

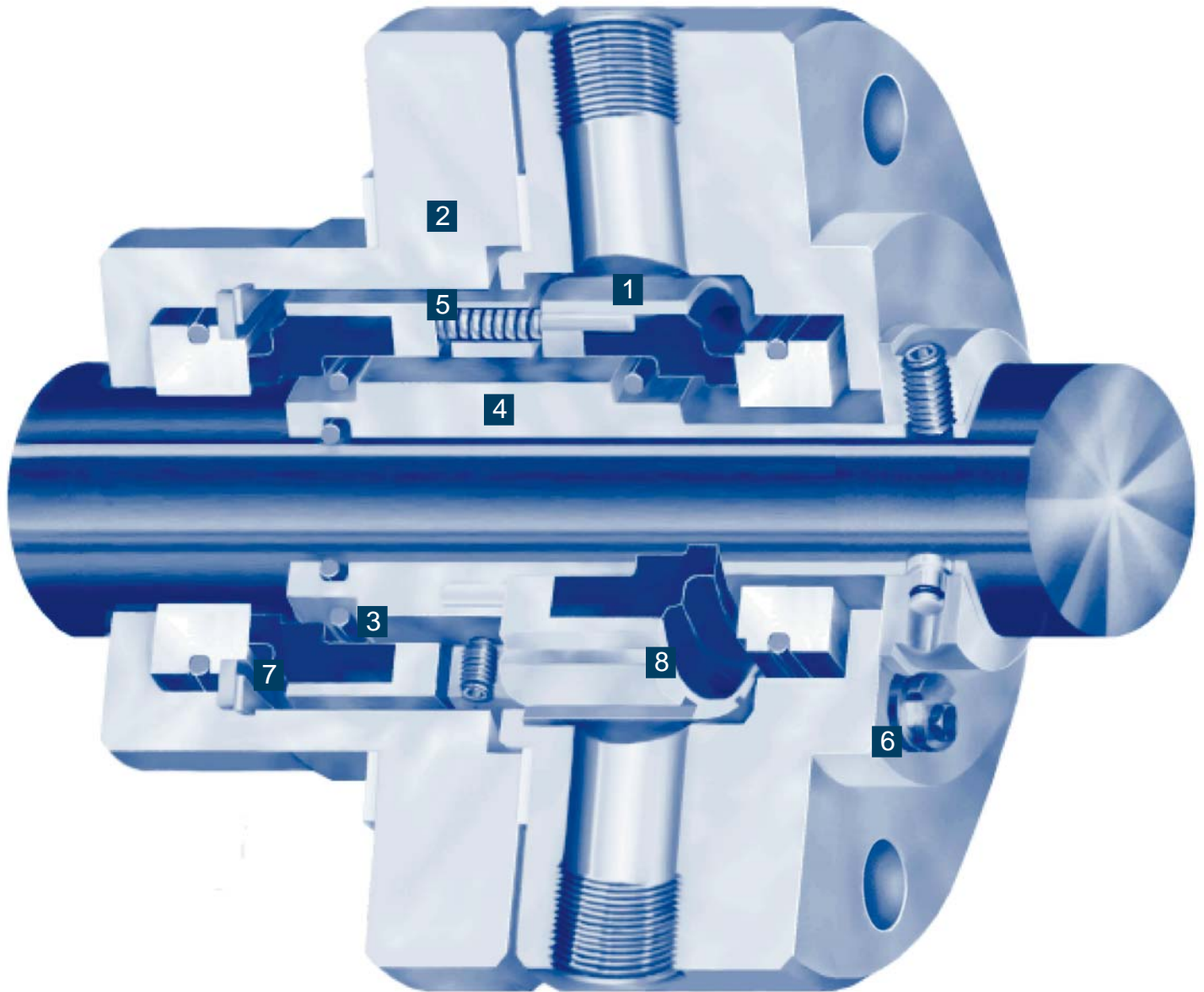
Model 510

Strength in Design



www.advancedsealing.com

The Model 510



Designed to address the inherent problems associated with hot polymer, monomer, and plastics applications, the Model 510's strength is in its design and function. The seal's reciprocal balance compensates for the varying pressures between normal service and spikes that often occur, preventing barrier fluid contamination and ensuring uninterrupted seal service.

Low Expansion Metallurgy

1

The Model 510's metallurgy maintains expansion rates compatible with the thermal growth of both the seal faces and the equipment. As a result, seal face distortion is minimized during high pressure spikes to maintain face flatness. In addition, seal installation and removal is possible while the pump is hot (reducing down time).

Cartridge Mounted

2

Self-contained and cartridge mounted, every Model 510 is factory assembled, inspected and pressure tested prior to shipment. The seal's canister design simplifies seal installation and removal while eliminating costly installation errors.

