The Definitive O-Ring Design Guide

Brought to you by

GALLAGHER
Fluid Seals, Inc.

O-Ring Design Guide Content

Fundamentals

What is an O-Ring?

- An O-Ring is a donut shaped round ring also referred to as a torus. While O-Rings can be made from plastic materials, or even metal, this reference guide will focus exclusively on rubber, or elastomeric, materials and their unique design and performance considerations.
- O-Rings are designed to prevent the passage of a liquid or gas. O-Rings work in concert with the gland in which the O-Ring in installed. The gland is typically cut out of the metallic hardware, and there are different types and styles of glands. The gland and the O-Ring work together to seal, and must be designed together for optimal performance.

How does an O-Ring Seal?

- Seals prevent fluid from escaping through gaps in mating pieces of hardware. At rest, the O-Ring sits in the middle of the gland. However as the pressure of the sealing system begins to rise the O-Ring shifts to the opposite side of the pressure. Because the material is soft, the O-Ring is mechanically squeezed to block the gap between the two mating hardware pieces. (see image 1) O-Rings must repeat this process over and over again until one of the many failure modes described in this guide will contribute to the O-Ring failure.

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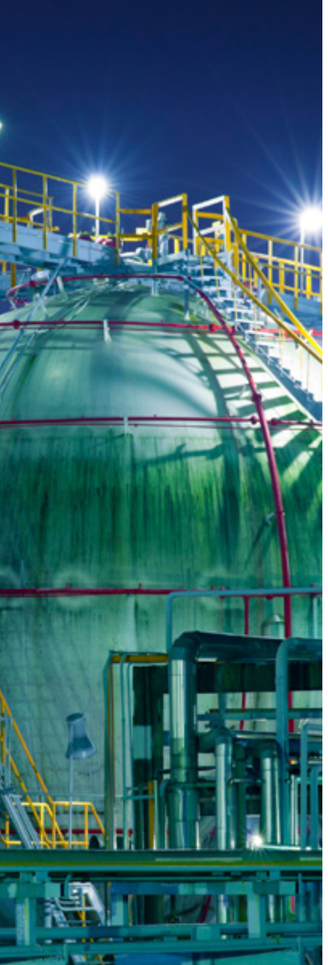
Limitations of O-Ring use

Although it has been stated that O-rings offer a reasonable approach to the ideal hydraulic seal, they should not be considered an immediate solution to all sealing problems. It had been brought out in the foregoing discussion the there are certain definite limitations on their use, i.e., high temperature, high rubbing speeds, cylinder ports over which seals must pass and large shaft clearances.' – 'O-Rings in the design of hydraulic mechanisms.' a paper presented at the S.A.E annual meeting, January, 1947 by Mr. D. R. Pearl, Hamilton Standard Division of United Aircraft Corp.

As Mr. Pearl's quote suggests, there are distinct limitations on the use of O-rings as a primary seal. These include but are not limited to:

- Rotary speeds above 1500 feet per minute (FPM)
- Improper mating hardware designs
- Incompatible temperature, pressure and fluid chemical compatability
- Much of the focus of seal innovation over the past half century as been to solve sealing problems where O-rings will not perform. This guide is focused on the applications where they will perform



Sizing Considerations

There are 3 primary dimensions of any O-ring: the Inner Diameter (ID), Outer Diameter (OD) and Cross-Section (CS). The ID of any O-Ring must be smaller than the mating hardware to allow for the O-Ring to stretch within the groove. This percentage of stretch recommended is typically 2%, while a range of 1%-5% is theoretically possible. Higher levels of initial stretch will decrease performance of the O-ring over time.

$$\text{O-Ring I.D.} = \frac{\text{Groove Diameter}}{\text{\% of stretch desired + 1 (1\% - 5\%)}}$$

