

ABSTRACT

A ray scanning apparatus, including: a conveying device (1) for conveying an object under inspection (6) to pass through a scanning area of the ray scanning apparatus; a ray source assembly (3) including a plurality of ray source modules (31, 32, 33, 34), each of the ray source modules (31, 32, 33, 34) including at least one ray source point emitting a ray beam, and the plurality of ray source modules (31, 32, 33, 34) being arranged around the scanning area on an upper side of the conveying device (1) and fixed in a plane perpendicular to a conveying direction of the object under inspection (6); and a detector assembly (4) for detecting rays transmitting through the object under inspection (6) during scanning and including a plurality of detector sets (41, 42, 43, 44), end portions of the plurality of detector sets (41, 42, 43, 44) being connected to each other to surround the scanning area, and the plurality of detector sets (41, 42, 43, 44) being fixed in a plane perpendicular to the conveying direction of the object under inspection (6); where the detector assembly (4) is located between the ray source assembly (3) and the scanning area in a direction perpendicular to the conveying direction of the object under inspection (6), the ray source assembly (3) and the detector assembly (4) are arranged to overlap at least partially in the conveying direction of the object under inspection (6), and the plurality of ray source modules (31, 32, 33, 34) are mounted and detached independently of each other.

Fig. 18