

ABSTRACT

PT Pupuk Kujang is one of BUMN companies who produce urea fertilizer. In the process of transportation bag fertilizer of open storage into the truck at PT Pupuk Kujang still found ineffectiveness production time and still using manual handling. To resolve the problem is by created the design of loading portable conveyor.

Loading portable conveyor is using belt conveyor, hydraulic's system, and electric's motor. In the design, selection belt conveyor type, bore diameter of hydraulic cylinder, bearing type on pulley, bearing type on take up pulley, motor power of conveyor, and motor power of hydraulic. The next process is create the desugn of loading portable conveyor.

The result of the design was expected can reduce number of operator. The components which are used are belt conveyor, type of bearing on drive pulleys dan tail pulleys are flanged Y-bearing units (FYJ 35 TF), type of bearing on center pull take up are Y-bearing take-up unit (TU 35 TF), belt conveyor motor power 1,5 kW, hydraulic cylinder bore diameter 63 mm, and hydraulic motor power 1,1 kW.

Key word: belt conveyor, bearing, hydraulic, motor's power

INTISARI

PT Pupuk Kujang merupakan salah satu perusahaan BUMN yang memproduksi pupuk urea. Dalam proses pengangkutan kantong pupuk dari *open storage* ke dalam truk di PT Pupuk Kujang masih ditemukan tidak efektifnya waktu produksi dan masih menggunakan proses *manual handling*. Untuk mengatasi hal tersebut dilakukan perancangan alat *loading portable conveyor*.

Loading portable conveyor ini menggunakan *belt conveyor*, sistem hidrolik, dan motor listrik. Dalam perancangan ini meliputi penentuan tipe *belt conveyor*, diameter *bore* hidrolik silinder, tipe *bearing* pada *pulley*, tipe *bearing* pada *take up pulley*, daya motor *conveyor*, dan daya motor hidrolik. Proses selanjutnya adalah membuat desain alat *loading portable conveyor*.

Hasil dari perancangan ini diharapkan dapat mengurangi jumlah operator. Komponen yang digunakan yaitu *belt conveyor*, bantalan pada *drive pulley* dan *tail pulley* tipe *flanged Y-bearing units (FYJ 35 TF)*, bantalan pada *center pull take up* tipe *Y-bearing take-up unit (TU 35 TF)*, daya motor *belt conveyor* 1,5 kW, silinder hidrolik diameter *bore* 63 mm, dan daya motor hidrolik 1,1 kW.