Example

If Groove Diameter = .231

Then O-Ring I.D. = $\frac{.231}{1.01 \text{ to } 1.05} = .229 \text{ to } .220$

Depending on % of stretch desired

Cross Section: Proper O-ring cross section design is dependent on the size of the gland. To create the proper amount of squeeze to generate an adequate seal, the O-ring cross section must be larger than the gland height. The 'Diametrical Clearance' (image 2) is the gap between the two mating hardware surfaces, also referred to as the extrusion gap. The O-ring squeeze focuses on the extrusion gap and seals. There are critical differences between specifying the size of an O-Ring cross section depending on whether the application is static or dynamic. To reduce friction within a dynamic application, a smaller cross section is required.

$$\text{Maximum O-Ring CS} = \left[\frac{\left(\frac{\text{Min. Bore Diameter - Max. Groove Diameter}}{2}\right)}{1-\left(\frac{\text{Maximum \% Compression}}{100}\right)}\right] - \text{O-Ring CS Tolerance}$$

$$\text{Minimum O-Ring CS} = \left[\frac{\left(\frac{\text{Max. Bore Diameter - Min. Groove Diameter}}{2}\right)}{1-\left(\frac{\text{Maximum \% Compression}}{100}\right)}\right] + \text{O-Ring CS Tolerance}$$

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Dynamic O-Ring Cross Section

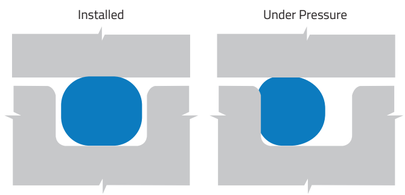


Image 1

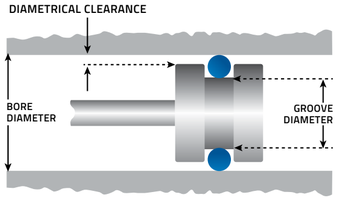


Image 2

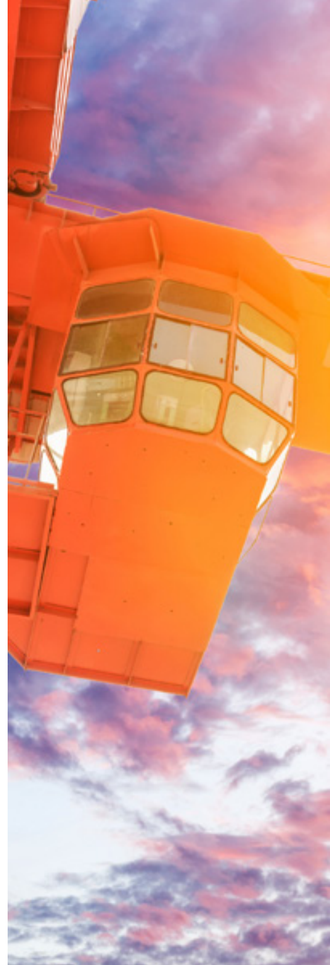
Materials

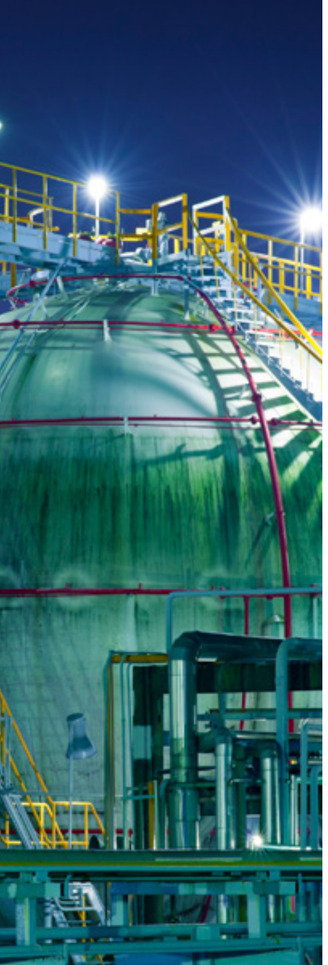
Nitrile (Buna, NBR): Widely used material, economical, strong wear resistance and mechanical properties

