Quick Exhaust Valve Working Principle

Quick exhaust valves are exceptionally handy fittings that can be used in many different sectors of the industry to increase the cycle speed of a pneumatic cylinder. In this PDF, MGA Controls will be discussing the quick exhaust valves working principle, pneumatic quick exhaust valve applications and Bifold’s range of quick exhaust valves.

Quick exhaust valve operation

Quick exhaust valves are installed at the rod or blind end of a pneumatic cylinder to provide a quick extension and retraction of the equipment. Quick exhaust valves operate by increasing the speed of the pneumatic cylinder’s rod in order to expel the exhaust air at the port of the cylinder directly.

One quick exhaust valve is used in each port of the cylinder to ensure an increase in the speed of the rod in both directions. The use of a quick exhaust valve in a pneumatic system helps to increase cycling speed, in turn, that ensures a much smaller valve to be effectively used for the process.

Pneumatic quick exhaust valve applications

There are several different industrial applications in which a quick exhaust valve becomes useful. They are mainly used in oil and gas, offshore, chemical and refinery applications to speed up the process. There are several different ways in which quick exhaust valves can be used to benefit a system, these include:

Rapid retraction

When a double acting pneumatic cylinder is used rapid retraction is imperative. In this instance, quick exhaust valves generally have a greater exhaust capacity compared to commonly used four-way control valves. Thus, increasing cylinder speed and allowing for a smaller, less costly control valve to be used.

Dual pressure actuation

In this instance, a quick exhaust valve and a three-way control valve are involved. Under high-pressure conditions, these valves allow for quick extension of the cylinder. They can also be used at lower temperatures to achieve retraction and inevitably save air and increase the pneumatic cylinder’s life.

Bi-directional control

In this circuit, maximum control is achieved using only a small number of valves. The quick exhaust valve is responsible for the speedy retraction of the cylinder, while eradicating the need for a four-way valve.
Where to buy quick exhaust valves

Now you are aware of how quick exhaust valves operate and how helpful they can be to a process, you are probably wondering ‘where can I buy one of these helpful fittings?’ Well, MGA Controls has the answer. At MGA Controls we supply Bifold quick exhaust valves, including the HIPEX 2-way directional control valve range. These valves have been specifically designed for both modulating and “on-off” pilot pressure signals and house two operating principles depending on your application and use for the valve.

For more information on the quick exhaust valves working principle or to purchase one of our Bifold quick exhaust valves, get in touch today on 01704 778096 or via email sales@mgacontrols.co.uk.