

**Select the seal which offers materials of construction most compatible with the liquid to be pumped, and order as part of pump.**

*See a chemical resistance chart.*

## SINGLE MECHANICAL SEAL

Located outside the pump housing in the back of the support plate, the seal consists of a stationary ceramic face and cup in contact with the liquid which also lubricates the face of the carbon and bellows which is rotated with the shaft. The seal in this position does not have any metal in contact with the liquid since the spring used to maintain contact of the seal surfaces is external.

## DOUBLE MECHANICAL SEAL

Consists of two independent seals mounted within a seal chamber which is flushed with an independent water supply at a flow rate of approximately 2 to 4 gallons per hour minimum and a pressure slightly higher than the maximum expected operating pressure of the pump. Metal components of a double seal assembly do not contact pumped solution. Also, double seal design permits the use of a less exotic inboard seal material, so when replacement is necessary, the replacement seal is less expensive.

The following applications would require a double mechanical seal to minimize the risk of pump failure resulting from the use of a single seal pump. In some instances, it is the only method to pump the solution.

### ELECTROLESS PLATING SOLUTIONS

The double seal contains the liquid in the pump and prevents "plating out" onto the inboard seal faces. It is applicable to room temperature or hot solutions.

### CONCENTRATED CHEMICALS

Recommended because the water flush on the inboard seal faces reduces the corrosive effect of the solution.

### HIGH TEMPERATURES

Water flush cools inboard seal faces and reduces the effect of high temperatures on the seal components and adjacent pump elements.

### ABRASIVE and CRYSTAL FORMING SOLUTIONS

The pressurized water flush with double seal pumps prevents the abrasive from adhering to the inboard seal faces. If solutions are left in the pump, crystals do not form on seal faces because they are water flushed. Eliminates seal replacement due to scored faces from both solutions.

### CONTAINING CRITICAL SOLUTIONS

For the above reasons, the possibility of seal failure is minimized. However, if seal failure should occur, it will be less frequent and can be immediately determined by analyzing the seal discharge fluid.

## PUMP PROTECTORS

*Prevent pump damage due to dry operation of system.*

### DRI-STOP 2R and 2RE (flow activated)

Cooling water service for double mechanical seal pumps and vertical pump bearings. Monitors flow and de-energizes motor if flow drops below minimum 4 GPH.

### DRI-STOP 3 (pressure activated)

Suitable for chemical solution contact in single mechanical seal and magnetic drive pumps. Senses low pressure on pump discharge to de-energize motor at loss of prime.

### MODEL P-10 (digital motor monitor)

Shuts down pump in the event of dry run, cavitation, damaged impeller, closed inlet or outlet valve or line blockage.



*See pages 136 - 138 for complete information on pump protectors.*