- **Temperature:** -55 to 250f
- **Applications:** Petroleum based oils and fuels, dynamic applications
- **Avoid:** Brake Fluids, Ozone

Hydrogenated Nitrile (HNBR): Nitrile base having undergone hydrogenation, which adds chemical strength and resistance

- **Temperature:** -50f to 300f
- **Applications:** Water and steam up to 300f, oil resistant applications, fuel systems, high abrasion applications
- **Avoid:** strong acids, polar solvents (ethers, ketones)





Polyacrylate (ACM): Widely used in the automotive industry, power steering and transmission systems

- **Temperature:** -15f to 350
- **Applications:** Mineral Oil, engines, gear boxes, power steering, transmissions
- **Avoid:** Cold Temperatures, hot water, steam

Ethylene-Propylene (EPDM): Strong ozone and chemical resistance

- **Temperature:** -55f to 275f, 300f with peroxide curing agents
- **Applications:** Brake systems, glycol based fluids, H2O steam (300f)
- **Avoid:** Mineral oil products, hydrocarbon fluids

Chloroprene (Neoprene, CR): First commercial synthetic rubber developed. Good mechanical properties over wide temperature range

- **Temperature:** -40f to 250f
- **Applications:** Refrigeration (excellent ozone resistance), H2O (low-temps)
- **Avoid:** Esters, ketones, aromatic and chlorinated hydrocarbons

Butyl: All Petroleum Compound, Low gas permeability, good resistance to ozone and sun exposure

- **Temp:** -55f to 250f
- **Applications**: Vacuum Sealing, Hydraulic Systems
- **Avoid:** Hydrocarbon Solvents, Mineral oil and grease

Silicone (VMQ): Excellent compression set, high temperature and insulating qualities.

- **Temperature:** -70f to 400f

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- **Applications:** Life Science / Medical device and FDA applications, many specialized compounds for specific material certifications
- **Avoid:** Highly abrasive applications, Water and Steam over 250f

Fluorosilicone (FVMQ): Broad temperature performance, strong fuel and solvent resistance, weak abrasion resistance due to high friction

- **Temperature:** -75f to 400f
- **Applications:** aerospace, fuel and mineral oil
- **Avoid:** High temperature air, dynamic applications, Nitrile (Buna, NBR): Widely used material, economical, strong wear resistance and mechanical properties

Flurocarbon (Viton, FKM): High temperature and chemical resistance. High fluorine levels offer excellent swelling and permeability resistance Temp: -15f to 400f

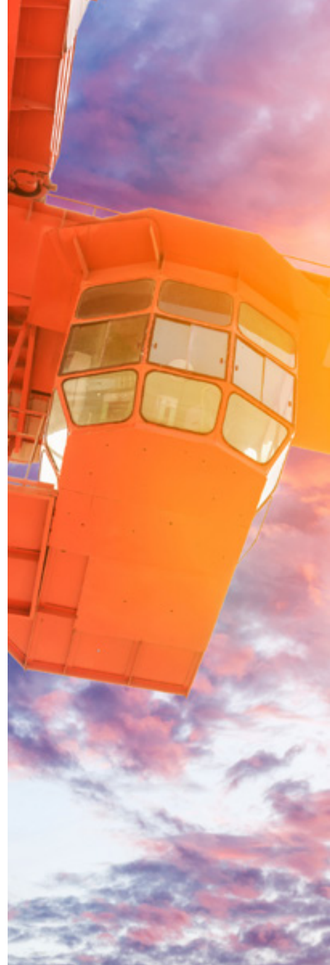
- **Applications:** Broad chemical resistance, transmission & blended gasoline
- **Avoid:** Low temperatures, ketones and amines

Tetrafluoroethylene-Propylene (AFLAS): Excellent temperature and chemical performance.

