Types of Pneumatic Cylinders

Pneumatic cylinders are most commonly used in the engineering and manufacturing industries to generate motion from the build-up of a pressurised gas. Of course, the **type of pneumatic cylinder** you require will vary depending on the specific application and industry. Pneumatic cylinders are also commonly known as air cylinders; due to the way the instrument operates.

What are the types of pneumatic cylinders

There are three main **types of pneumatic cylinders,** including:

- Single Acting Cylinders
- Double Acting Cylinders
- Telescoping Cylinders

Each of these cylinders are used for specific applications, meaning the one most suited to purpose, will depend on the job in question. Below we explain the function of these three different types of pneumatic cylinders.

Single-acting pneumatic cylinder function

Single acting pneumatic cylinders only work on one end of the piston, compared to the double acting pneumatic cylinder, which operates on both. The single-acting cylinder is most commonly used in internal engines, such as car engines, where it relies on an element, including springs or a foreign load to push the piston in the other direction, creating the motion. Single acting pneumatic cylinders are sometimes also found in pumps and hydraulic rams, helping with heavy duty jobs, such as lifting heavy materials.

Double-acting pneumatic cylinder function

Double acting pneumatic cylinders operate on both ends of the piston, one element is used for the outstroke, while the other is used for instroke. While single acting pistons are most commonly used in internal engines, double acting pistons can be found in machinery such as steam engines, which is known as an external engine. This is because double acting pneumatic cylinders produce force from both ends of the piston.

Telescoping cylinder function

Telescoping cylinders also known as telescopic cylinders, these pneumatic cylinders are available in both double and single acting varieties. They include a piston rod which, when activated, ‘telescopes’ as a segmented piston, providing an extended reach. Telescoping cylinders are often used in applications where minimal pressure is applied.

How to select a pneumatic cylinder

The pneumatic cylinder selection should depend on the desired application and a certain shape, material and size will be suitable for the specific role. Certain considerations should be taken when choosing the material for a pneumatic cylinder. For example, if the application requires the machinery to operate at high temperatures, stainless steel cylinders should be considered.

MGA Controls stock a wide range of pneumatic cylinders, suitable for specific applications. For further information on our pneumatic products, please contact our technical team on **+44 1704 898980** or email sales@mgacontrols.co.uk, they will be happy to help.