

Patent No. 4247729.

[0049] In S120 of FIG. 8, the control unit 52 controls the aperture switching mechanism 40 of the imaging apparatus 21 to switch the aperture of the optical system to the high-resolution aperture (the large-diameter aperture). Thereby, an image with a high optical resolution is captured by the imaging apparatus 21. Next, in S122, the control unit 52 controls the illumination (the illumination for illuminating the subject) of the imaging apparatus 21 to adjust the brightness. Then, in S124, the control unit 52 performs the focus adjustment (the adjustment of the focal length) by moving the camera-side lens 34 of the imaging apparatus 21 forward and backward. The steps of S120-S124 are the same as the steps of S104-S108 in the adjustment process.

[0050] Next, in S126, the control unit 52 performs measurement process such as the measurement of the clearance amount on the pad or the ball diameter detection on the pad described above. Because an image with a high optical resolution is captured by the imaging apparatus 21, the measurement process can be performed with high precision. FIG. 13 shows the introduction unit 22 of the imaging apparatus 21 and an example of the depth of field DS of the imaging apparatus 21 when the measurement process is performed. As shown in FIG. 13, the depth of field is reduced by using the large-diameter aperture.

[0051] According to the wire bonder 10 of the embodiment described above, it is possible to increase the depth of field by using the imaging apparatus 21 in the state of the first aperture having a small aperture hole diameter to perform, with high precision, packaging with a thick laminated device or the like, and to increase the optical resolution by using the imaging apparatus 21 in the state of the second aperture with a large aperture hole diameter to perform, with high precision, additional processes (adjustment process,