



CKD's Rubber-Air Cushion Cylinders Improve Performance

CKD's Rubber-Air Cushion Cylinders provide smooth performance and reduced noise. The rubber-air combination keeps the same profile as the rubber bumper design typical in most cylinders, but provides a smoother stop by trapping air at the end of the stroke. By greatly reducing the amount of surface area at the point of impact, the noise at the end of the stroke is significantly reduced when compared to a traditional disk shaped rubber bumper design.



"There are two basic types of cylinder cushion mechanisms, air and rubber," says Tom Carlson, CKD Technical Coordinator. "For air cylinders, the desire to reduce impact at the end of stroke is high, but the overall length increase for traditional adjustable air cushions is significant, as much as 50% longer in space saving cylinder designs. With traditional rubber bumpers, customers can save space, critical for keeping low profile cylinders short. However, the rubber bumpers used in cylinders stop suddenly and the noise at impact is much higher. The CKD rubber-air cushion offer the best of both technologies for smooth operation, reduced noise and space saving."

The CKD rubber-air cushion cylinders share the same profile as cylinders with rubber bumpers, but with performance improvements. In addition to lower noise and improved deceleration, as the valve shifts to change cylinder direction, the rubber-air cushioned design provides an immediate pressurized boost, helping to accelerate a cylinder at each change in direction.

CKD's rubber-air cushion design works by using a 2-stage, bumper molded of a proprietary rubber compound that entraps and converts the last volume of cylinder exhaust air into an air cushion. Rubber-air cushioned cylinders feature a cushion stroke of 2mm to 5mm depending on the bore size.

"With all of our cylinders, we focus on quality and reliability, says Mr. Carlson. "It's really important to us that we provide our customers with products that they can count on, that meet the specifications and require little to no maintenance. Our rubber-air cushioned cylinders are providing our customers with top performance."

Rubber Air Cushions by CKD are available on the following cylinder series:

- SSD2 compact cylinders
- CMK2 and SCP3 round body cylinders
- STG guided cylinders
- MRL2 magnetically coupled rodless cylinders



Key applications include:

- Reduced noise requirements
- Fragile item conveying
- Space saving applications