## عنوان مقاله:

Design & Manufacturing a Robot Wrist: Performance Analysis

## محل انتشار:

اولین کنفرانس بین المللی و هفتمین کنفرانس ملی مهندسی ساخت و تولید (سال: 1384)

تعداد صفحات اصل مقاله: 9

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## خلاصه مقاله:

In this article, design and manufacturing of a three degrees of freedom robot wrist with the dimensions 26*20*10 cm and approximate weight of 3 kg has been done which this wrist can be installed both on Cartesian and Revolute robots. This manufactured wrist has a simple structure comparing to other wrists and is compact and with little volume and the cost of manufacturing is less. This wrist which is a combination of seven gears that four gears of gears is for force transmission and changing the direction of force and three of the gears in joint configuration that can do pitch and roll simultaneously or just pitch or roll and a yaw joint above this joints, completes three degrees of freedom of this wrist. Kinematic and dynamic model of wrist has been investigated and dynamic and static moments acting on the wrist has been extracted for researching the wrist operation in the robot, operational tests including accuracy and repeatability of robot wrist, according to ISO 9283 standard on the wrist has been done which the position accuracy of .wrist is 1.2 mm and repeatability of wrist position is 2.1 mm

## کلمات کلیدی:

Wrist, Gripper, Roll, Pitch, Yaw