



Types of Air Cylinders

Adjustable stroke cylinders have adjustable stops at one or both ends to restrict the amount of piston travel.

Clean profile cylinders are flat barrels with round edges and T-slots for sensors along the entire length of the barrel on three sides. Clean profile cylinders are used in applications that require ease of cleaning and good hygiene, as the clean, square line design prevents the collection of dust and dirt.

Compact cylinders, also called “short stroke cylinders,” are cylinders whose overall dimensions at zero stroke are minute compared to the typical cushioned cylinders. These low-profile cylinders are used in applications in which there is not enough space for a standard length cylinder, as they can lock or move short distances, even in limited spaces.

Double-acting air cylinders have air lines that provide pressure to both ends of the cylinder, supplying motion in two directions. The flow of compressed air is controlled by valves.

Double-rod cylinders have one piston, and the piston rod extends from both ends of the cylinder.

Miniature air cylinders, also called “micro-cylinders,” are small, rectangular, single-acting air cylinders in which the springs are housed inside enlarged piston rods. Miniature air cylinders operate in reverse motion, are easy to install, offer a range of interchangeable mounting brackets, which attach to the cylinder ends to provide versatility and adaptability, and can be powered by plant air.

Multiple bore cylinders have two or more boxes and pistons combined or stacked in the same cylinder.

Multiple-position cylinders are double-acting cylinders that consist of two cylinders with the same diameter. Multiple-position cylinders provide three or more end positions, as opposed to the normal two provided by other double-acting cylinders.

Non-rotating cylinders are cylinders in which the piston rod, ram or plunger and the relative rotation of the cylinder housing and piston are set.

Pancake cylinders have shorter lengths and larger diameters than other cylinders.

Pneumatic cylinders are comprised of a piston, a lower and upper port and an expansion chamber.

Round Body cylinders are often referred to as “throw-away” or “non-repairable,” as they are irreparable, and therefore, an economical cylinder.



Reverse single acting air cylinders are similar to single acting air cylinders, but the port is located on the opposite end in order to provide power on the retraction, or “pull” stroke.

Single-acting air cylinders have air pressure that supplies motion and force from one side of the piston flange and a spring that provides the return force after pressure release. Single-acting air cylinders utilize about half the amount of compressed air, which is controlled by valves, required by double-acting air cylinders for a single operating motion.

Smooth body cylinders are cylinders in which the cylinder body encases the piston.

Rectangular cylinders are encased in a rectangular, box-shaped frame.

Rodless cylinders have an extruded anodized aluminum barrel that is formed with a longitudinal slot, permitting the connection of the piston to the mounting carriage. A hardened stainless steel band pneumatically seals the cylinder, while a second stainless steel band on the exterior closes the slot and prevents contamination to the interior of the cylinder; a system of slide rails divides the two bands in the pressure-free zone between the two piston seals, which allows movement of the mounting carriage.

Single rod cylinders have only one piston, and the piston rod extends from only one end.

Stainless steel cylinders are suitable for harsh environments in which they will be rigorously cleaned for hygienic reasons or exposed to corrosive forces.

Tandem cylinders consist of two or more cylinders with linked piston assemblies.

Tie-rod cylinders are held together by exterior tie rods and are usually in a rectangular bolt pattern.

Twin rod cylinders consist of a series of twin-cylinder slide units and feature side-by-side twin cylinders in one body and two piston rods connected with a mounting plate. This design guarantees precise guiding compared to a typical cylinder and applies double the force of a cylinder of the same height.