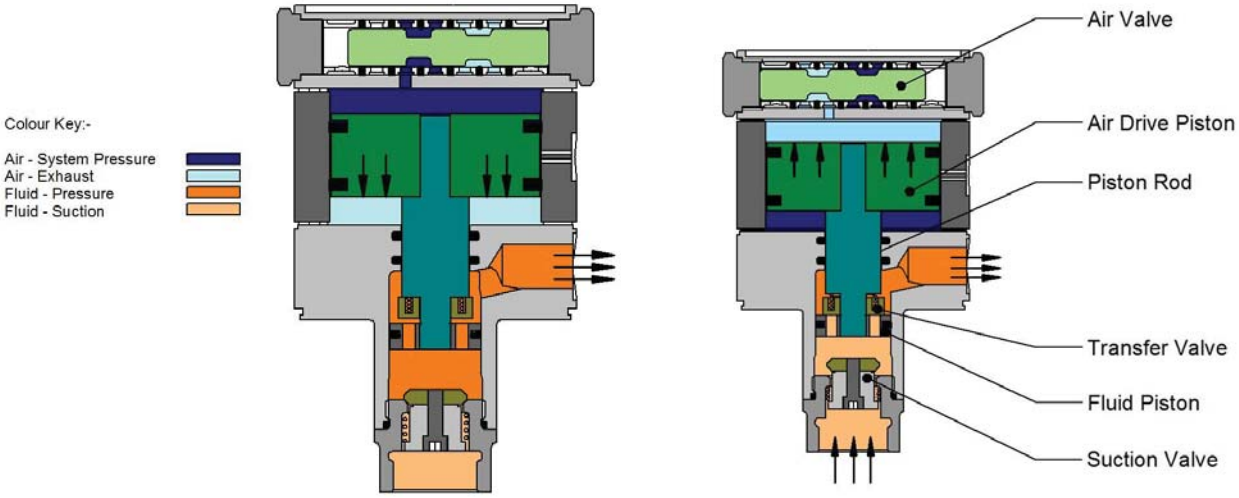
How Does It Work?

All HEYPAC pumps are driven by compressed air or other inert gases. The compressed air is applied to either side of an air drive piston which is connected via a piston rod to a smaller diameter fluid piston. The ratio between the diameter of the air drive piston and the diameter of the fluid piston gives the pumps intensification ratio. The diameter of the air drive piston remains the same across a pump series while the fluid piston diameter varies from model to model to give a range of intensification ratios.



The reciprocating action of the pump is controlled by an internal system of air valves and pilot valves and is completely pneumatic requiring no mechanically actuated valves to function. The pump will begin to cycle automatically whenever a demand is placed on the system or the air pressure is increased and will cycle until the forces on the fluid side equal the forces on the air drive side at which point the pump will stall out and maintain pressure with zero energy consumption. The pump will remain in the stalled condition until either the air pressure is increased or a demand is placed on the fluid side at which point the system balance will be lost and the pump will start to reciprocate again until it reaches the balanced condition again and stalls out. Flow rates from the pumps are highest at low pressure, diminishing as the pressure increases, with a corresponding reduction in pump speed as it approaches the pressure balance/ stall condition.

The majority of HEYPAC pumps are of a double acting nature, delivering flow on both the up and down stroke of the pump mechanism via an internal system of suction and transfer valves.