

LABORATORY PRODUCTS

Pharmaceutical Processing Equipment Moves Are Made Easier by Floating on Air

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An integral part of any manufacturing and testing workflow is regularly relocating equipment. Chromatography columns, for example, must be regularly cleaned and repacked. One innovative option that can move heavy, awkward, delicate, or sensitive loads with ease is hovercraft technology, or air casters. Even in dense or pristine manufacturing environments, medical-grade manufacturing processes are made easier by using compressed air to 'float' equipment including casks, chromatography columns, tanks, tools, production and test equipment up to 18 metric tons with ease.

What Are Air Casters?

Developed for use in the aerospace industry, air casters are inflatable, donut-shaped bags that use compressed air create a thin film upon which multi-ton loads can float. Once the bags have inflated, excess air escapes underneath and creates lift. This film of air, no thicker than a business card, reduces the friction coefficient of the load to around one percent, so air casters require about one-tenth the force to move as wheeled casters. A 2.26 metric ton column would need only 2 to 11 kg of force to move, something even a single operator can manage. A wheeled caster would require as much as 136 kg of force to move across most floor surfaces.

Air Casters Benefit to Pharmaceutical Applications

Protect Equipment and Floors

Pharmaceutical equipment floated on air casters is nearly vibrationless, so it reduces the need for recalibration. Unlike wheels or rollers, air casters do not create pits, scrapes, or other damage to expensive cleanroom floors.

Facilitate continuous production

Air casters provide on-demand movement, contributing to continuous manufacturing.

Increase productive space

Air casters fit in the footprint of the equipment, so no additional space is required. This can reduce hallway width, which translates into millions of pounds in construction cost savings.

Increase throughput

Air casters require minimal setup and can be pushed with little fear of tipping, tripping, or collisions. They can move in minutes what might take a crane half an hour.

Enhance flexibility

Because air casters don't require any kind of permanent installation, facilities using air casters can reconfigure their flow as often as they like.

Find more details about movement systems [here](#).

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