

Abstract

SENSOR FOR FILM THICKNESS MONITORING DEVICE, FILM THICKNESS MONITORING DEVICE PROVIDED WITH THE SAME, AND METHOD FOR PRODUCING SENSOR FOR FILM THICKNESS MONITORING DEVICE

[Problem] To provide a sensor for film thickness monitoring device in which measurement precision of film thickness can be enhanced to realize a highly precise film forming rate with a simple configuration, and a film thickness monitoring device using the same.

[Means for resolution] The sensor for film thickness monitoring device comprises an SC-cut quartz-crystal resonator including a quartz-crystal plate which is, in an X-axis, a Y-axis and a Z-axis in a rectangular coordinate system which are quartz crystal axes, rotated θ about the Z-axis and ϕ about the X-axis, and having the θ and ϕ such that a frequency deviation in a temperature range of the quartz-crystal resonator of 10 to 170°C is ± 20 ppm or less; and a sensor head holding the quartz-crystal resonator and including no cooling means for cooling the quartz-crystal resonator.

FIG. 3