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(57) Abstract :
A self-centering based lathe machining system, includes a body 1 associated with a chuck assembly 3 that is utilized by a user for manually holding a work piece, an image capturing module 5 for capture multiple images of the inserted work piece to find eccentricity of the work piece with respect to ideal position, a display panel 2 provides indications to the user about degree of rotations required to be given via chuck key, a balancing unit 11 for detecting degree of falling of the work piece with the jaws 8 of chuck 3 and helps in adjusting particular jaws 8 that are needed to be tightened/loosened, and a laser sensor 6 for matching of centers of a tailstock 7 of the body 1 with the work piece and thereby collaboration of center matching and the chuck's 3 central alignment a perfect offset to be obtained at earliest.

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