

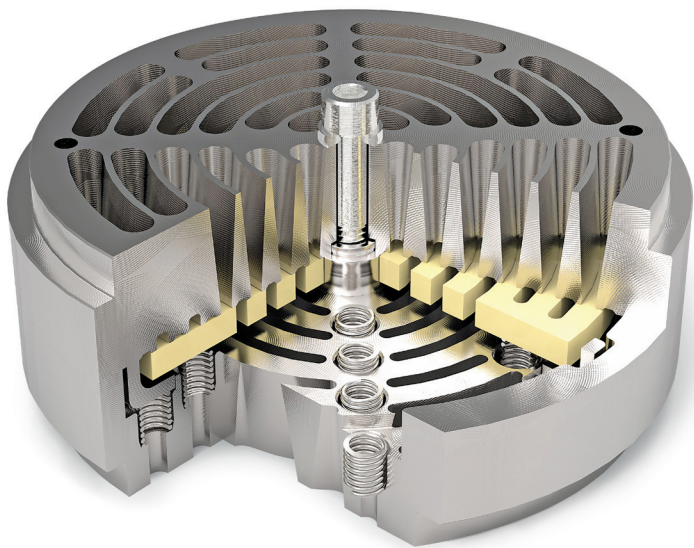
Ring Damped Compressor Valves

The Ring Damped Valve is a new breed of plate valve that delivers superior performance and reliability in high-speed reciprocating compressors.

Ring Damped Valves are backed by responsive service and technical support from a global network of Cook Compression® engineering, manufacturing and repair resources.

PATENTED DESIGN

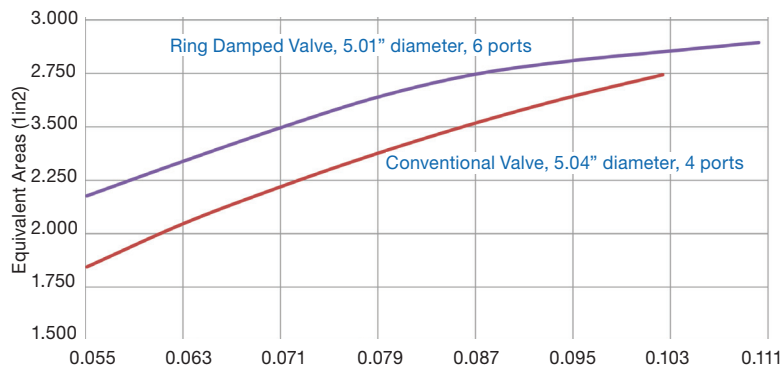
The Ring Damped Valve incorporates a patented damping ring to slow the velocity of the sealing element before it contacts the guard during valve opening. Reducing speed minimizes the impact forces applied on the sealing element, extending the useful life of the valve assembly. It also allows the valve to run at higher lifts than traditional valves, providing increased effective flow area.



GREATER EFFICIENCY

With increased flow and improved efficiency, Ring Damped Valves are a practical solution for significant energy savings.

Higher lifts and unique design features produce an effective flow area that is 10% larger (on average) than any plate valve of similar size. Increased flow results in a 10% reduction in energy usage by the compressor. For most applications, these energy savings alone will assure a 100% return on investment within one year of operation.



Flow area comparison of Ring Damped Valve and conventional valve; Ring Damped Valves operate at higher lifts, increasing flow and saving energy

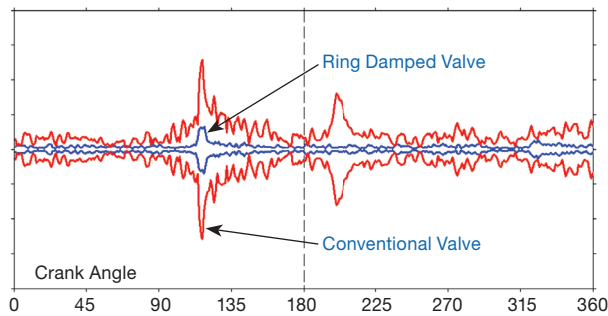
SUPERIOR RELIABILITY

High opening and closing impact forces reduce the useful life of a valve. To cushion these impacts, the Ring Damped Valve uses a full set of precision-engineered, heavy-duty springs to ensure timely valve closing, plus a damping ring to significantly decrease the velocity of the sealing element before it impacts the guard during opening.

The heavy-duty closing springs are specifically designed to withstand high speeds and lifts up to 0.150 inches (3.8 mm), providing outstanding dynamic reliability. The robust combination of closing springs, damping ring and a reinforced-material plate minimizes the possibility of failures occurring due to impact fatigue.

Testing confirms that Ring Damped Valves run cooler, with discharge valve cap temperatures as much as 8°F (4°C) lower than comparable valves.

Reduced impact levels, lower operating temperatures and dependable closing springs result in increased valve life and decreased risk of expensive unscheduled shutdowns.



Accelerometer trace from valve cap shows significantly lower impacts of Ring Damped Valve versus conventional valve

APPLICATIONS/OPERATING PARAMETERS

The Ring Damped Valve is suitable for, but not limited to, high-speed, short-stroke, lubricated gas compressors.

Primary applications include transport, production and storage of natural gas. The valve can also be used effectively in a wide variety of processes in refineries, chemical and petrochemical industries.

MANUFACTURING AND SERVICE CENTERS

Cook Compression has a global footprint, with manufacturing facilities and service centers in North America, Europe, and Asia. Our state-of-the-art production operations are equipped to handle both large and custom orders, while assuring short lead times. All Cook Compression service centers offer dedicated support for Ring Damped Valves, ensuring that your repair and reconditioning needs are backed with superior service.

TECHNICAL DATA		
Parameters	English Units	Metric Units
Operating Pressure	Up to 3,000 psi	Up to 206 bar
Operating Temperature	-40 to 400 °F	-40 to 200 °C
Compressor Speed	600 – 1,200 rpm	600 – 1,200 rpm
Valve Diameter Range	2.5 – 9.0 in.	64 – 230 mm
Valve Thickness	At least 1.5 in.	At least 38 mm

Specifications above subject to change due to product improvements

ADVANTAGES

