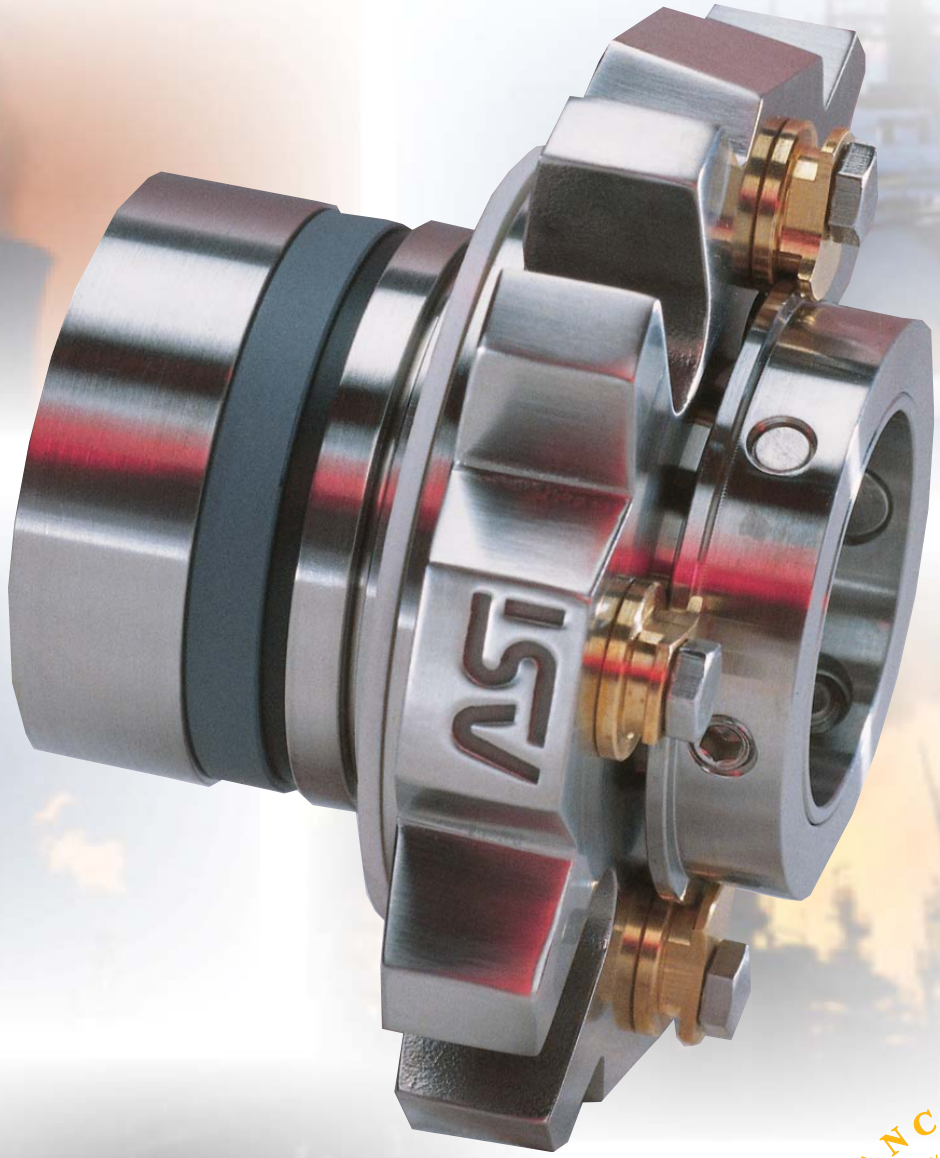
Model 585

The State of the Art in Single Seal Technology



ADVANCED SEALING INTERNATIONAL™

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freedom of selection

With So Many Seal Applications, Why Do Seal Companies Offer So Few Choices In Mechanical Seals?

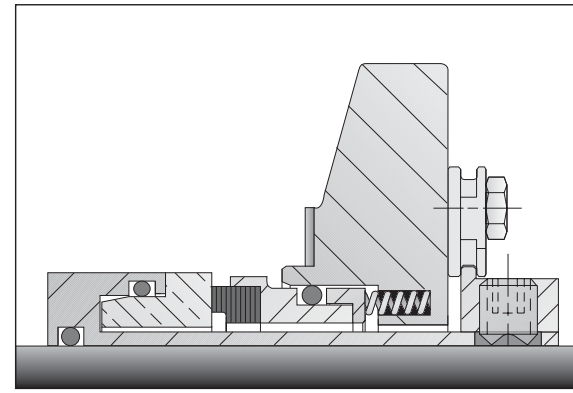
Unlike some competitors, **ASI** believes that the more tailored a seal is for an application, the better it will perform. Only **ASI** offers customers three style options in our universal single seal, all three with "off the shelf" convenience and price. This way, each customer pays only for the options that he chooses.

