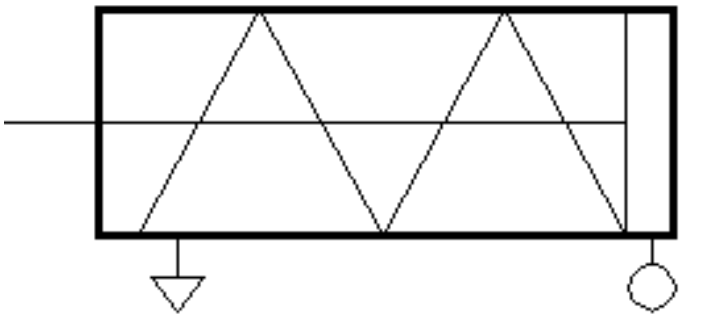
Understanding Pneumatic Schematics

Linear Pneumatic Actuators commonly called Pneumatic Cylinders

In the rest, (non-pressurized) position, the rod and piston are retracted into the cylinder. When the cylinder is pressurized the piston and rod are pushed out from the cylinder.

The spring energy returns the rod to the retracted position when the solenoid valve controlling this cylinder is de-energized. This saves air consumption in applications where a powered retraction is not necessary. Commonly used with 3/2 valves

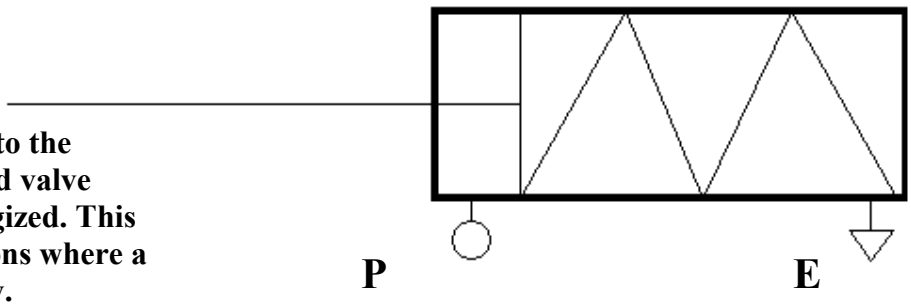
Single Acting Cylinder Extending or Push Type



In the rest, (non-pressurized) position, the rod and piston are extended from the cylinder. When the cylinder is pressurized the piston and rod are pulled into the cylinder.

The spring energy returns the rod to the extended position when the solenoid valve controlling this cylinder is de-energized. This saves air consumption in applications where a powered retraction is not necessary. Commonly used with 3/2 valves

Single Acting Cylinder Retracting or Pull type



Double Acting Cylinder

The rest position of the piston and rod in a double acting cylinder is determined by the position of the valve used to control the cylinder.

The advantage of a double acting cylinder is that is can be pressurized in either direction.

Double acting cylinders are used in combination with 4/2, 5/2 and 5/3 valves.