

ABSTRACT

Provided is a method for manufacturing a magnetoresistive element, capable of reducing sublimation of metal during oxidation of the metal, while improving throughput in formation of a tunnel barrier layer of a metal oxide. In one embodiment, the present invention provides a method for manufacturing a magnetoresistive element, including a step of forming a tunnel barrier layer, wherein the step of forming the tunnel barrier layer includes a deposition step of depositing a metal film on top of a substrate, and an oxidation step of subjecting the metal film to an oxidation process. The oxidation step includes holding the substrate having Mg formed thereon, on a substrate holder in a processing container in which the oxidation process is performed, supplying an oxygen gas to the substrate by introducing the oxygen gas into the processing container, at a temperature at which Mg does not sublime, and heating the substrate after the introduction of the oxygen gas.