Customized Face Combinations

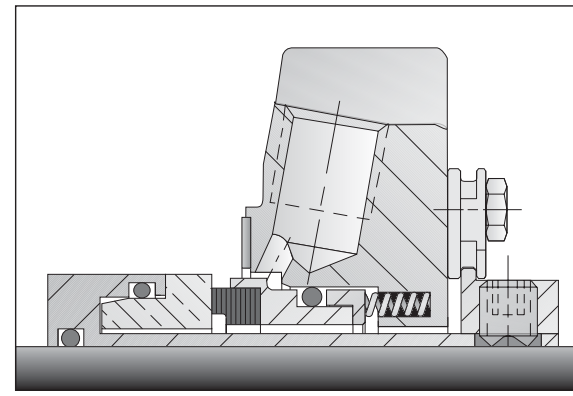
Another advantage that **ASI** offers customers is the variety of face combinations available with the **Model 585**; each tested to perform under various conditions. These faces are also engineered to operate in other **ASI** seals such as our models **590** and **595**, enabling us to maintain both higher on-hand inventory and lower in-stock prices, and to supply our customers with the choice of the face combination best suited for their seal application.

Flexible Repair Programs

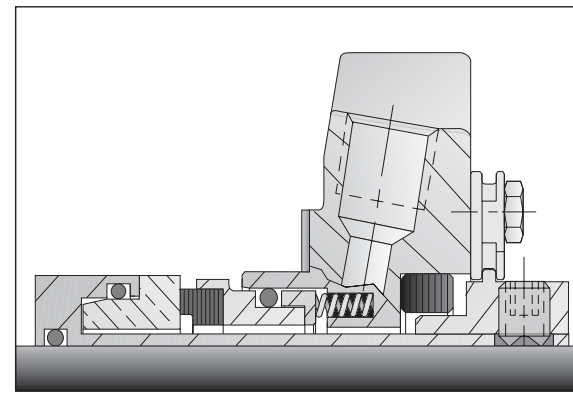
Due to the varied repair needs of our customers, **ASI** provides both "in-house" and in-field" repair services. Our repair program, **ASI Encore**, combines speed and efficiency, resulting in superior repairs at very competitive prices. What sets an **ASI Encore** seal apart from an ordinary repair are the quality standards used in reconditioning the seal; the same standards used for our new seal parts. To our customers, this means every **ASI Encore** seal achieves the same performance level and seal life as a new **ASI** seal. Also, upon request, we will analyze seal performance and suggest ways to extend seal life. **ASI** realizes that it is not always practical or necessary for our customers to return their seals to us for repairs, so we supply repair kits for all seal sizes and models for "in-field" repairs at a low cost. Once again, it is our customers, not **ASI**, who choose the repair method that it right for them.



NON-FLUSH PILOTED STYLE (585-1):
Features a self-centering gland plate, fits all standard ANSI pumps with stuffing box flushes



FLUSH STYLE INLET (585-2):
Directs liquid to seal faces and eliminates entrapped air in vertical applications



QUENCH STYLE INLET (585-3):
Equipped with quench or vent and drain connections, aids in E.P.A. compliance while maintaining low cost

Tomorrow's Technology... Today

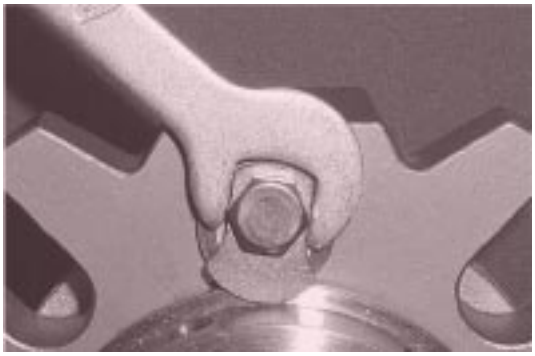
Using the latest in computer aided design and manufacturing, ASI has engineered the Model 585 for superior seal performance and extended seal life. All of its individual seal components were designed not only to perform well, but also to perform smart, ensuring the highest quality at the lowest price today... and tomorrow.

Unique Gland Plate Shape

With the aid of an advanced CAD/CAM system, **ASI** has designed a universal slotted gland plate able to fit on a wide variety of bolting patterns and stuffing box bores. **ASI**'s unique gland shape does not interfere with stuffing box features or flush connections as many round gland plates do.

Universal Seal Components

The majority of the **Model 585**'s seal components are engineered to operate in other **ASI** seal models as well. By using universal components, manufacturing costs are cut, stock availability is assured, and part replacement is simplified. **ASI** has been designing parts this way for over a decade, and is continually pioneering such ideas as this to pass on savings to our customers without compromising the integrity of our seals.



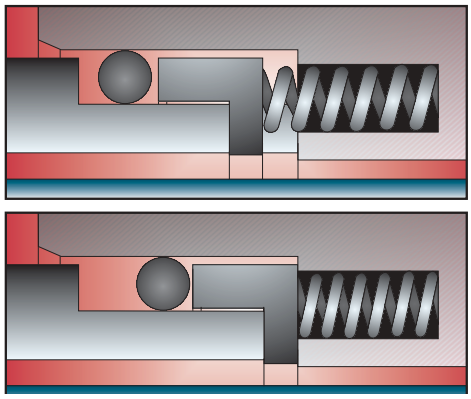
Handy-Cam

ASI's assembly device automatically centers the lock collar and sleeve and "sets" the seal within precise specifications. What makes this cam unique is its on-step disengagement. Simply slide the end of a wrench (provided) over the flats milled into the sides of the cam and with a quarter turn, the cam is safely out of the lock collar's path. These cams will not damage the seal, either if they are left in place. It is also just as easy to put them back into place, if necessary, for impeller adjustments.

