CLAIMS

1. An apparatus for disinfection comprising

a cylindrical housing;

a plurality of ultra-violet light emitting diode (UV-LED) modules disposed on the circumference of the cylindrical housing, each UV-LED module comprising a heat sink; and

a heat dissipation module disposed along the central axis of the cylindrical housing, the heat dissipation module arranged in thermal contact with the heat sink of each of the plurality of UV-LED modules;

wherein each of the plurality of UV-LED modules is pivotably mounted onto the circumference.

2. The apparatus of claim 1, wherein at least one of the plurality of UV-LED modules is configured to emit an UV-C radiation.

3. The apparatus of claim 1 or 2, wherein the UV-C radiation has a wavelength of 200 to 280 nanometers (nm).

4. The apparatus of any one of claims 1-3, further comprises a safety cover assembly, the safety cover assembly comprises a belt positioned parallel to the circumference of the cylindrical housing, and a slidable cover is arranged to slide in a direction parallel to the circumference of the cylindrical housing.

5. The apparatus of any one of the preceding claims, further comprises at least one end cap, the at least one end cap adapted to accommodate an UV-LED module.

6. The apparatus of any one of the preceding claims, wherein the heat dissipation module comprises a plurality of fans positioned to direct air from a first end of the cylindrical housing to a second end of the cylindrical housing.

7. The apparatus of any one of the preceding claims, wherein the heat dissipation module further comprises a plurality of ventilation columns, each ventilation column

arranged to be positioned between two ultra-violet light emitting diode (UV-LED) modules.

8. The apparatus of claim 6 and 7, wherein at least one fan of the plurality of fans is positioned along the longitudinal axis of the central axis to direct air along the central axis.

9. The apparatus of any one of the preceding claims, wherein the apparatus is an automated guided vehicle (AGV) or an autonomous mobile robot (AMR).

10. The apparatus of claim 9, wherein the AGV is equipped with at least one of the following sensors: image sensor, sound sensor, temperature sensor, electrical voltage sensor, electrical current sensor, light sensor, location sensor.