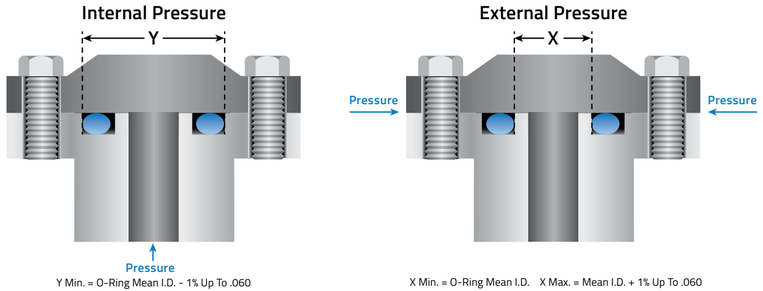
- **Temperature:** 15f to 450f
- **Applications:** Aerospace, steam / hot water, oil field applications
- **Avoid:** chlorinated hydrocarbons, ketones, acetic acid

Perfluoroelastomer (FFKM): Highest performing temperature and chemical properties of any elastomer class. Low out-gassing and extractable properties

- **Temperature:** -15f to 600f
- **Applications:** Semiconductor, Chemical Processing, Vacuum applications



- **Avoid:** Fluorinated Solvents, perfluorinated lubricants



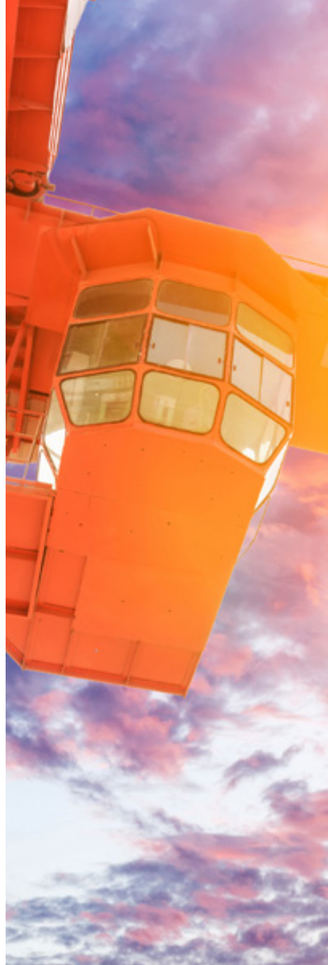
Y Min. = O-Ring Mean I.D. - 1% Up To .060

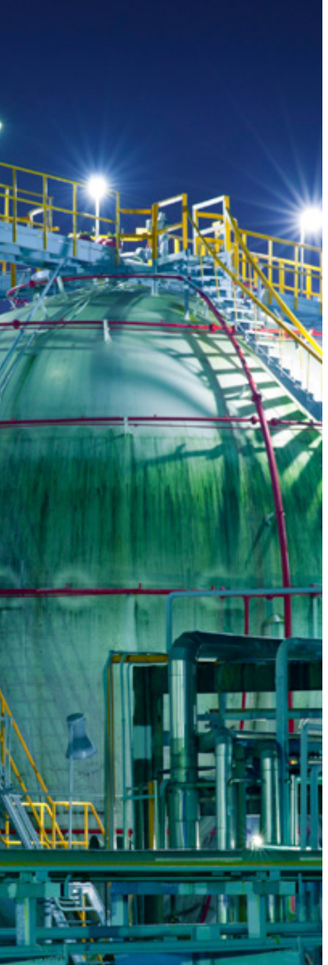
X Min. = O-Ring Mean I.D. X Max. = Mean I.D. + 1% Up To .060

Hardware

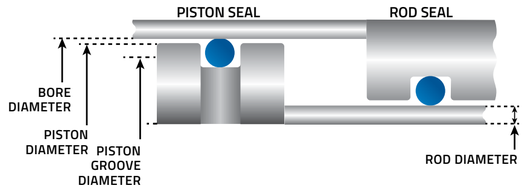
Static Axial Seals:

