perfect and the structure layout more reasonable. Through this study and design, I have enriched my experience in hydraulic cylinder design and improved my practical operation ability. I believe that after the completion of this research design, I can better adapt to the future work, more efficient to complete the tasks in the work, and along the road of CNC and intelligent bending machine development, continuous innovation.

Key Words: Hydraulic pressure system; Hydraulic pressure vat; Fuel tank

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