Clearance Volume

Cylinder clearance volume is the volume of gas left in the cylinder at the discharge end of the stroke. It includes the space between the piston and cylinder head, the volume of the valves, valve pockets and any added clearance. Clearance volume is generally expressed as a percentage of the swept volume of a given cylinder end.

$$CL\% = \frac{cylinder\ clearance\ volume,\ in^3}{cylinder\ swept\ volume,\ in^3}\ x\ 100$$

Changes in the clearance volume of a compressor cylinder will affect the throughput and power requirements of that cylinder. Refer to the compressor theory topic for additional information. Additional clearance can be added to Ariel cylinders using the following devices:

High Clearance Valve Assembly

Variable Volume Clearance Pocket

Pneumatic Fixed Volume Clearance Pocket

Double Deck Volume Clearance Pocket