

Abstract:

A manual inspection system and method to inspect for defects in Contact lenses comprising ; an image acquisition system with at least two high resolution cameras; Top
 5 illumination light head used for acquiring Bright field images; a Backlit illumination module to acquire Dark field images; at least another back lit illumination module to acquire a different type of Bright field images; an interchangeable mechanism to change measurement gauges suitable for a particular product; a rotating wheel embedded with multiple optical filters to cater to different imaging requirements; a first camera to
 10 capture the full view of the contact lens at a beam splitter; a second camera suitably mounted on a swivel arm to capture a higher resolution image of a selected defective area as viewed on a projection screen; a glass template or measurement gauge mounted at a suitable position to achieve overlaid images of the lens and the gauge on a projection screen for taking measurements; a flexible template measurement gauge as
 15 an optional overlay, to replace the glass template, suitably mounted on the projection screen for easy measurement of defects and geometry of the contact lens; an XYZ table to position the contact lens; creating a database on the computer that tabulates geometrical information and detailed defect information along with their respective positional information; and subsequently analyzing the database images to arrive at
 20 corrective actions to the manufacturing process to improve the quality and yields in the contact lens.

Fig. 1