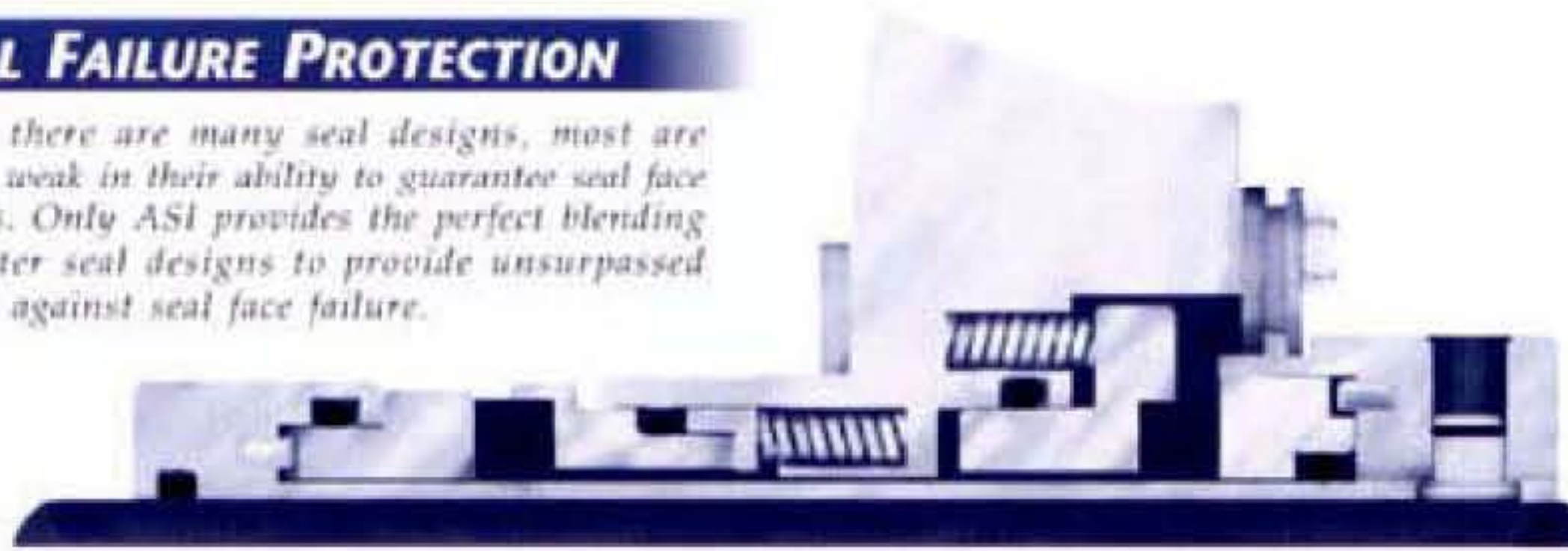


## TOMORROW'S TECHNOLOGY... TODAY

### SEAL FAILURE PROTECTION

Although there are many seal designs, most are inherently weak in their ability to guarantee seal face squareness. Only ASI provides the perfect blending of the better seal designs to provide unsurpassed protection against seal face failure.



First, the surface for the back of the rotary has been machined at a perfect right angle to the axis of the pump shaft. This eliminates the possibility of face misalignment due to o-ring swelling [See Fig. 1], as well as allowing o-ring operation at cooler temperatures due to the dissipation of heat. The location of the drive pin protects against catastrophic seal face failure by localizing any chips or cracks that may develop. This prevents the almost inevitable spreading of these cracks to the seal face that would occur if the drive mechanism was closer to the face [See Fig. 2]. As an added safety feature, ASI has encased the most crucial part of the seal faces in metal, protecting both plant personnel and the environment from seal face failure. ASI has also engineered a natural seam or parting line into the seal design to aid in the removal of the face, without which, field repairability would be virtually impossible [See Fig. 3].

Fig. 1

The rotary face of this design rests upon an o-ring, which will often swell. This swelling (not necessarily uniform in shape) will push the rotary seal face axially and cause the seal faces to misalign. In addition, vacuum service can draw this o-ring completely out of its groove.

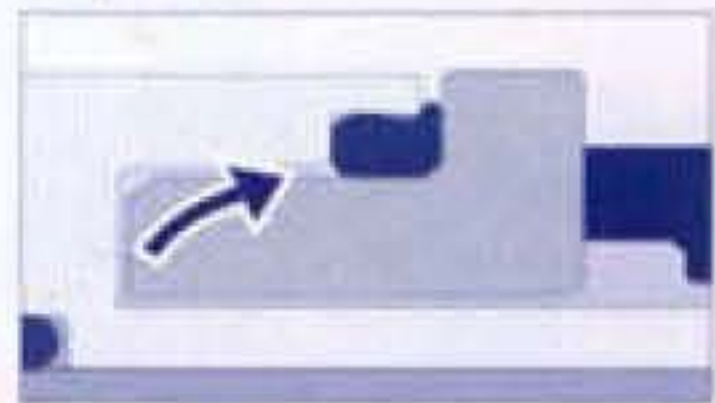


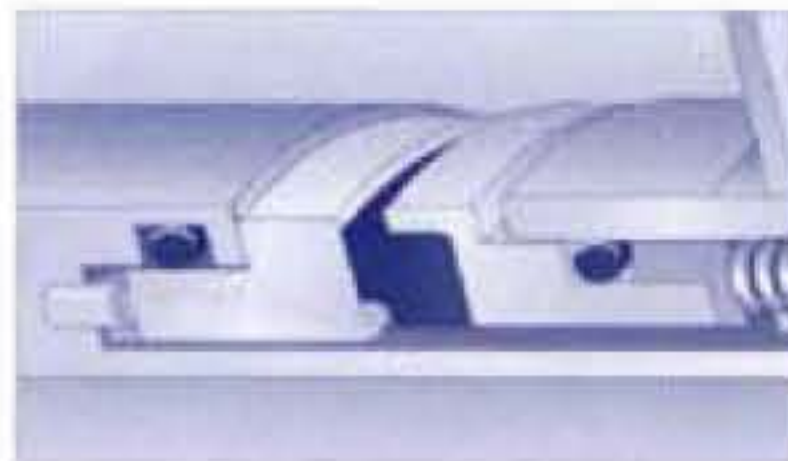
Fig. 2

At pump startup, break-away torque causes a drive lug to hit against the side of a groove beneath the face causing chipping or breakage. Centrifugal force sends any hard, sharp fragments into the seal faces. Also, constant re-engagement with axial movement causes a phenomenon known as "ramping" which provides a sloped surface for the seal face to ride up on. When these forces overcome the tensile strength of the seal face, breakage occurs.



Fig. 3

Resting the rotary seal face on such materials as gaskets (without thickness accuracy of machined parts) may cause the resting surface to become uneven from variables such as manufacturing variances, chemical decomposition or swelling. This, in turn, will produce face misalignment.



### STATIONARY DESIGN

The Model 590's stationary design derives sealing face alignment from the pump shaft and not the stuffing box or seal gland plate. Perfect sealing face squareness is automatic upon installation and requires no gland plate adjustments. Springs don't rotate with the shaft, nor do they flex. Under normal conditions, the Model 590 adjusts one time upon installation and thereafter only to compensate for the limited wearing of the sealing face surfaces.

# Modelo 590