

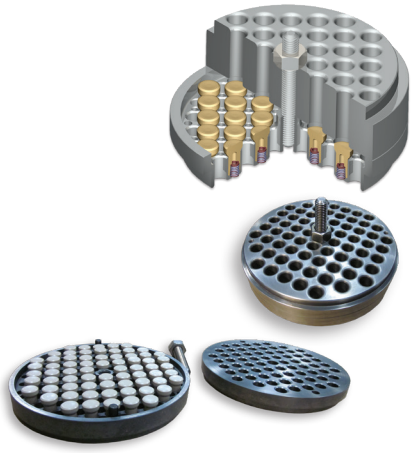
MAGNUM™ HammerHead Valve

New benchmark for reliability and efficiency.

Siemens Energy has built upon its legacy of engineering expertise to achieve an innovative design that raises the benchmark for reliability, long life, efficiency, affordability, and short cycle times from quote to shipment —the MAGNUM™ HammerHead™ valve. It is specifically designed for high molecular weight applications at both low and high compressor speeds. The MAGNUM™ HammerHead valve can be applied to all brands of reciprocating compressors.

Unique Advantages

The MAGNUM™ HammerHead valve maximizes compressor efficiency for high molecular weight applications such as carbon dioxide, ethylene, propane, and natural gas. Unlike other poppet valves, the HammerHead valve can be applied at high compressor speeds. Unlike plate and ring valves, the HammerHead valve uses one element for all valve sizes which simplifies inventory management.



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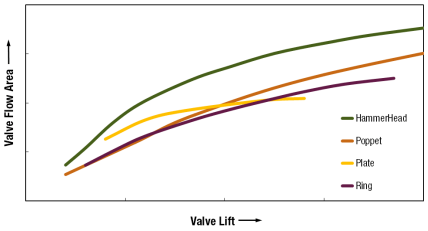
Features	Benefits
High-strength valve element	Allows operation at high compressor speeds and pressure differentials
Applied to all brands of reciprocating compressors	Commonality of internal components and reconditioning practices Readily used with finger & plug unloaders
Proven advanced valve element geometry	Reduces fatigue stresses for extended life while minimizing power losses
Common element for all valves	Reduces parts inventory Increases interchangeability Minimizes replacement costs
Precision-guided element and springs	Increases reliability of moving parts for long-term operation
Streamlined flow path with optimized seat, guard and lift areas	Maximizes valve flow area and is more tolerant of particles and liquids in the gas
Optimized design for increased efficiency	Lower $\frac{\text{BHP}}{\text{MMSCFD}}$

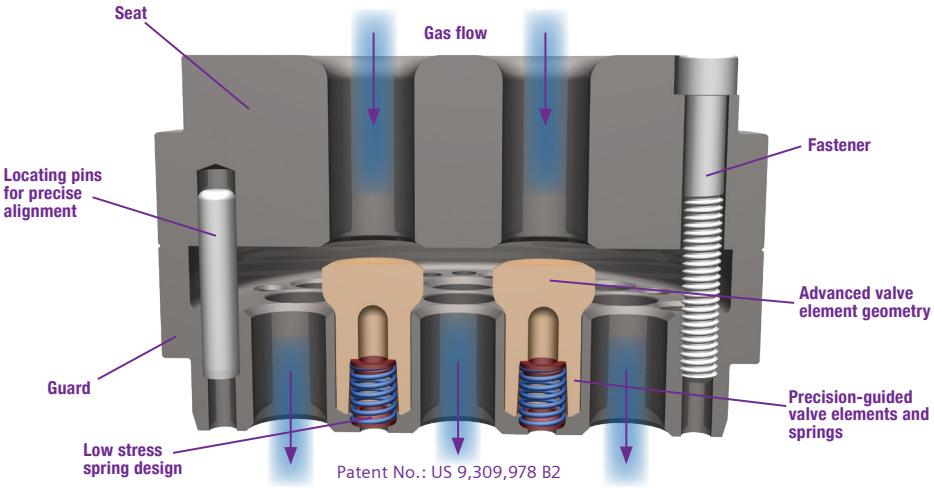
Improving the Standard

Valve performance and reliability are critical to compressor performance. The HammerHead valve's unique element design minimizes tensile stresses. The result is long life in some of the most demanding applications.

Innovative Design Results in High Efficiency

Computational fluid dynamics (CFD) and finite element analysis (FEA) were used to develop the HammerHead valve's geometry which improves valve flow area by as much as 60 percent. Minimal valve losses translate into improved efficiency.





Streamlined flow path with optimized seat, guard and lift areas maximizes valve flow area; exceptional tolerance for liquids and particulates in the gas.

Performance Testing

Flow testing revealed that the MAGNUM™ HammerHead valve surpassed all other valve types tested (see graph of Flow Area vs. Lift) including the poppet, plate and ring-type valves.

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