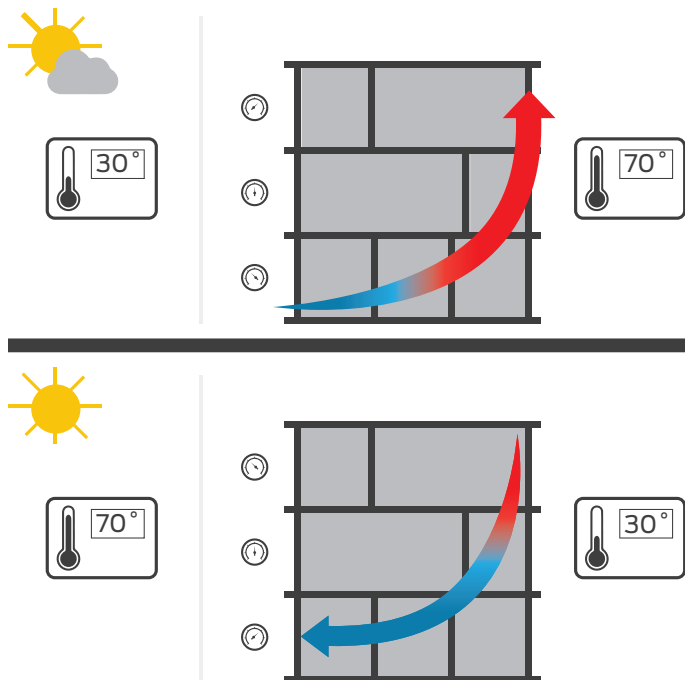
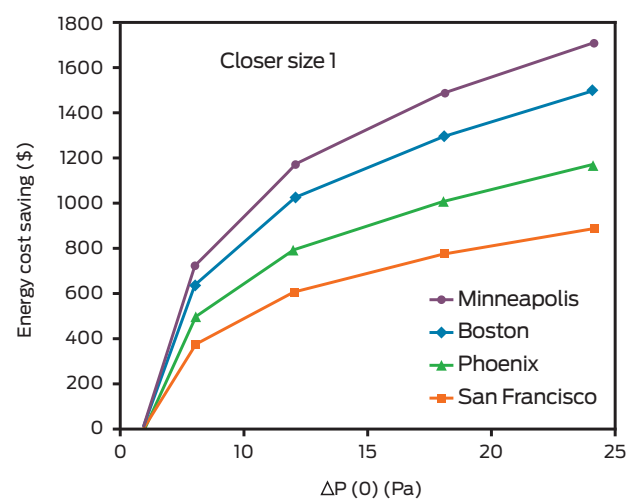


# Building Pressure

Building pressure is caused from a difference in temperature or pressure between two spaces separated by doors. As the air pushes into or out of a building — moving from an area of high pressure to one of lower pressure — it exerts incredible amounts of force on the doors and can prevent door closers from functioning properly. This pressure differential is created primarily by three forces: wind, temperature and the facility's HVAC system.



If the outdoor temperature is cooler than the indoor temperature, this can create an excessive amount of negative pressure within the lower levels of the building, and a correspondingly high level of positive pressure within the upper levels. The pressure difference pulls the cold outdoor air in at the lower levels and pushes the heated indoor air out at the upper floors. When it is warmer outdoors than indoors, the opposite happens.



A recent study conducted by Purdue University examined the potential heating and cooling energy cost savings from using an effective closer. Looking at cities in varying climate zones, it found that by installing an effective closer on exterior doors, companies could save as much as \$1,695 annually per door in heating and cooling costs.

## Know the risks

While it may sound like a fairly benign problem, building pressure can cause serious issues within a facility, resulting in safety and security risks, code violations and increased energy costs. Door closers are commonly used in commercial buildings to ensure doors are closed and securely latched and to reduce the airflow through the building. When the correct closer is in place, it can decrease these potential risks caused by pressure differentials.



When a perimeter door is unable to overcome the pressure within a building, you might notice it is left ajar. This can lead to unwarranted guests entering the interior of the building. Even openings with the most advanced access control systems can fall short when a door is not properly closed and latched.

Fire escapes and stairwells are particularly prone to the effects of building pressure. It's critical that these doors latch securely as they are designed to act as barriers, preventing the spread of smoke and fire throughout a facility and maintaining a safe means of egress.

Openings that are properly closed prevent the infiltration of warm, humid air into a facility during warmer months. If a door is left ajar, the interior becomes subjected to conditions that are ideal for mold growth, poor indoor air quality and structural deterioration.

High indoor-outdoor pressure differential can prevent doors from closing and latching properly, allowing air to flow through the opening. More energy is needed to condition the additional air and, therefore, energy costs will be higher.

### About Allegion

Allgion (NYSE: ALLE) is a global pioneer in safety and security, with leading brands like CISA®, Interflex®, LCN®, Schlage®, SimonsVoss® and Von Duprin®. Focusing on security around the door and adjacent areas, Allegion produces a range of solutions for homes, businesses, schools and other institutions. Allegion is a \$2 billion company, with products sold in almost 130 countries. For more, visit [www.allegion.com](http://www.allegion.com).

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