



The Chinese University of Hong Kong
Non-confidential Abstract of Technology Disclosure

Title:

An Adjustable Force Regulator for Manufacturing/ Assembly Operations

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Patent Status:

Chinese Patent Pending

Inventor(s):

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Non-confidential abstract:

An adjustable force regulator is invented. The force regular is a simple passive mechanical device, which can be applied in manufacturing/ assembly operations wherein the reaction force between the tool and the workpiece needs to be limited below a certain magnitude. The regulator consists of four parts: mandril 1, replacer 2, tuner 3 and flexible gripper 4. A manufacturing/ assembly tool is fixed on the flexible griper and moved towards the workpiece during an operation. When the reaction force between the tool and the workpiece reaches a prescribed magnitude, the flexible gripper will rebound a short distance and as a results, the tool will be separated from the workpiece quickly. In this way, both the tool and workpiece are protected from damage. Moreover, the prescribed magnitude of the reaction force between the tool and the workpiece can be adjusted easily be the tuner. The flexible gripper can be replaced through the replacer. The regulator is simple in structure, easy to manufacture and can be used in many manufacturing/ assembly operations.

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