ASI Replacement Pistons

It is hard to believe that sapphire, one of the hardest materials known to man, could ever be worn out or scratched by a soft material like Teflon or UHMW-PE. Unfortunately it does wear out. As the seal gets used, small particles of salt crystals, metal fragments, and other contaminants become embedded in the sealing surface of the seal. Over time these contaminants abrade the sapphire or ceramic plunger and form flat spots or longitudinal scratches. These wear spots will destroy any seal in a very short time.

It is extremely important to inspect the sapphire or ceramic plunger whenever you replace a seal. If there are any signs of scratches or glazed spots, replace the piston. Failure to do so will result in a shredded seal and a pump head full of seal wear material.

It is very difficult to see worn spots on a sapphire or ceramic piston. Hold the piston up to a bright light and inspect with a 10x magnifier or microscope. Any spot that appears dull, glazed, or scratched is a sure sign of a worn piston.

About *ASI* Pistons

Our sapphire and ceramic rods are 100% inspected to ensure that there are no inclusions or other surface defects that may cause premature seal failure. We apply the same rigorous standards for quality control and close manufacturing tolerances that we maintain for our check valves.

Piston QC Tests and Instrumentation

Piston diameter	Digital micrometer
Piston length	Caliper
Geometry of ends	Shadowgraph 20X
Roundness	Talyrond
Surface finish	Talysurf
Groove (if any)	Shadowgraph 20X
Visual inspection	Binocular 25X

HIP Increases Density and Toughness