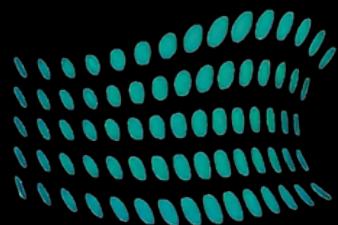




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INTRODUCTION TO H14 FILTERS

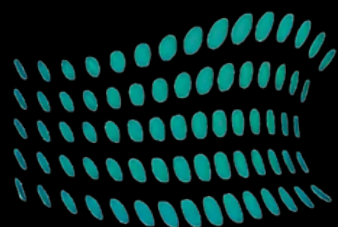
An H14 filter represents one of the most advanced levels of HEPA (High-Efficiency Particulate Air) filtration, as classified under the European EN 1822 standard. It is capable of removing at least 99.995% of airborne particles that are 0.3 microns or larger. Due to this high filtration efficiency, H14 filters are commonly used in environments that demand the cleanest possible air, such as hospitals, cleanrooms, pharmaceutical plants, research laboratories, and high-tech manufacturing units.



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EFFICIENCY AND PERFORMANCE

H14 filters offer significantly higher filtration performance compared to lower HEPA grades like H13. With a filtration efficiency of 99.995%, they effectively trap microscopic particles such as bacteria, fine dust, and aerosolized contaminants. However, their dense filter media can cause greater resistance to airflow, which may slightly increase energy consumption and require more robust fan units to maintain the desired air velocity. Therefore, when integrating H14 filters into a ventilation or cleanroom system, it is essential to account for factors such as static pressure, filter sealing, and airflow distribution. The precision in design and construction of these filters ensures no air bypass and guarantees optimal performance.

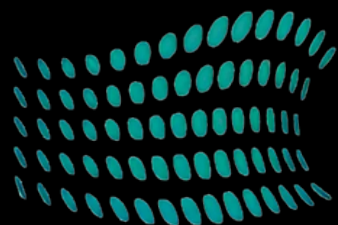


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RAYSHEN'S H14 SOLUTIONS

Rayshen offers a wide range of H14 filters designed for cleanroom ceilings and terminal filtration systems. These filters are commonly installed in ceiling-mounted HEPA outlets, which include features like powder-coated steel casing, diffuser plates, and aluminum anodized frames for added durability and easy integration. The design allows for straightforward maintenance and efficient installation in modular cleanroom setups. Rayshen's H14 filter models are available in various standard sizes, accommodating different airflow requirements while maintaining a compact and efficient footprint. The filter media used is typically water-resistant, flame-retardant, and constructed with glass fiber to provide long-lasting filtration performance.

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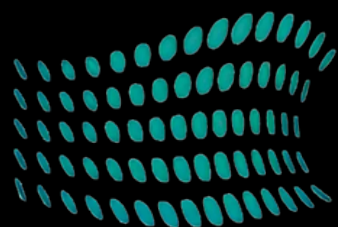


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APPLICATIONS AND USE CASES

H14 filters play a critical role in maintaining strict cleanliness standards across multiple industries. In the pharmaceutical sector, these filters ensure sterile processing areas remain free from microbial and particulate contamination. Biotechnology labs and research facilities depend on H14 filtration to protect sensitive experiments and maintain sterile environments. Hospitals and operating rooms utilize H14 filters in terminal air supply systems to reduce the risk of airborne infections. In the electronics and semiconductor industries, these filters help prevent defects caused by microscopic particles during assembly and packaging. Rayshen's H14-equipped air supply units are frequently used in ceiling grids, air showers, laminar airflow benches, and clean booths to deliver clean air directly to the working zone.

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CHOOSING BETWEEN H13 AND H14

When selecting between H13 and H14 filters, it's important to consider both filtration performance and system compatibility.

While H13 filters offer a high level of particle removal at 99.95%, H14 filters provide an even higher efficiency of 99.995%. The choice between the two often depends on the level of contamination control required. For general cleanrooms or commercial labs, H13 filters may suffice. However, in high-stakes environments such as pharmaceutical filling lines, surgical theaters, and microelectronics manufacturing, the added filtration protection of H14 is essential. It is also crucial to ensure that the HVAC system is capable of handling the additional resistance caused by H14 filters.