Abstract

Negative Pressure Air-Lubricated Bearing Slider

A negative pressure air-bearing slider includes a body flying in a first direction along a track of a disc where information is recorded while being raised to a predetermined height, a plurality of rails provided at the bottom of the body corresponding to a surface of the disc, an air inflow channel arranged at the bottom of the body in the first direction and having an air inflow portion at the leading end portion of the slider and an air exhaust portion at the inside of the body, and a pair of negative pressure recess portions provided at the air exhaust portion of the air inflow channel to be arranged in a second direction perpendicular to the first direction with respect to the air inflow channel. Thus, a constant flying height is maintained in the overall area of a disc. A pitch angle is maintained within an appropriate range in the overall area of a disc. The size of the roll angle is minimized in the overall area of a disc and maintained to be constant. In particular, dynamic stability is provided to the external interference and track seek and the amount of contaminant particles intruding into the head-disc interface is minimized, so that a phenomenon in which the intruding contaminant particles are accumulated in the negative pressure recess portions can be effectively prevented.

Figure 7A