ACE Controls Inc.

2014, Case Study
Innovative hygiene system:
Rifton HTS features gas springs by ACE Controls

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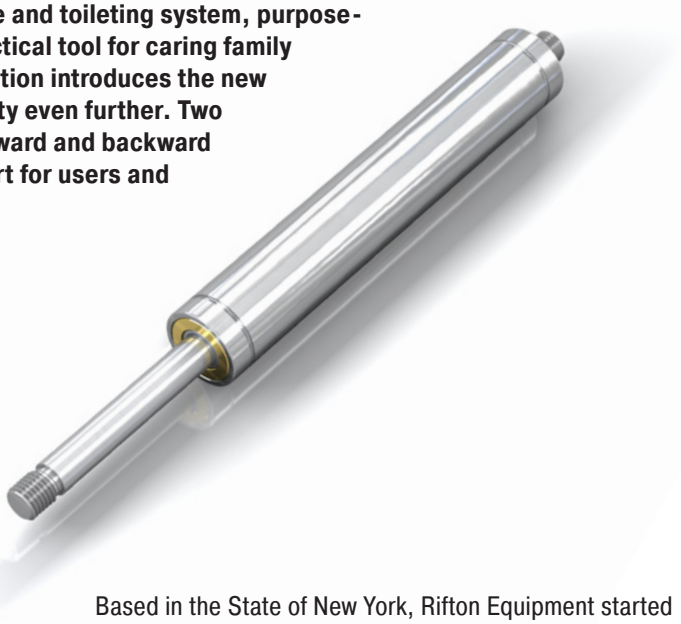
Big help for everyday use: The Rifton HTS is a hygiene and toileting system, purpose-built for disabled children and young adults. As a practical tool for caring family members or professional caregivers, its latest generation introduces the new Tilt-In-Space feature to enhance the device's flexibility even further. Two locking gas springs made by ACE Controls enable forward and backward tilting of the chair, resulting in bigger handling comfort for users and patients alike.



With inclination angles of 15 degrees to the front and rear, the ACE stainless steel gas springs facilitate the work of nurses
Rifton Equipment, Rifton, New York 12471, USA

Based in the State of New York, Rifton Equipment started developing and producing equipment for people with disabilities in 1977. Rifton's specialists possess extensive experience and expertise, particularly in the fields of mobility and seating. The company's existing product lines are revised regularly, their designs renewed and innovative technologies implemented.

The newest product line of Rifton's successful Hygiene and Toileting System (HTS) which was introduced to the market in February 2014 is a perfect example of this. Kirk Wareham, Director of Product Design at Rifton: "In addition to the aesthetic redesign we also incorporated several features that have been requested over the years by Rifton's US and international customers". As the chair can be used not only as a toileting chair on, over or off any existing toilet, but also for washing or showering purposes, a forward and backward tilting capability was one of the predominant wishes on the list.

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Gas springs were needed, which could be locked and released at the push of a button, but also were able to withstand challenging conditions with regard to moisture, water and cleaning agents.

“During the developmental phase, we meticulously evaluate potential component suppliers for our products,” says Kirk Wareham. That Rifton finally chose ACE Controls from Farmington Hills, Michigan, was due to the fact that ACE is able to customize and produce lockable industrial gas springs of highest quality and in large quantities. Additionally, ACE Controls provides exceptional customer service. In this case, as in many others before, ACE‘s application engineering department accompanied the development of new products together with the customer.

Ron Legawiec, ACE‘s Regional Sales Manager, coordinated the Rifton support and recounts: “Rifton Equipment’s use of gas springs on the mobility equipment is fairly recent. Incorporating this crucial component means higher flexibility of their products which leads to a significant competitive advantage.“ When Kirk Wareham started the redesign with his team over a year ago, Ron Legawiec quickly got involved in the development.

Once the requirements of the unique Tilt-In-Space feature were communicated to ACE Controls, it was clear to ACE‘s engineering team that a customized solution was needed.

ACE Controls offers a wide selection of standard industrial gas springs for all types of applications in which loads have to be lifted or lowered. Usually, gas springs are used to support muscle power and to provide controlled motions for lids, hoods, flaps and other crucial components in industrial construction. In this case, however, their function is to help the user in tilting Rifton‘s HTS forward and backward and to keep their child or patient securely in place.

Standard industrial gas springs were modified and equipped with a locking function that stops the motion of the HTS at an angle of 15 degrees in both directions.

Since the Tilt-In-Space feature is often used in bathrooms for toileting, washing and even showering purposes, the engineers opted to equip the customized gas springs with stainless steel bodies to prevent corrosion and to provide the best solution against strong cleaning agents and detergents such as bleach.

Upon completion of further development and testing phases, the new HTS went into serial production in February of this year and is now available in the United States as well as on the international market.

Another unique feature of the Rifton system is its ability to grow with its users. “It is available in three sizes,” says ACE‘s Ron Legawiec. The smallest version is appropriate for users from 30 inches upwards, whereas the biggest model seats youths and even adults of up to 74 inches in size. Of course, this also alters the requirements for the different gas springs in use. “Each HTS model features two customized gas springs which match the system exactly in its dimension and performance,” Ron Legawiec explains.

The stainless steel gas springs by ACE Controls are filled with pressurized nitrogen. At the push of a trigger the piston valve opens, gas streams in and the piston rod can be extended or pushed in. When the user releases the trigger, the valve within the gas spring will close automatically and the rod stays locked in its desired position.

Depending on their use, the industrial locking gas springs can be delivered by ACE Controls in several types of locking from elastic or rigid locking to absolutely rigid locking, free-moving locking and double locking types. A variety of materials are available. Just as is the case with all of ACE Controls‘ standard industrial gas springs, these special types of gas springs can be delivered in steel or stainless steel (both in AISI 304 or AISI 316 qualities).

Rifton Equipment and ACE Controls cooperated smoothly and thus were able to create a new generation of a high quality, innovative and well-designed hygiene system. On all relevant markets, Rifton’s new HTS has started to make life easier for care professionals and caring family members of disabled people by offering a comfortable, safe and versatile mobility solution. ACE Controls‘ industrial locking gas springs play an important role that the unique Tilt-In-Space feature of each system works safely every time good toileting is needed.

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