Reduced Spring Tension

During service, the **Model 585**'s hydraulic pressure activates **ASI**'s piston device, Spring Guard™, forcing the springs into their drilled recesses. This achieves three things:

1. Eliminates spring fatigue; springs are at their optimum performance level at start-up and shutdown.
2. Seals off the springs from clogging deposits of foreign material and gummy vapor residues.
3. Relieves the face of all spring load and assures you of uniform face wear which can only be derived from hydraulic pressure. This feature provides you with reduced spring tension at low pressures and eliminates spring load completely at stuffing box pressures over 50 psi.

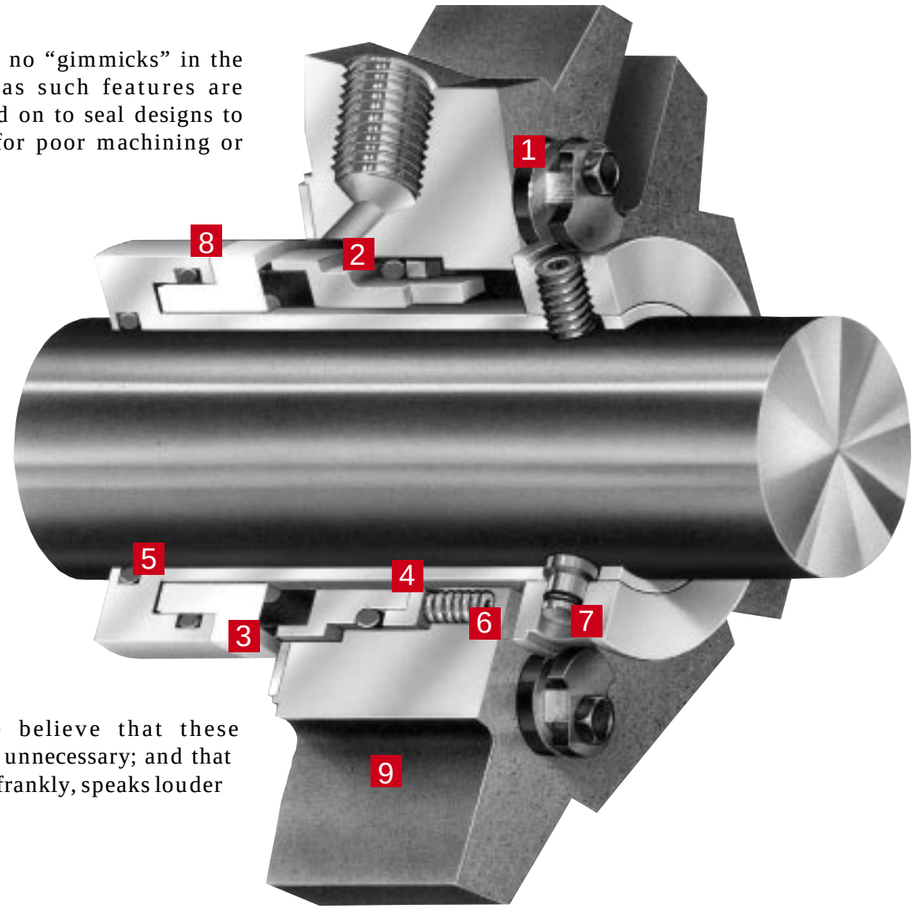


Custom Built Performance, Universal Design

No Design Gimmicks- Just Quality Manufacturing

ASI has always demanded the highest level of quality from our mechanical seals. Our components are manufactured to tougher tolerances than our competitors'. We also demand the same precision from our seal faces which are lapped beyond industry standards. The end result is a perfectly fitted, precisely aligned mechanical seal, built the way was originally designed.

You will find no "gimmicks" in the **Model 585**, as such features are usually added on to seal designs to compensate for poor machining or design.

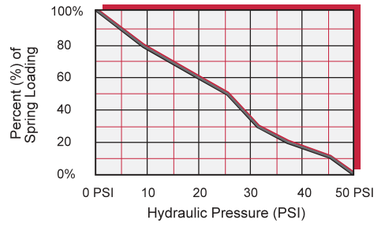


At **ASI**, we believe that these gimmicks are unnecessary; and that quality, quite frankly, speaks louder than hype.

Effect of Hydraulic Pressure on Spring Loading

As pressure increases, the piston device compresses the springs, reducing the load on the springs, reducing the load on the seal faces. At 25 psi, 1/2 of the spring load has been relieved; at 50 psi, all the spring load has been relieved.* Hydraulic pressure alone maintains face contact without any additional spring load, reducing face wear and lengthening seal life.

*The pressure level for full disengagement of the springs varies slightly, depending on size.



1 Assembly Cams

ASI's Handy-Cams™ not only align the seal, but protect against damage in handling and upon installation, all with the ease of one-step disengagement.

2 Hydraulic Balance

Seals can operate at higher pressures without overheating.

3 Metal Encased Seal Faces

Seal faces are encased, protecting plant personnel and the environment from catastrophic seal face failure.

4 Piston Device

ASI's Spring Guard™ protects springs against vapor deposits, spring fatigue and enhances seal face life.

5 Longer Seal Life

All o-rings and secondary sealing surfaces are virtually static under normal service conditions and are not required to adjust for misalignment, which provides longer seal life.

6 Isolated Springs

Springs are removed from the fluid and cannot clog from sediments in the pumpage.

7 Safe-T-Stud™ (Patent # 5,275,421)

ASI's unique drive mechanism aids in precision alignment and transmits torque from the shaft to the lock collar, from the inside out, preventing seal damage, misalignment and accidental loosening.

