

## **ABSTRACT**

### **TITLE: FLAT VOICE COIL MOTOR**

A flat voice coil motor, including a coil unit and two primary magnetic pole units exerting an Ampere force on the coil unit. The coil unit includes a small, weak magnet (107), and the force exerted by the two primary magnetic pole units on the small, weak magnet (107) is a vertically upward resultant force. By arranging the small, weak magnet (107) in the coil unit, magnetic repulsion or attraction forces between the small, weak magnet and the primary magnetic pole units always ensure a vertically upward force on the coil unit, thereby achieving gravity compensation. In addition, this arrangement is achieved simply by replacing an internal portion of the coil unit with the small, weak magnet (107), which neither has influence on the Ampere force acting on a coil in the coil unit nor adversely leads to motor overheating caused by a structural addition, FIG. 1.