

SUMMARY

In this thesis a new design of the gripper was made. By doing calculations using basic principles of mechanics, theoretical suction force for the vacuum gripper was calculated. Using FEA environment and using hand calculations it was proven that mechanically this gripper can withstand needed load with safety factor way being way above the number that was intended. Manufacturing drawings were made for possible further manufacturing. All in all, this gripper is fulfilling every requirement which was given in the beginning. As for the parallel gripper, theoretical solution is provided in textual form. This solution is intended to be fast, cheap and most importantly easy to implement. After documenting all of the steps of the design and problem-solving process I can surely state that the goal of improving training tools of Yaskawa GP8 robot was achieved.