No. 2008-249628

Patent Literature 3: Japanese Patent Application Laid-Open No. 2009-131186

Summary of Invention

Technical Problem

[0008]

In order to easily bring a collection unit into a room where floating bacteria are to be collected, the size of the entire collection unit is required to be reduced. However since viable bacteria are impacted against a collection carrier and carried by the collection carrier in the collection unit, a flow rate of air inflowing to the collection unit is required to be increased to some extent. With size reduction of a movable portion, the flow rate of the air inflowing to the collection unit may be reduced, and thus the collection time may become longer.

EmbodimentsThus, an object of the present invention is to provide a collection unit using a collection carrier, which can efficiently collect floating bacteria in the air even if the size of the collection unit is reduced.

Solution to Problem

[0009]

According to an aspect, there is provided a collection unit comprising: a collection carrier cartridge formed, at its center, the collection cartridge comprising: a carrier filling dish comprising a collection carrier for collecting floating bacteria in the air, wherein the carrier filling dish has a through hole

into which a nozzle for supplying hot water or ATP reagent is inserted through after collecting the floating bacteria, at the center of its bottom plate, wherein the carrier filling dish is formed on an outer circumference of the through hole, and an upper lid, on which the carrier filling dish is placed, formed with a protrusion to be inserted through the through hole and the carrier filling dish is placed at a state that the protrusion is inserted through the through hole when collecting the floating bacteria; an inner bulkhead which is a vertical wall provided along the through hole; and an outer bulkhead which is a vertical wall provided as a circle, at the bottom plate of the carrier filling dish; an impactor nozzle head which covers a surface of the collection carrier and has a plurality of nozzle holes facing the surface of the collection carrier; and a fan which introduces air to the surface of the collection carrier through the nozzle holes, wherein a velocity of the air passing through the nozzle holes is 40 m/s to 50 m/s.

~~In order to achieve the above object, a collection unit includes: a collection carrier cartridge formed, at its center, with a through hole into which a nozzle for supplying hot water or ATP reagent is inserted including a carrier filling dish, on~~

~~an outer circumference of the through hole, to be filled with a collection carrier for collecting floating bacteria in the air and an upper lid, on which the carrier filling dish is placed, formed with a protrusion to be inserted through the through hole, an impactor nozzle head which covers a surface of the collection carrier and has a plurality of nozzle holes facing the surface of the collection carrier, and a fan which introduces air to the surface of the collection carrier through the nozzle holes, wherein a velocity of the air passing through the nozzle holes is 40 m/s to 50 m/s.~~

[0010]

According to the collection unit, among the nozzle holes, adjacent nozzle holes may be arranged in a zigzag pattern. Adjacent nozzle holes among the nozzle holes may be arranged to have their centers at the respective apexes of an equilateral triangle in plan view of the impactor nozzle head.

According to the collection unit, the nozzle holes may have a hole diameter of 0.6 mm, a hole pitch between the nozzle holes may be 2.6 mm, and a distance between a lower surface of the impactor nozzle head and a surface of the collection carrier may be 1.5 mm.

Advantageous Effects of Invention

[0011]

According to embodiments of the collection unit of the present invention having the above configuration, even if the size of the entire