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ABSTRACT

The present invention relates to a cylindrical permanent magnet which is used in a micro DC brushless motor used in a compact hard disc etc. An Sm-Co based magnetic material is used as a magnetic material and the permanent magnet has domains magnetized in a radial direction and arranged at regular intervals in a circumferential direction. Provided that P represents a pitch corresponding to an average of an inner circumferential length and outer circumferential length in one of the domains, D denotes an inner diameter of the permanent magnet, t represents a thickness in the radial direction, N represents the number of domains, and M represents the number of AC phases for driving the motor, D is set to 20 (mm) or smaller and t is set to satisfy the relation of $t \leq \pi D / (NM - \pi)$.