8 Guaranteed Face Squareness

Every **ASI** seal sleeve (new or repair) is placed on a specially designed machine equipped with an expanding device which holds the shaft sleeve and acts exactly the same as the pump shaft. The nesting surface for the back of the rotary face is then machined at a perfect right angle to the axis of the pump shaft. This, in conjunction with a closely controlled bore v. length ratio, guarantees perfect face squareness every time, every seal, for all **ASI** assemblies as well as all **ASI Encore** repairs.

9 Compact Cartridge Mounted Design

The self-contained unit provides simplified installation, as mechanics are not required to make critical installation measurements. Also, impeller clearance adjustments can be made without any interruptions in service; the cartridge mounted design makes disassembly of the pump to make such adjustments unnecessary.

10 Stationary Design

The **Model 585**'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. Under normal conditions, the **Model 585** adjusts one time upon installation and thereafter only to compensate for seal face wear.

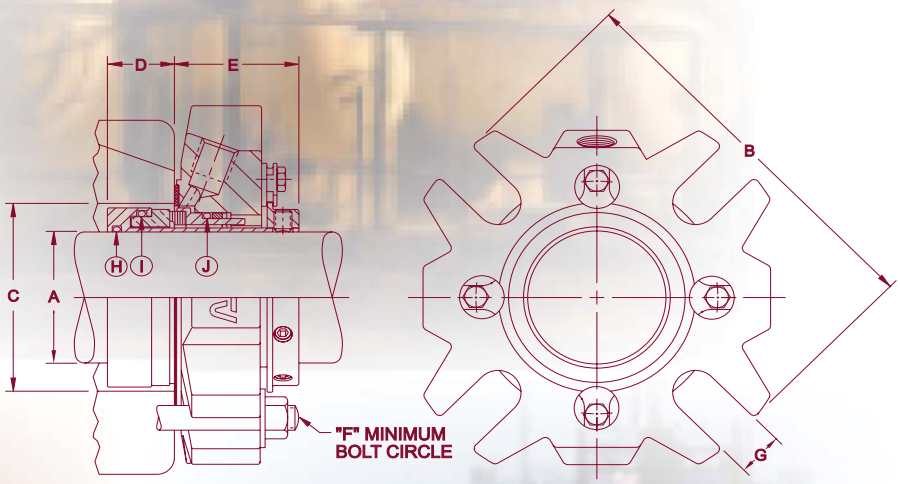
MATERIALS OF CONSTRUCTION

METAL PARTS[1]
Standard Metal Parts- 316ss
Standard Springs- Hastelloy® C
Standard Set Screws- 316ss

FACE MATERIALS[1]
Stationary Face- High Quality Carbon Graphite
(Tungsten and Silicon Carbide Also Available)
Rotary Face- Silicon Carbide

SECONDARY SEALS[1]
Standard O-ring Materials- Fluorocarbon, EPDM or Aflas®

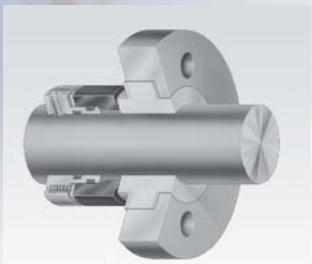
[1]Other Materials May Be Specified



585 DIMENSIONAL DATA

A	B	C		D			E			F			G	H	I	J
		MIN	MAX	PILOT	FLSH	QNCH	PILOT	FLSH	QNCH	3/8"	1/2"	5/8"				
1.000	4.19	1.62	1.75	1.23	.91	1.43	1.26	1.57	1.46	2.81	-	-	.44	120	028	125
1.125	4.19	1.75	1.88	1.23	.91	1.43	1.26	1.57	1.46	2.81	-	-	.44	122	029	127
1.250	4.19	1.87	2.00	1.23	.91	1.43	1.26	1.57	1.46	2.97	-	-	.44	124	030	129
1.375	4.19	2.00	2.13	1.23	.91	1.43	1.26	1.57	1.46	3.13	-	-	.44	126	031	131
1.500	5.50	2.25	2.50	1.33	.93	1.33	1.31	1.72	1.69	3.63	3.75	-	.63	128	135	134
1.625	5.50	2.37	2.62	1.33	.93	1.33	1.31	1.72	1.69	3.63	3.75	-	.63	130	137	136
1.750	5.50	2.50	2.75	1.33	.93	1.33	1.31	1.72	1.69	3.66	3.78	-	.63	132	139	138
1.875	5.50	2.62	2.88	1.33	.93	1.33	1.31	1.72	1.69	3.75	3.88	-	.63	134	141	140
2.000	6.00	2.75	3.00	1.33	.93	1.33	1.31	1.72	1.69	4.00	4.13	4.25	.69	136	143	142
2.125	6.00	2.87	3.13	1.33	.93	1.33	1.31	1.72	1.69	4.13	4.25	4.38	.69	138	146	144
2.250	6.00	3.00	3.25	1.33	.93	1.33	1.31	1.72	1.69	4.25	4.38	4.50	.69	140	148	146
2.375	6.50	3.12	3.38	1.33	.93	1.33	1.31	1.72	1.69	4.38	4.50	4.63	.69	142	150	148
2.500	6.50	3.25	3.50	1.33	.93	1.33	1.31	1.72	1.69	4.50	4.63	4.75	.69	144	151	150

