

HEPA Filtration: Breaking it Down, Particle by Particle

What is HEPA filtration?

High-efficiency particle air filters intercept debris and junk to purify the air released. HEPA filtration captures 99.97% of particles, 0.3 microns, or larger, in size. This technology dates back to the Manhattan Project during World War II, which filtered radiation particles. Today, after even further innovation, you can find it in air purifiers, vacuums, and hand dryers.

HEPA 101

How small is a micron?
ONE MILLIONTH OF A METER



HAIR FOLLICLE

$\mu\text{m} = 1 \text{ micrometer}$
more than 25,000 microns in 1 inch



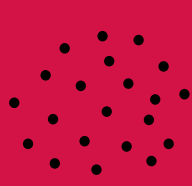
TYPICAL HAIR STRAND
(50 – 70 μm)

1 micron

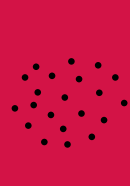
HEPA filtration is effective at capturing a range of particle sizes.



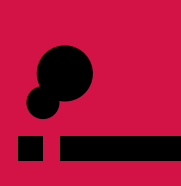
HUMAN HAIR
(50 – 70 μm)



HOUSEHOLD DUST
(0.05 – 100 μm)



MOLD SPORES
(10 – 30 μm)



TOBACCO SMOKE
(0.01 – 4 μm)



HEPA goes beyond granular by capturing tiny microns.

4 Ways HEPA Filters Trap Contaminants

- 1 Direct impact** – particles bump into glass fibers and stick to them
- 2 Sieving** – fibers block unwanted particles from passing
- 3 Interception** – glass fiber maze twists path for air flow, while adding an extra layer of particle blockage
- 4 Diffusion** – air molecules knock smaller particles into the fibers where they stick

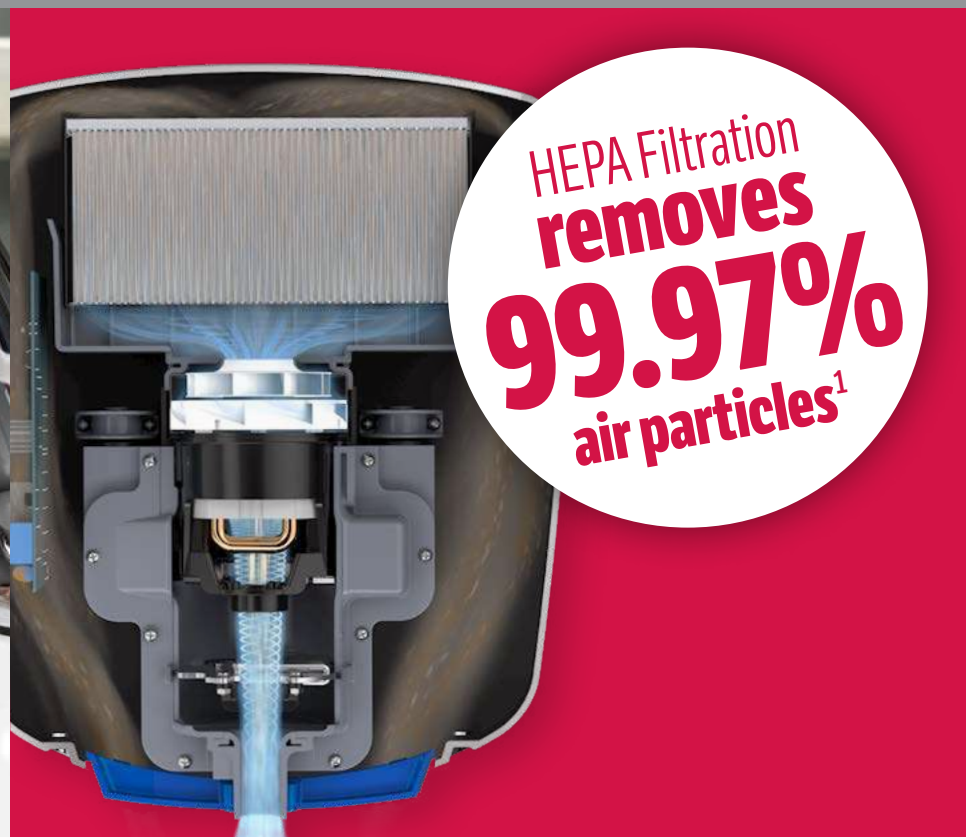
Clean Air Effectively

Nearly every high-traffic industry relies on HEPA filtration for its effectiveness to rid the air from contaminants.



Dry Hands Completely

When it comes to hand hygiene, users should dry hands completely after washing with HEPA-filtered air.



HEPA Filtration
removes
99.97%
air particles¹



WET HANDS SPREAD
1,000X MORE GERMS
THAN DRY HANDS²



Touchless, HEPA-Filtered
VERDEdri® & VMAX® V2
Dry hands completely
in 10-12 seconds

¹ HEPA filtration captures 99.97% effective for pollutants 0.3 μm or larger.
² (1997) Residual moisture determines the level of touch-contact associated bacterial transfer following hand washing. University of Auckland, Auckland, New Zealand.