

ABSTRACT

Provided are a vacuum freeze-drying apparatus and a method capable of continuously performing vacuum freeze-drying in a short time. A vacuum freeze-drying apparatus 1 of this invention having an exhaust path for performing vacuum suction, while a drying device 3 comprises a tubular member 31 provided an inlet portion and an outlet portion formed of a tubular shape, a temperature adjusting means 30a to 30j provided in a plurality of regions formed from the inlet portion toward the outlet portion in a peripheral portion of the tubular member 31 wherein the plurality of regions are at least three or more regions whose temperature is capable of being controlled, for adjusting temperatures of a plurality of regions 40a to 40j in outer surface of the tubular member, a temperature control unit 8 for independently controlling the temperature adjusting means, and a rotating portion 7 for rotating the tubular member 31, wherein the tubular member 31 has a spiral transfer means 31a continuously provided adjacent to an inner wall of the tubular member from the inlet portion toward the outlet portion, and the transfer means 31a transfers the frozen substance sequentially to locations corresponding to the plurality of regions in the tubular member so as to continuously sublimate and dry.