Claims

1. A method, suitable for inspecting a cube-shaped, component, using an assembly comprising a camera with a fixed position, and a moveable stage, wherein the moveable stage is configured such that it can rotate about a rotation axis, and, can move linearly along two linear axes wherein said two linear axes are perpendicular to one another and wherein both of said two linear axes are each perpendicular to the rotation axis, the method comprising the steps of,

providing a first component into a predefined orientation on the stage, such that a first side of the component is facing a camera;

moving the stage linearly along one or more of said two linear axes so as to bring the first side of the first component into focus of the camera;

capturing an image of the first side of the first component after it has been brought into focus of the camera; wherein the method further comprises the steps of while maintaining the stage in the same position along the linear axes as when the image of the first side was captured,

rotating the stage about said rotation axis so that a second side of the first component is facing the camera;

capturing an image of the second side of the first component after it has been brought into focus of the camera.

2. A method according to claim 1 comprising the steps of, while maintaining the stage in the same position along the linear axes as when the image of the first side was captured,

removing the first component from the stage;

providing a second component, which has the same dimensions as the first component, into a predefined orientation on the stage, such that a first side of the second component is facing a camera;

capturing an image of the first side of the second component using the camera;

rotating the stage about said rotation axis so that a second side of the second component is facing the camera;

capturing an image of the second side of the second component using the camera.

3. A method according to any one of claims 1 -2 wherein said first component is cube-shaped.

4. A method, suitable for inspecting a component which is rectangular-cuboid-shaped, using an assembly comprising a camera with a fixed position, and a moveable stage, wherein the moveable stage is configured such that it can rotate about a rotation axis, and, can move linearly along two linear axes wherein said two linear axes are perpendicular to one another and wherein both of said two linear axes are each perpendicular to the rotation axis, the method comprising the steps of,

providing a first component into a predefined orientation on the stage, such that a first side of the component is facing a camera;

moving the stage linearly along one or more of said two linear axes so as to bring the first side of the first component into focus of the camera;

capturing an image of the first side of the first component after it has been brought into focus of the camera, wherein the method further comprises the steps of,

storing, in a memory, first position data indicative of the position of the stage along said two linear axes, when the first side of the first component is in focus of the camera;

rotating the stage about said rotation axis so that a second side of the first component is facing the camera;

moving the stage linearly along one or more of said two linear axes so as to bring the second side of the first component into focus of the camera;

storing, in a memory, second position data indicative of the position of the stage along said two linear axes, when the second side of the first component is in focus of the camera;

capturing an image of the second side of the first component after it has been brought into focus of the camera.

5. A method according to claim 4 comprising the steps of,

rotating the stage about said rotation axis so that a third side of the first component is facing the camera;

retrieving the first position data from the memory, and moving the stage to a position corresponding to the position indicated in the retrieved first position data, so as to bring the third side of the first component into focus;

capturing an image of the third side of the first component after it has been brought into focus of the camera;

rotating the stage about said rotation axis so that a fourth side of the first component is facing the camera;

retrieving the second position data from the memory, and moving the stage to a position corresponding to the position indicated in the retrieved second position data, so as to bring the fourth side of the first component into focus of the camera;

capturing an image of the fourth side of the first component after it has been brought into focus of the camera.

6. A method according to any one of claims 4 or 5, comprising the steps of,

removing the first component from the stage;

providing a second component, which has the same dimensions as the first component, into said predefined orientation on the stage, such that a first side of the second component is facing a camera;

capturing an image of the first side of the second component using the camera;

rotating the stage about said rotation axis so that a second side of the second component is facing the camera;

retrieving the second position data from the memory, and moving the stage to a position corresponding to the position indicated in the retrieved second position data, so as to bring the second side of the second component into focus of the camera;

capturing an image of the second side of the second component using the camera.

7. A method according to claim 6 further comprising the step of retrieving the first position data from the memory, and moving the stage to a position corresponding to the position indicated in the retrieved first position data, so as to bring the first side of the second component into focus of the camera.

8. A method according to any one of claims 4-7 wherein said first component is rectangular-cuboid-shaped.

9. A method according to any one of the preceding claims wherein the method further comprises the step of inspecting an captured image to identify if the side of the component has a crack or is contaminated.

10. A method according to any one of claims 4-9, comprising the step of,

removing the first component from the stage,

providing a second component which has dimensions which are different to the dimensions of the first component, into said predefined orientation on the stage such that a first side of the second component is facing a camera;

retrieving first position data from memory, and moving the stage to a position corresponding to the position indicated in the retrieved first position data;

capturing an image of the first side of the second component using the camera;

detecting from the captured image that the second component is out of the focus of the camera;

moving the stage linearly along one or more of said two linear axes so as to bring the first side of the second component into focus of the camera;

capturing an image of the first side of the second component after it has been brought into focus of the camera;

storing, in a memory, third position data indicative of the position of the stage along said two linear axes, when the first side of the second component is in focus of the camera;

rotating the stage about said rotation axis so that a second side of the second component is facing the camera;

moving the stage linearly along one or more of said two linear axes so as to bring the second side of the second component into focus of the camera;

storing, in a memory, fourth position data indicative of the position of the stage along said two linear axes, when the second side of the second component is in focus of the camera;

capturing an image of the second side of the second component after it has been brought into focus of the camera.

11. An assembly for inspecting a component, the assembly comprising,

a camera having a fixed position; and

a moveable stage, wherein the moveable stage is configured such that it can rotate about a rotation axis, and, can move linearly along two linear axes wherein said two linear axes are perpendicular to one another and wherein both of said two linear axes are each perpendicular to the rotation axis;

wherein the assembly further comprises,

a processor which is configured to, receive an image captured by the camera and to determine if the image is in-focus and, if the image is not in-focus then determines a movement of the moveable stage required to bring the component into focus of the camera, and to initiate the moveable stage to undergo said determined movement so as to bring the component into focus of the camera;

wherein the processor is further configured to, receive a further image captured by the camera after the stage has been rotated about said rotation axis, and

to determine if said further image is in-focus and, if the image is not in-focus then determines a movement of the moveable stage required to bring the component into focus of the camera, and to initiate the moveable stage to undergo said determined movement so as to bring the component into focus of the camera;

and wherein the assembly further comprises a memory which stores position data which is representative of the positions of the stage after the stage has been moved to bring the component into focus of the camera, and wherein the processor can retrieve position data from the memory and move the stage to a position corresponding to said retrieved position data.