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(57) Abstract :

The present invention relates to the system and method for flexible honing of internal surfaces of an elongated cylindrical work piece (300) longitudinally. The flexible honing tool (1) attached to the leading tip of a pneumatic cylinder (200) comprises a voice coil member and a honing head member (105). In the proposed invention, flexible honing of the internal surface of an elongated cylindrical workpiece is achieved by the desired amplitude and frequency of the honing motions generated from the linear vibration of the voice coil member (101, 102) along with the rotational movement of the permanent magnet based honing head (105) in compliance with the abrading element in adjustable magnetic field gradient. The expandability of the pneumatic cylinder (200) facilitates the movement of the honing tool (1) along the internal longitudinal axis of the workpiece (300) of desired length.

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