Dedication

To our.

Parents.

Helpful brothers.

Best friends and colleagues.

And to everybody help us.

Acknowledgement

For trying keep us going in straight lines, I need to thank my god then my parents those have an almost magical ability to turn me thoughts into words by their continuous encouragement and attention.

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Abstract

This thesis is an introduction to a new industrial model of positive displacement pump knows by the name ‘Hose Pump’.

In this thesis, just a simulation of the shape of hose and watch the changes in speed and other barometers, especially in the contact area.

A comparison between theoretical, numerical and experimental results was presented for the numerical analysis that of one of the assumptions, the commercial package Fluent 6.3 was used. The results obtained show a good correlation between the three approaches for different rotational speed of the hose pump.

Presented a comparison of forms vortices made up at different cases of the hose and comment on each case.

The main results of this study are that most of the parameters were significantly changed in the contact arc between the roller and hose.

التجريدة

في هذه الأطروحة مقدمة لنموذج صناعي جديد من مضخة موجبة الإزاحة تعرف بإسم المضخة الخرطومية hose pump .

في هذه الأطروحة مجرد محاكاة لشكل الخرطوم ومشاهدة تغيرات السرعة وغيرها من البارومترات وبالأخص في منطقة التلامس.

قدمت مقارنة بين النتائج التجريبية والعددية والنظرية للتحليل العددي وذلك لإحدى الفرضيات وقد استعملت الحزمة التجارية لبرنامج Fluent 6.3 .حصل على النتائج لتعرض إرتباط جيد للعلاقات الثلاث المختلفة للسرعة الدورانية من المضخة الخرطومية .

قدمت مقارنة لأشكال الدوامات المتكونة عند حالات مختلفة للخرطوم والتعليق على كل حالة.

النتائج الرئيسية لهذه الدراسة تبين أن أغلب البارميترات تغيرت بشكل ملحوظ في منطقة التلامس بين الكرة والخرطوم.

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