MOPPET® Compressor Valves

MOPPET valves provide outstanding reliability, even in the most demanding services. The revolutionary design incorporates key features of field-proven Manley® radiused-disc elements with additional innovations in valve technology. The design is custom-engineered for each application resulting in a valve that delivers consistently longer run times and reduces total life cycle costs.

In response to customer feedback, Cook Compression expanded the MOPPET product line to include **MOPPET XR** valves that deliver extended run times in small diameter applications and **MOPPET E²** elastomer-enhanced components for advanced durability and substantially longer run times.

ROBUST, RADIUSED-DISC ELEMENTS

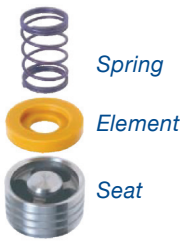
A MOPPET valve consists of a series of small, identical, radiused-disc elements that operate independently of each other to effectively disperse liquids and debris. Each element is made of durable, lightweight thermoplastic material, designed to provide outstanding resistance to damage and wear from entrained material. The low-mass thermoplastic disc reduces impact velocities while the standard radiused sealing surface deflects debris.

Radiused elements are thick (0.35 inch/8.89 mm) and have a centerline diameter of only one inch (25.4 mm), making them extremely stiff and resilient. They exhibit low bending stresses and withstand high impact forces caused by extreme pressure, gas mole weight, driver speed, or the presence of incompressible matter in the gas.

ADVANCED SPRING DESIGN

Springs and spring pockets in MOPPET valves are designed for extended performance in dirty service. Spring pockets have generous vent holes that eliminate the build-up of incompressible materials that can damage springs. High lifts and more space between the spring coils also allow debris to pass freely through the valve.

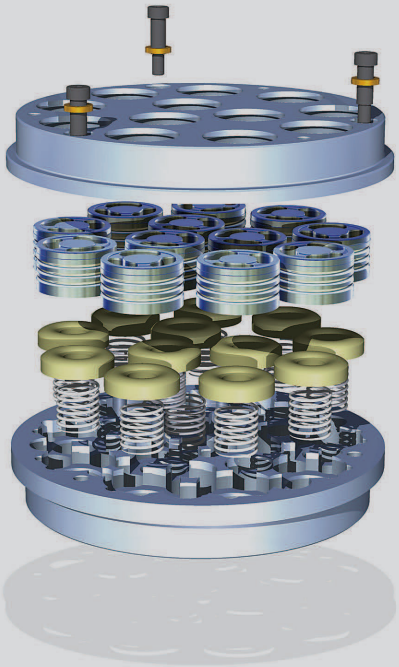
Spring stresses are lower in MOPPET valves than in typical plate valve springs. MOPPET springs have significantly taller free length, allowing for large wire diameter that reduces torsional stress. Larger wire also makes the springs more resistant to damage from debris.



MOPPET cartridge assembly

ADVANTAGES

- Superior Reliability
- Rugged Construction
- Commonality of Parts from One Compressor to the Next
- Incremental Cartridge Replacement (Not available on MOPPET XR)
- Wide Application Range
- Simple, On-Site Repair Using Only a Hydraulic Press (Not available on MOPPET XR)
- Available with Finger and Plug Unloaders



COOK COMPRESSION®

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DOVER® PRECISION COMPONENTS

DURABLE IN MOST SERVICES AND APPLICATIONS

MOPPET valves have no gas, pressure or speed limitations and meet NACE specifications, making them well suited for almost any service, including hydrogen, ethylene, flare, or natural gas. The cartridges are precision manufactured from 17-4 stainless steel, while the valve bodies are typically ductile iron (17-4 SST bodies also available). This provides exceptional corrosion resistance on critical seating surfaces without the high cost of an entirely corrosion-resistant valve. They are available in diameters ranging from 2.0 inches (50.0 mm) and up, and can be used in any model compressor where the valve envelope is sufficient to accept the design.

SIMPLE TO REPAIR

MOPPET valves make repairs simple and economical. Instead of lapping, grinding or machining, a MOPPET valve is reconditioned simply by replacing worn cartridges. Cartridges can be removed and replaced in minutes with a hydraulic press. No special training is required and repairs can be performed in the field. Elements and springs are replaced each time a valve is serviced, but cartridges are replaced only when damaged or worn. Incremental replacement reduces costs and helps maximize the utility of each component.

COMMONALITY OF PARTS

MOPPET cartridges are identical and universally interchangeable – from valve to valve and compressor to compressor. This commonality of parts significantly reduces inventory costs. Any compressor you have will use the same radiused-disc element and seat cartridge, plus one of a small number of color-coded springs. Repair technicians remain fully prepared with only a minimal number of spare parts on-hand. All items are stocked and readily available from Cook Compression.

To learn how MOPPET compressor valves will extend run times, reduce costs, and boost production in your compressors, contact your Cook Compression representative.

MOPPET VALVE OPTIONS

MOPPET XR VALVE
This engineered-to-order valve delivers the same reliability and durability as traditional MOPPET valves while maintaining high gas flow in small-diameter, tight clearance applications.

MOPPET XR valve design characteristics help reduce energy costs, and withstand severe service conditions to deliver extended run times.

MOPPET E^2 VALVE ELEMENTS
Elastomer-enhanced elements absorb energy to tolerate higher impacts than metallic and thermoplastic designs. They have a unique ability to flex and conform to valve seats to retain a gas-tight seal and protect the seat surface in very dirty applications, such as flare gas. This results in an extended valve service life and reduced maintenance costs.

MOPPET XR valves are designed to increase gas flow and deliver exceptional run times in small-diameter, tight-clearance applications.

In field tests, MOPPET E^2 elastomer-enhanced elements have demonstrated outstanding performance and substantially longer run times compared to thermoplastic elements.

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