CLAIMS

1. A range hood comprising:

a fan configured to generate a flow of air;

a filter which is present on an upstream side of the fan on a flow path of the flow of air, and has holes that allow the flow of air to pass through;

an electric motor configured to rotate the filter; and

an oil content gathering member that surrounds a periphery of the filter,

wherein the fan generates the flow of air and the electric motor rotates the filter so as to gather the oil contents contained in the air to the oil content gathering member, and

a diameter in a circumferential direction of the hole is 0.75 mm or less and a number of rotations of the filter is 230 rpm or more,

the diameter in the circumferential direction of the hole is 1.00 mm or less and the number of rotations of the filter is 310 rpm or more,

the diameter in the circumferential direction of the hole is 1.50 mm or less and the number of rotations of the filter is 460 rpm or more,

the diameter in the circumferential direction of the hole is 2.00 mm or less and the number of rotations of the filter is 620 rpm or more, or

the diameter in the circumferential direction of the hole is 5.00 mm or less and the number of rotations of the filter is 1500 rpm or more.

2. The range hood according to claim 1, wherein the filter has a disk shape, and a rotary shaft of the electric motor is mounted to a center of a disk of the filter.

3. The range hood according to claim 1 or 2, wherein both surfaces of the filter are smooth surfaces.

~~4. The range hood according to any of claims 1 to 3, wherein a diameter in a circumferential direction of the hole is 0.75 mm or less and a number of rotations of the filter is 230 rpm or more,~~

~~the diameter in the circumferential direction of the hole is 1.00 mm or less and the number of rotations of the filter is 310 rpm or more,~~

~~the diameter in the circumferential direction of the hole is 1.50 mm or less and the number of rotations of the filter is 460 rpm or more,~~

~~the diameter in the circumferential direction of the hole is 2.00 mm or less and the number of rotations of the filter is 620 rpm or more, or~~

~~the diameter in the circumferential direction of the hole is 5.00 mm or less and the number of rotations of the filter is 1500 rpm or more.~~

4~~5~~. The range hood according to any of claims 1 to 3, wherein an average value in a filter of a time required for one end and the other end of the diameter in the circumferential direction of the hole to pass through a point on a circumference is $3.2 * 10^{-4}$ sec or less.

5~~6~~. The range hood according to any of claims 1 to 3, wherein an average hole diameter pass time (tx) represented in Formula (1) is $3.2 * 10^{-4}$ sec or less.

$$tx = \frac{3\,DA(Rmax + Rmin)}{4\,\pi\,N\,(Rmax^2 + RmaxRmin + Rmin^2)} \quad \cdots (1)$$

Provided that DA is a diameter in a circumferential direction of holes of a filter, Rmax is a radius outside of a region where there are holes in a filter, Rmin is a radius inside of a region where there are holes in a filter, and N is a number of rotations per unit time of a filter.

6~~7~~. The range hood according to any of claims 2 to 5~~6~~, wherein the shortest distance between an end portion of a downstream side of the oil content gathering member surrounding the periphery of the filter and a downstream side disk surface of the filter is equal to or greater than the shortest distance between an end portion of an upstream side of the oil content gathering member and an upstream side disk surface of the filter.

7~~8~~. The range hood according to any of claims 2 to 6~~7~~, wherein an extension section extending inward from an inner wall of the oil content gathering member is further provided at the end portion of the downstream side of the oil content gathering member.