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

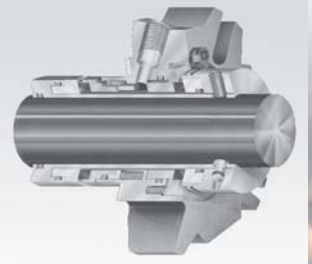


The Model 500
Single Inside Seal

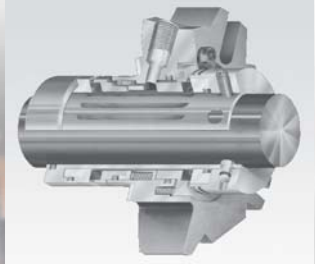
The Model 505
Single Outside Seal

The Model SD-3
Single Inside Seal

The Model 600
Double Cartridge Stationary Seal



The Model 590
Double Cartridge Stationary Seal



The Model 595
Double Pumping Stationary Seal

Hastelloy is a trademark of Hayes Int'l, Inc., Aflas is a trademark of Asashi Glass Co., Ltd.

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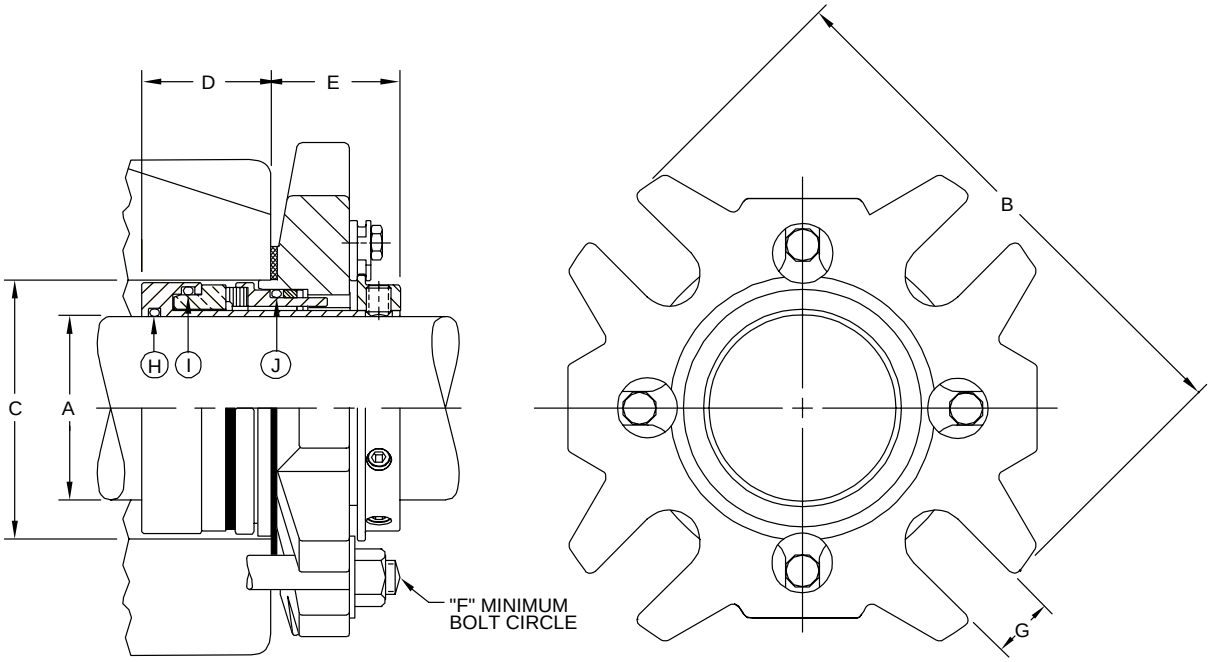
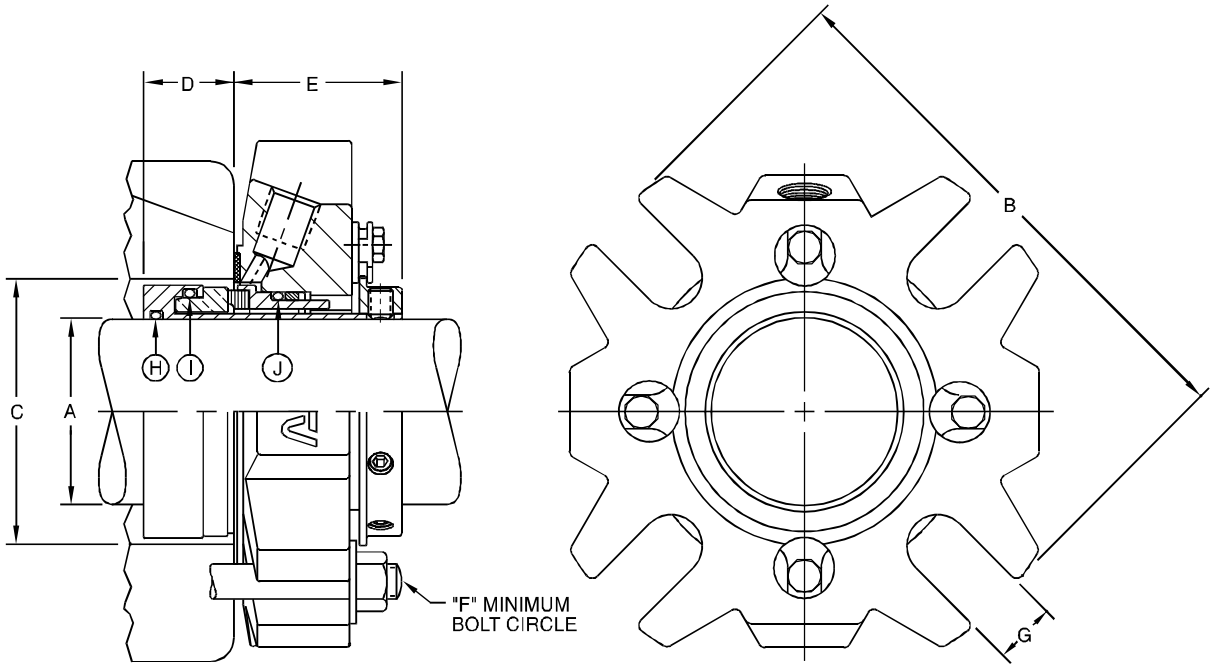


