



Head Slider and Head Supporting Device and Disk Drive

ABSTRACT OF THE DISCLOSURE

The head slider of the present invention is characterized in that, when an inertia force is generated, at an upstream position spaced apart by a predetermined distance in the direction of air inflow end from a position where the inertia force is applied to the head slider, and at a downstream position spaced apart by same distance in the direction of air outflow end from a position where the inertia force is applied, the membrane rigidities of air spring layer formed between the head slider and a recording medium are K_l and K_t respectively; and the distance between the upstream position and the downstream position in a direction parallel to the surface of the recording medium is L , and the amount of flying in a vertical direction from the recording medium at the downstream position is X_h , and the angle formed by the surface to be opposed to the recording medium of the head slider against the recording medium in stable flying of the head slider is θ_p , then the relation of

$$(L \tan \theta_p / X_h) \leq ((K_t / K_l) - 1)$$

is satisfied. By such configuration of a head slider, when inertia force caused by external impact or the like is applied to the head slider, air layer formed between the air bearing surface of the head slider and the recording medium surface acts as an air spring while the head slider rotates in the pitch direction. Thus, the head slider hardly collides with the recording medium and ensures excellent impact resistance.

Figure 1.

