

ABSTRACT

TUNNEL BORING MACHINE

A tunnel boring machine (1) includes: a cutter head (11); a cutter support (12); a cutter driving unit (14); a rotational position sensing unit (20); a strain sensor (22); and a data processing unit (23) configured to calculate a force acting on the cutter head in association with the position of the cutter head in the rotational direction, based on sensing results of the strain sensor and the rotational position sensing unit.