CLAIMS

1. A driving system for reducing vibration transmission from a driving motor to a machine base, the driving system comprising:

a driving motor body operative to produce a driving force for driving an object to move in reciprocating directions;

a pivotal support for supporting the driving motor body, the pivotal support being located between the driving motor body and the machine base;

wherein the pivotal support is operative to cause at least a portion of the driving motor body to rotate relative to the machine base in an opposite direction to a direction of the driving force produced by the driving motor body to drive the object.

2. The driving system as claimed in claim 1, wherein the pivotal support comprises a resilient structure.

3. The driving system as claimed in claim 2, wherein the resilient structure comprises one or more leaf springs.

4. The driving system as claimed in claim 3, wherein the resilient structure comprises a pair of leaf springs that intersect each other at a rotational pivot point that allows the at least a portion of the driving motor body to rotate relative to the machine base about the rotational pivot point.

5. The driving system as claimed in claim 3 or claim 4, wherein a rotational pivot point of the resilient structure is a virtual rotational pivot point that allows the at least a portion of the driving motor body to rotate relative to the machine base about the virtual pivot point.

6. The driving system as claimed in claim 5, wherein the one or more leaf springs form a “V” shape, with a base of such “V” shape located at the machine base.

7. The driving system as claimed in any one of claims 3 to 6, wherein a rotational pivot point of the resilient structure is an infinite pivot point that allows the at least a portion of the driving motor body to rotate relative to the machine base about the infinite pivot point.

8. The driving system as claimed in claim 7, wherein the resilient structure comprises a pair of vertically-arranged leaf springs connecting respective points on the at least a portion of the driving motor body to corresponding positions on the machine base.

9. The driving system as claimed in any one of claims 3 to 8, wherein the resilient structure comprises a single leaf spring on which the at least a portion of the driving motor body is arranged to hang.

10. The driving system as claimed in any one of claims 3 to 9, wherein the resilient structure comprises one or more leaf springs with an “S”-shaped cross-section.

11. The driving system as claimed in any one of the preceding claims, wherein the driving motor body comprises a motor driving coil and a motor driving magnet, which are arranged with sufficient space between the motor driving coil and a motor driving magnet in order to maintain a gap between them during rotational motion of the at least a portion of the driving motor body.

12. The driving system as claimed in claim 11, wherein the object is connected to either the motor driving coil or the motor driving magnet for driving the object to move.

13. The driving system as claimed in any one of the preceding claims, wherein the driving force causes a pull force to be generated in a direction towards a rotational pivot point to maintain rotational motion of the at least a portion of the driving motor body.

14. The driving system as claimed in claim 13, wherein the pull force is directed primarily in a direction of the machine base.

15. The driving system as claimed in claim 14, wherein a radial force in an opposite direction to the pull force is exerted on the machine base, wherein the radial force is configured to be as small as possible, having regard to a mass of the driving motor body, a radius of rotation of the driving motor body and a range of rotation of the driving motor body.

16. The driving system as claimed in any one of the preceding claims, wherein the object is a bond head of a wire bonder.