Model 585-1 (Pilot)
Dimensional Data

		A.	B.	C.		D.	E.	F.			G.
Cross Section	Seal Code	Shaft Size	Max. Gland Width	Min. St. Box Bore	Max. St. Box Bore	Inb'd Seal Dim.	Outb'd Seal Dim.	Min. Bolt Circle by Bolt Size 3/8"	1/2"	5/8"	Max. Slot Width
.312	-16	1.000	4.19	1.625	1.75	1.23	1.26	2.81	--	--	.44
.312	-18	1.125	4.19	1.750	1.88	1.23	1.26	2.81	--	--	.44
.312	-20	1.250	4.19	1.875	2.00	1.23	1.26	2.97	--	--	.44
.312	-22	1.375	4.19	2.000	2.13	1.23	1.26	3.13	--	--	.44
.375	-24	1.500	5.50	2.250	2.50	1.33	1.31	3.63	3.75	--	.63
.375	-26	1.625	5.50	2.375	2.62	1.33	1.31	3.63	3.75	--	.63
.375	-28	1.750	5.50	2.500	2.75	1.33	1.31	3.66	3.78	--	.63
.375	-30	1.875	5.50	2.625	2.88	1.33	1.31	3.75	3.88	--	.63
.375	-32	2.000	6.00	2.750	3.00	1.33	1.31	4.00	4.13	4.25	.69
.375	-34	2.125	6.00	2.875	3.13	1.33	1.31	4.13	4.25	4.38	.69
.375	-36	2.250	6.00	3.000	3.25	1.33	1.31	4.25	4.38	4.50	.69
.375	-38	2.375	6.50	3.125	3.38	1.33	1.31	4.38	4.50	4.63	.69
.375	-40	2.500	6.50	3.250	3.50	1.33	1.31	4.50	4.63	4.75	.69
.500	-42	2.625	6.50	3.625	3.88	1.69	1.49	4.81	4.94	5.06	.75

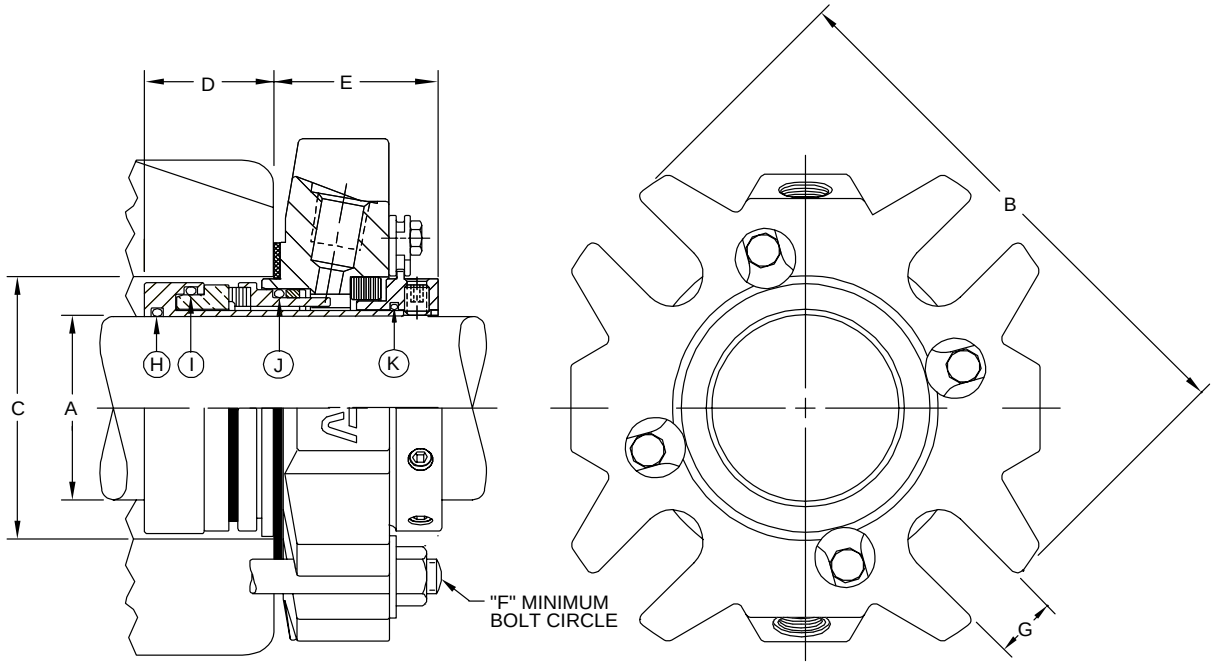
		H.	I.	J.
Seal Code	Shaft Size	O-ring Data		
-16	1.000	120	028	125
-18	1.125	122	029	127
-20	1.250	124	030	129
-22	1.375	126	031	131
-24	1.500	128	135	134
-26	1.625	130	138	136
-28	1.750	132	139	138
-30	1.875	134	141	140
-32	2.000	136	143	142
-34	2.125	138	146	144
-36	2.250	140	148	146
-38	2.375	142	149	148
-40	2.500	144	151	150
-42	2.625	231	236	235



