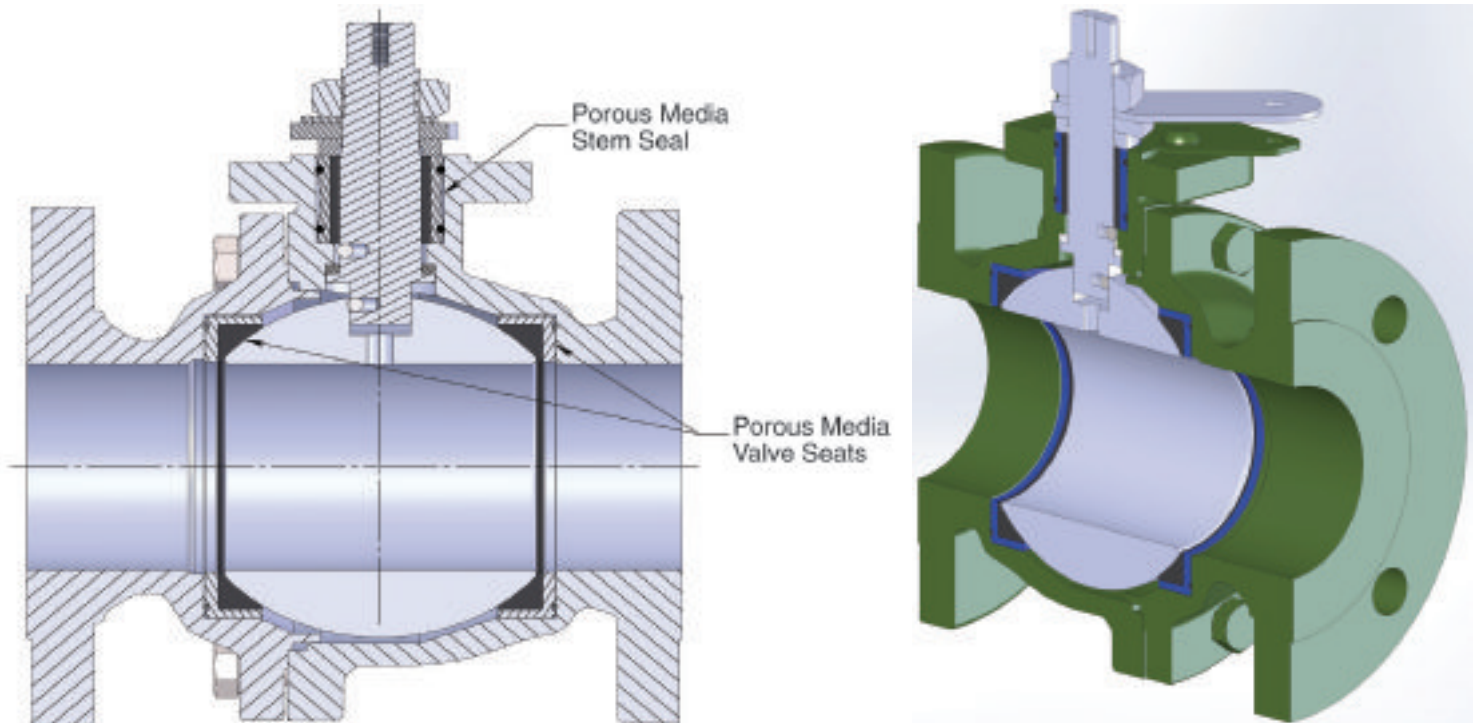


A New Way To Seat Valves

New Way Air Bearings applies its EPP technology to valves



■ The New-Valve replaces traditional valve seats and stem seals with externally pressurized porous media and creates a seal of pressurized gas.

BY KLINTON SILVEY

New Way Air Bearings (New Way) is known best for its externally pressurized porous (EPP) bearings. These bearings use high-pressure gas forced through a porous media that allows rotating shafts to spin freely while floating on a cushion of air. Now, New Way has applied that EPP technology to valves.

By replacing the standard valve seats and stem seals with EPP media, the New-Valve system allows for frictionless actuation of the valve as well as better gas sealing. Like a shaft using EPP bearings, the ball or gate in a valve, as well as the stem are seated on a cushion of high-pressure gas. With the New-Valve system in place, the high-pressure side of the valve may be used as a source pressure to hydrostatically separate the valve seat faces from the rotating valve member. This eliminates special tools or physical straining to manually open and close the valves.

Externally pressurized porous media components can withstand temperatures up to 750°F (400°C) and can often be retrofit into existing equipment. As of today, the New-

Valve can be used in plug, ball, gate and butterfly valves, as well as brush, hydrogen and other seals. However, New Way is aiming for a breakthrough in reciprocating compressor valve technology as well.

According to New Way, a patent application has been filed for a new kind of reciprocating compressor valve. Instead of using poppets or plates and springs, this valve would integrate EPP media technology into steel plates that would act as bearing and sealing surfaces at the faces. The plates would align flow areas and either rotate or shuttle back and forth, allowing gas to flow through openings, and to close when needed. Gas flow through the openings is based on a timing sequence in sync with the stroke of the compressor's piston, all in a frictionless, impact-less manner. It will also be possible for the externally pressurized input gas to be the same as the process gas for the flow through the EPP in many situations, thereby negating concerns of contamination leakage into the process gas stream. **CT2**