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(57) Abstract :
The invention relates to a compact device for automated gear tooth profile inspection comprising a base unit (1), gear mounting platform (2), rotary actuator (3), optical sensor unit (4), linear positioning module (5), motion controller (6), data processing unit (7), and display interface (8). The device employs non-contact optical scanning, automated indexing, and integrated software analysis to measure deviations in gear tooth geometry. It offers portability, speed, and high accuracy, making it suitable for both production line quality control and field maintenance applications.

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