Product Name: Dynamic Damped Gas Springs (VMX)

Product Description:

Dynamic dampening is available on AVM's full range of gas springs. These gas springs are referred to as "Vmx". Standard gas spring shafts will extend from the tube at a steady speed with VMX we can vary the rate at which the shaft moves based on its position as it extends. This is particularly useful when opening enclosures and you do not want the door/lid to bang into the end stop at full open. VMX gas springs can be designed to decelerate the assembly as it approaches the full open position bringing the assembly to a gentle stop at full open. This design is used on the vast majority of automobiles made today.

AVM is the only company to offer dynamic damping on 6x15mm gas springs

Temperature plays a big part with gas springs. Output force will increase as the temperature rises and decrease as it drops. Gas springs function by utilizing compressed nitrogen gas to provide the force to extend the shaft via a differential in surface area of the piston. It is these gases that are affected by the temperature changes. In all applications, one must use a gas spring with enough force at the high end of the temperature range.

Also when developing the force required from the gas spring for your application, one should plan on a 1-2 % force loss per year. All gas springs manufactured today will loose some force over time because the gas molecules permeate through the rubber seal material. The amount of force lost depends on a number of factors, and this should be used to develop the design to ensure the gas spring still lifts or balances the loads several years down the road.

Technical Details:

Cylinder	Heavy gauge steel body; painted and cured to a glossy finish.
Piston Rod	Chromium-plated or Black Nitride hardened steel, precision-ground and highly polished.
Piston Assembly	Self-cleaning design automatically opens during each compression stroke to keep the piston area free of contaminants. Not offered by all manufacturers.
Sealing System	This is the area where most manufacturers differ in their approach. AVM uses a patented Triple-Lobe Rubber Seal, as well as a Rubber O-ring Piston Seal. AVM also offers lip seals for low/Medium duty applications.
Seal Backup System	Teflon ring, functions as a backup to the seal system, unique to AVM. Prevents seal wear (multi-lobe seal only).
Temperature Compensation (optional feature)	This module provides for an increase in the force when the temperature drops below approximately 40 F enabling the use of lower forces at room temperatures to provide easier closing efforts.

Nitrogen Gas Charge	Gas springs are charged with nitrogen most often to 1500 psi, but not more than 2500 psi. It does not react with any of the internal components. The amount of charge varies from 1/3 gram in the smallest springs to about 24 grams in the largest. Nitrogen is inert and is not flammable.
Glycol Fluid	Lubricant for internal components. Also provides dampening to slow down movement of liftgate just prior to full open. This is a high-viscosity index synthetic oil with a pour point of -70 F.