ABSTRACT

A substrate processing apparatus includes a processing vessel provided with a stage holding thereon a substrate to be processed and evacuated at an evacuation port, and a source gas supplying system that supplies plural source gases to the processing vessel separately in the form of a laminar flow, wherein the evacuation port has a slit-form shape extending in a direction generally intersecting perpendicularly to a direction of the laminar flow, the evacuation port is engaged with a valve having a valve body formed with a slit-form opening corresponding to the slit-form shape of the evacuation port, the slit-form opening being provided so as to cause a displacement with respect to the evacuation port in a direction generally intersecting perpendicularly to an extending direction of the evacuation port, the valve changing a degree of valve opening thereof via displacement of said slit-form opening.