Model 585-2 (Flush)
Dimensional Data

		A.	B.	C.		D.	E.	F.			G.
Cross Section	Seal Code	Shaft Size	Max. Gland Width	Min. St. Box Bore	Max. St. Box Bore	Inb'd Seal Dim.	Outb'd Seal Dim.	Min. Bolt Circle by Bolt Size 3/8"	1/2"	5/8"	Max. Slot Width
.312	-16	1.000	4.19	1.625	1.75	.91	1.57	2.81	--	--	.44
.312	-18	1.125	4.19	1.750	1.88	.91	1.57	2.81	--	--	.44
.312	-20	1.250	4.19	1.875	2.00	.91	1.57	2.97	--	--	.44
.312	-22	1.375	4.19	2.000	2.13	.91	1.57	3.13	--	--	.44
.375	-24	1.500	5.50	2.250	2.50	.93	1.72	3.63	3.75	--	.63
.375	-26	1.625	5.50	2.375	2.62	.93	1.72	3.63	3.75	--	.63
.375	-28	1.750	5.50	2.500	2.75	.93	1.72	3.66	3.78	--	.63
.375	-30	1.875	5.50	2.625	2.88	.93	1.72	3.75	3.88	--	.63
.375	-32	2.000	6.00	2.750	3.00	.93	1.72	4.00	4.13	4.25	.69
.375	-34	2.125	6.00	2.875	3.13	.93	1.72	4.13	4.25	4.38	.69
.375	-36	2.250	6.00	3.000	3.25	.93	1.72	4.25	4.38	4.50	.69
.375	-38	2.375	6.50	3.125	3.38	.93	1.72	4.38	4.50	4.63	.69
.375	-40	2.500	6.50	3.250	3.50	.93	1.72	4.50	4.63	4.75	.69
.500	-42	2.625	6.50	3.625	3.88	1.68	1.89	4.81	4.94	5.06	.75

		H.	I.	J.
Seal Code	Shaft Size	O-ring Data		
-16	1.000	120	028	125
-18	1.125	122	029	127
-20	1.250	124	030	129
-22	1.375	126	031	131
-24	1.500	128	135	134
-26	1.625	130	138	136
-28	1.750	132	139	138
-30	1.875	134	141	140
-32	2.000	136	143	142
-34	2.125	138	146	144
-36	2.250	140	148	146
-38	2.375	142	149	148
-40	2.500	144	151	150
-42	2.625	231	236	235



Model 585-3 (Quench and Drain)
Dimensional Data

		A.	B.	C.		D.	E.	F.			G.
Cross Section	Seal Code	Shaft Size	Max. Gland Width	Min. St. Box Bore	Max. St. Box Bore	Inb'd Seal Dim.	Outb'd Seal Dim.	Min. Bolt Circle by Bolt Size 3/8"	1/2"	5/8"	Max. Slot Width
.312	-16	1.000	4.19	1.625	1.75	1.43	1.46	2.81	--	--	.44
.312	-18	1.125	4.19	1.750	1.88	1.43	1.46	2.81	--	--	.44
.312	-20	1.250	4.19	1.875	2.00	1.43	1.46	2.97	--	--	.44
.312	-22	1.375	4.19	2.000	2.13	1.43	1.46	3.13	--	--	.44
.375	-24	1.500	5.50	2.250	2.50	1.33	1.69	3.63	3.75	--	.63
.375	-26	1.625	5.50	2.375	2.62	1.33	1.69	3.63	3.75	--	.63
.375	-28	1.750	5.50	2.500	2.75	1.33	1.69	3.66	3.78	--	.63
.375	-30	1.875	5.50	2.625	2.88	1.33	1.69	3.75	3.88	--	.63
.375	-32	2.000	6.00	2.750	3.00	1.33	1.69	4.00	4.13	4.25	.69
.375	-34	2.125	6.00	2.875	3.13	1.33	1.69	4.13	4.25	4.38	.69
.375	-36	2.250	6.00	3.000	3.25	1.33	1.69	4.25	4.38	4.50	.69
.375	-38	2.375	6.50	3.125	3.38	1.33	1.69	4.38	4.50	4.63	.69
.375	-40	2.500	6.50	3.250	3.50	1.33	1.69	4.50	4.63	4.75	.69
.500	-42	2.625	6.50	3.625	3.88	1.68	1.89	4.81	4.94	5.06	.75

		H.	I.	J.	K.
Seal Code	Shaft Size	O-ring Data			
-16	1.000	120	028	125	024
-18	1.125	122	029	127	026
-20	1.250	124	030	129	028
-22	1.375	126	031	131	029
-24	1.500	128	135	134	030
-26	1.625	130	138	136	031
-28	1.750	132	139	138	032
-30	1.875	134	141	140	033
-32	2.000	136	143	142	034
-34	2.125	138	146	144	035
-36	2.250	140	148	146	036
-38	2.375	142	149	148	037
-40	2.500	144	151	150	039
-42	2.625	231	236	235	040

