

ABSTRACT

A freeze-dried product continuously manufactured by being dried while smoothly moving in a state of receiving a mechanical force in a freeze-drying apparatus 1. The
5 freeze-drying apparatus 1 includes a freezing unit 2 for producing a frozen substance by spraying a raw material solution; and a drying unit 3 for drying the frozen substance. The drying unit 3 has a tubular shape and includes a tubular member 31 kept in a vacuum state, and a spiral wall or groove portion is formed on an inner wall of the tubular member 31 continuously in a longitudinal direction of the tubular member 31. A heat is transferred to the
10 inner wall of the tubular member 31 and the spiral wall or groove portion. The tubular member 31 is configured to be rotated to transfer the freeze-dried product in the longitudinal direction of the tubular member 31 and sublimate or dry the freeze-dried product. A flow-start angle is less than 44 degrees or a repose angle is less than 55 degrees and larger than the flow-start angle, and a residual amount is 3 g or less with respect to 10 g of the raw material solution fed into
15 freeze-drying apparatus when a length of the tubular member 31 is 30 cm in the longitudinal direction.