

## **ABSTRACT**

*PT Sharp Electronics Indonesia is one of manufacturing companies who produce refrigerator unit. During the production process in PT Sharp Electronics Indonesia there are ineffective time of production caused by material moving process from conveyor to centering unit which is still using manual process. To resolve the problem, it was done by create an automatic loader tool of door plate.*

*This tool is using vacuum pad, pneumatic system, electric motor, and timing belt and timing pulley. In the design, selection vacuum pad's diameter, pneumatic cylinder's bore diameter, electric motor, timing belt and timing pulley was included. The next process is create the design of loader tool of door plate. During the process of design is also needs to determine the material and size of components which are used in loader tool of door plate.*

*The result of the design was expected can facilitate the activity of moving material and reduce number of operator. The components which are used are vacuum pad's diameter 25 mm, pneumatic's cylinder bore diameter 50 mm, timing belt type TBO H150, timing pulley type ATPA H150 A-N20, and motor's power 0,4 kW.*

*Key word : vacuum pad, cylinder pneumatic, timing belt, motor's power*

## INTISARI

PT Sharp Eletronics Indonesia adalah salah satu perusahaan manufaktur yang memproduksi lemari es. Dalam proses produksi di PT Sharp Electronics Indonesia masih ditemukan tidak efektifnya waktu produksi yang disebabkan oleh proses pemindahan material plat pintu lemari es dari konveyor ke *centering unit* yang masih menggunakan proses manual. Untuk mengatasi hal tersebut, dilakukan perancangan alat pemindah plat pintu lemari es secara otomatis.

Alat ini menggunakan *vacuum pad*, sistem pneumatik, motor listrik, dan *timing belt* dan *timing pulley*. Dalam perancangan ini meliputi penentuan diameter *vacuum pad*, diameter *bore* silinder pneumatik, motor listrik, *timing belt* dan *timing pulley*. Proses selanjutnya adalah membuat desain alat pemindah plat pintu lemari es. Dalam proses desain juga perlu ditentukan material dan ukuran komponen yang digunakan dalam alat pemindah plat pintu lemari es.

Hasil dari perancangan ini diharapkan dapat mempermudah aktifitas pemindahan material dan dapat mengurangi jumlah operator. Komponen yang digunakan yaitu *vacuum pad* diameter 25 mm, silinder pneumatik diameter *bore* 50 mm, *timing belt* tipe TBO H150, *timing pulley* tipe ATPA H150 A-N20, dan daya motor 0,4 kW.

Kata kunci : *vacuum pad*, silinder pneumatik, *timing belt*, daya motor