INSTALLATION INSTRUCTIONS FOR MODELS 525, 585-1, 585-2
MECHANICAL SEAL ASSEMBLY

EQUIPMENT PREPARATION:

A. Visually inspect shaft or sleeve over which seal is to be installed for excessive burrs or sharp edges which might cut sleeve o-ring upon installation. If necessary, correct or replace part.
B. Check for excessive shaft movement, maximum whip .003" T.I.R. (including sleeve, if so equipped) and .010" maximum end play. If necessary, replace shaft sleeve or bearing.
C. If pump is equipped with shaft sleeve, inspect o-ring or gasket seal and replace if necessary to prevent possible leakage.
D. Compare actual stuffing box dimensions with those shown on assembly drawing. If actual dimensions do not fall within tolerances shown on assembly drawing, do not attempt to install mechanical seal.
E. The mechanical seal is manufactured from materials shown on contents label. Chemical compatibility with the product and barrier fluid must be established. If compatibility cannot be established, do not attempt to install mechanical seal. Consult factory.

INSTALL SEAL AS FOLLOWS: (USE ASSEMBLY DRAWING TO LOCATE PARTS SPECIFIED BELOW)

1. Only after equipment has been thoroughly inspected, necessary repairs made, and dimensional and chemical compatibility established, should seal be removed from protective packaging.
2. Lubricate sleeve o-ring with silicone lubricant furnished. DO NOT USE PETROLEUM BASED LUBRICANTS.
3. Slide seal assembly over shaft or sleeve.
4. Reassemble pump.
5. Slide seal assembly into position against stuffing box face.
6. Install nuts over gland studs and finger tighten. Then, in an opposing sequence, torque gland nuts uniformly.
7. Make any final impeller or bearing adjustments.
8. Tighten set screws (in lock collar) uniformly.
9. Loosen hex head screws and move assembly cams/clips out of path of lock collar, then retighten hex head screws. If cams are inaccessible, loosen hex head screws (if possible) and cams will automatically disengage from seal once equipment is started. If seal is equipped with alignment bushings, remove bushings (after clips are relocated) and discard.
10. Install any applicable seal flush or bypass connections.

REMOVE SEAL AS FOLLOWS: (USE ASSEMBLY DRAWING TO LOCATE PARTS SPECIFIED BELOW)

1. Before removing seal, loosen hex head screws and refasten assembly cams/clips to lock collar, then retighten hex head screws.
2. Remove any pipe connections from seal gland plate.
3. Loosen shaft set screws (in lock collar).
4. Remove gland nuts.
5. With both hands, grasp seal gland plate by outer diameter and pull seal assembly beyond end of shaft.

INSTALLATION INSTRUCTIONS FOR MODEL 585-3
MECHANICAL SEAL ASSEMBLY

EQUIPMENT PREPARATION:

A. Visually inspect shaft or sleeve over which seal is to be installed for excessive burrs or sharp edges which might cut sleeve o-ring upon installation. If necessary, correct or replace part.
B. Check for excessive shaft movement, maximum whip .003" T.I.R. (including sleeve, if so equipped) and .010" maximum end play. If necessary, replace shaft sleeve or bearing.
C. If pump is equipped with shaft sleeve, inspect o-ring or gasket seal and replace if necessary to prevent possible leakage.
D. Compare actual stuffing box dimensions with those shown on assembly drawing. If actual dimensions do not fall within tolerances shown on assembly drawing, do not attempt to install mechanical seal.
E. The mechanical seal is manufactured from materials shown on contents label. Chemical compatibility with the product and barrier fluid must be established. If compatibility cannot be established, do not attempt to install mechanical seal. Consult factory.

INSTALL SEAL AS FOLLOWS: (USE ASSEMBLY DRAWING TO LOCATE PARTS SPECIFIED BELOW)

1. Only after equipment has been thoroughly inspected, necessary repairs made, and dimensional and chemical compatibility established, should seal be removed from protective packaging.
2. Lubricate sleeve o-ring with silicone lubricant furnished. DO NOT USE PETROLEUM BASED LUBRICANTS.
3. Slide seal assembly over shaft or sleeve.
4. Reassemble pump.
5. Slide seal assembly into position against stuffing box face.
6. Install nuts over gland studs and finger tighten. Then, in an opposing sequence, torque gland nuts uniformly.
7. Make any final impeller or bearing adjustments.
8. Tighten set screws (in lock collar) uniformly.
9. Loosen hex head screws and slide assembly clips out of path of lock collar, then retighten hex head screws.
10. Install any applicable seal flush or bypass connections.
11. FOR QUENCH/DRAIN SERVICE: Connect quench (in top of seal gland plate) to a clean liquid flush source. Connect drain (in bottom of seal gland plate) to a liquid collection point.
    FOR VENT/DRAIN SERVICE: Connect vent (in top of seal gland plate) to a vapor collection point. Connect drain (in bottom of seal gland plate) to a liquid collection point.

REMOVE SEAL AS FOLLOWS: (USE ASSEMBLY DRAWING TO LOCATE PARTS SPECIFIED BELOW)

1. Before removing seal, loosen hex head screws and reinstall assembly clips into groove on lock collar, then retighten hex head screws.
2. Remove any pipe connections from seal gland plate.
3. Loosen shaft set screws (in lock collar).
4. Remove gland nuts.
5. With both hands, grasp seal gland plate by outer diameter and pull seal assembly beyond end of shaft.