Claims

1. A gripping device comprising:

a base;

at least one pair of extendable linkages connected at a proximal end to the base;

each extendable linkage having a gripping finger extending from a distal end of the extendable linkage;

wherein the extendable linkages are arranged to extend or retract from the base so as to increase a radial distance between the gripping fingers;

wherein the base further includes an actuator, said actuator having at least one suction pad, wherein the actuator is configured to extend the at least one suction pad towards a zone in which an object is engaged by the gripping device and said actuator includes a helical air tube.

2. The gripping device according to claim 1, further including a servo motor, said servo motor arranged to connect to a base of the at least pair of gripping fingers, moving the at least pair of gripping fingers from a flexion position to an extension position.

3. The gripping device according to any one of claims 1 to 2, wherein each gripping finger includes at least one vacuum suction pad on a gripping surface of said fingers.

4. The gripping device according to any one of claims 1 to 3, wherein the base includes an extensible palm actuator with at least one vacuum suction pad on the free end surface of said palm actuator.

5. The gripping device according to any one of claims 1 to 4, wherein the at least pair of gripping fingers having a magnetic component attached thereto.

6. The gripping device according to claim 5, wherein said gripping surface includes an anti-slip soft skin integrated with the gripping fingers.

7. The gripping device according to any one of claims 3 to 6, wherein the at least pair of gripping fingers is configured to rotate along a mounted axis of the servo motor.

8. The gripping device according to any one of claims 3 to 7, wherein the at least a pair of gripping fingers having embedded with flexible tactile sensors.

9. The gripping device according to any one of claims 1 to 8, wherein the extendable linkages include rotary extendable linkages.

10. A method of gripping an object, the method comprising the steps of:

positioning and aligning the gripping device according to any one of claims 1 to 9 over the object;

extending or retracting the extendable linkage;s

moving the at least pair of gripping fingers relative to the base; and

extending the at least one suction pad towards a zone in which the object is engaged by the gripping device.