

**Department of Mechanical Engineering
ME EN 7960 - Precision Machine Design**

Design Project 2 - Leveling Stage

In micromachining, aligning the workpiece can sometimes be challenging. To assist with this difficult and tedious task, a leveling stage is needed that can raise and lower the corners of 100 x 100 mm area by plus-minus 100 microns. The stage must have the necessary stiffness for micromachining operations and support weights up to 1 kg.

The resolution of the lowering and raising of the corners must be 0.2 microns or better. The maximum height of this leveling stage is not to exceed 75 mm.

The leveling stage is intended to be used inside the workarea. As such, it must be guarded from dust and machining fluids.