Reciprocal Balance

3

The reciprocal seal face balance of the Model 510 automatically senses the higher pressure fluid and uses that pressure to keep the inboard seal faces closed. This means that face closure is maintained during pressure fluctuations and process interruptions, protecting the barrier fluid against contamination.

Massive Seal Cross-Section

4

The rugged Model 510 seal components are engineered with heavier cross-sections enabling the seal to withstand greater pressure spikes. The seal parts also have larger radial clearances to allow for the increased movement typical to monomer/polymer service equipment.

Larger Springs

5

The longer, stronger springs of the Model 510 have less tendency to clog, as well as greater resistance to fatigue. The springs are also designed to float freely without increasing the mechanical load on either set of seal faces during unexpected pump shaft thrusts.

Assembly Cams

6

ASI's assembly cam devices align and protect the seal against handling and installation damage. These cams will also rotate out of the lock collar path if accidentally left in place.

Pressure Surge Defense

7

The Model 510's inboard seal faces utilize the hydraulic pressure of the process fluid for additional closing force. This feature maintains seal face closure if the process fluid pressure spikes above the combined pressure of the barrier fluid and the springs. In addition, the stationary faces are equipped with a safeguard device to lock them in place during pressure spikes (preventing product buildup behind these faces).

Circulating Device

8

The 510's pumping device circulates fluid and removes heat for added face cooling and longer seal face life. This device increases the flow of liquid within the seal, which enhances seal performance by preventing barrier fluid degradation.

Pump Specific Design

9

The design of the Model 510 is custom engineered to fit each corresponding piece of equipment. Not only does this customization provide the best fitted seal possible, it allows ASI to freedom to adapt and modify the seal components as necessary to provide optimum seal performance for specific applications.

MATERIALS OF CONSTRUCTION

METAL PARTS¹

Standard Metal Parts-
316ss, Various Controlled Expansion Alloys
Standard Springs- Hastelloy® C
Standard Set Screws- 316ss

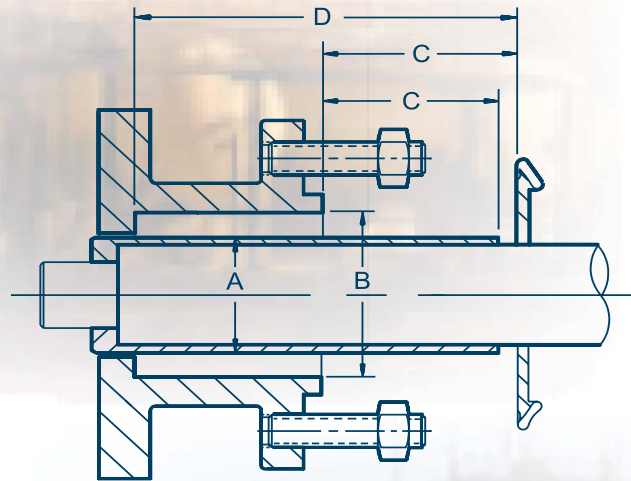
FACE MATERIALS¹

Stationary Faces-
Tungsten Carbide and/or Silicon Carbide
Rotary Faces- High Quality Carbon Graphite

SECONDARY SEALS

Standard O-ring Materials- Parker Ultra Parofluor®

¹The metal parts and face materials vary and are determined by the requirements of each application



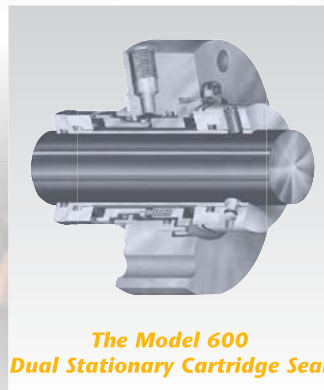
To provide superior seal performance, the Model 510 seal configuration is pump specific. The dimensions shown below are minimum equipment requirements and are for reference only.

EQUIPMENT REQUIREMENTS

A	B	C	D
shaft/sleeve	min. bore	min. outb'd dist.	min. overall dist.
2.750	4.500	2.75	5.25
2.875	4.625	2.75	5.25
3.000	4.750	2.75	5.25
3.125	4.875	3.25	5.37
3.250	5.000	3.25	5.37
3.375	5.125	3.25	5.37
3.500	5.250	3.25	5.37
3.625	5.375	3.50	5.50
3.750	5.500	3.50	5.50
3.875	5.625	3.50	5.50
4.000	5.875	3.50	5.00
4.125	6.000	3.75	5.56
4.250	6.125	3.75	5.56
4.375	6.250	3.75	5.56
4.500	6.375	3.75	5.56

If equipment does not meet above requirements, contact ASI's engineering department for possible seal customization.

ASI has designed a selection of mechanical seals for virtually all industrial applications



Hastelloy is a trademark of Hayes Int'l, Inc., Ultra Parofluor is a trademark of Parker Hannifin Corporation