When designing grooves for static axial seals the first consideration is whether the pressure is coming from inward or outward. When the pressure is outward, the outside diameter of the groove is primary, and the groove width is the primary consideration for the inside diameter. For inward pressure, the inside diameter is primary. This ensures that the o-ring needs to move the least distance to seal the extrusion gap. The groove dimension appendix has 2 charts for static axial seals: one for liquids and one for gases and vacuums. Grooves for liquid applications are larger to allow for increased swell. If there are no anticipated swelling issues, the smaller groove dimension can be utilized.





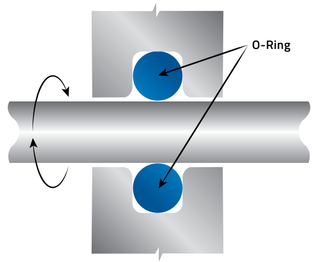
Reciprocating Seals



Reciprocating Dynamic Seals:

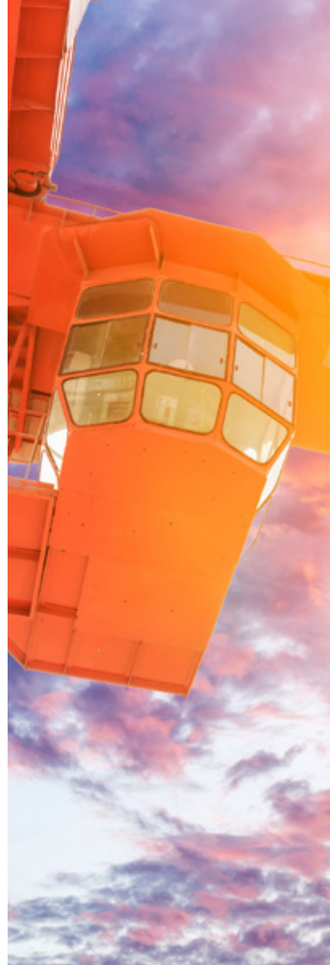
O-Rings are used within dynamic reciprocating applications, most commonly hydraulic or pneumatic piston or rod seals. For short stroke applications, smaller diameter O-rings perform well; Longer stroke applications require thicker cross sectional O-rings. A number of failure modes arise within dynamic sealing applications that are not problems for static O-Rings. These are detailed further within the failure mode section. Surface finished of the hardware are critical to maximizing seal life and performance. The ideal surface micro-finish is between 10 to 20 micro-inches. Anything under 5 will cause the Inherent lubrication of the surface to be wiped away by the end of the stroke. The topic of friction within reciprocating applications is too complex an issue to explain within this design guide. Please contact a Gallagher Engineer to discuss your application.

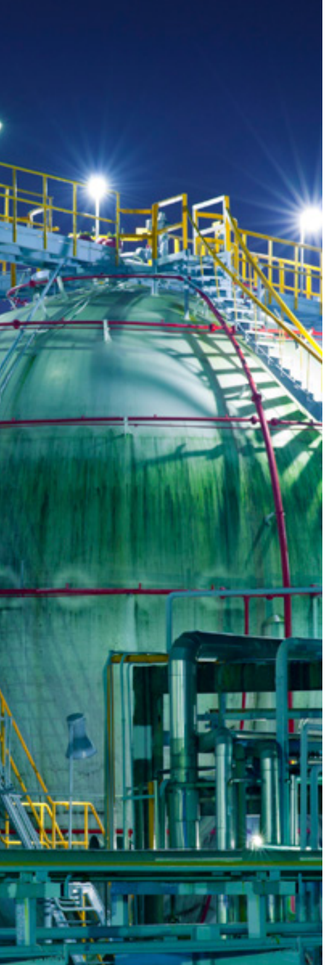
Rotary Seals



Rotary Seals:

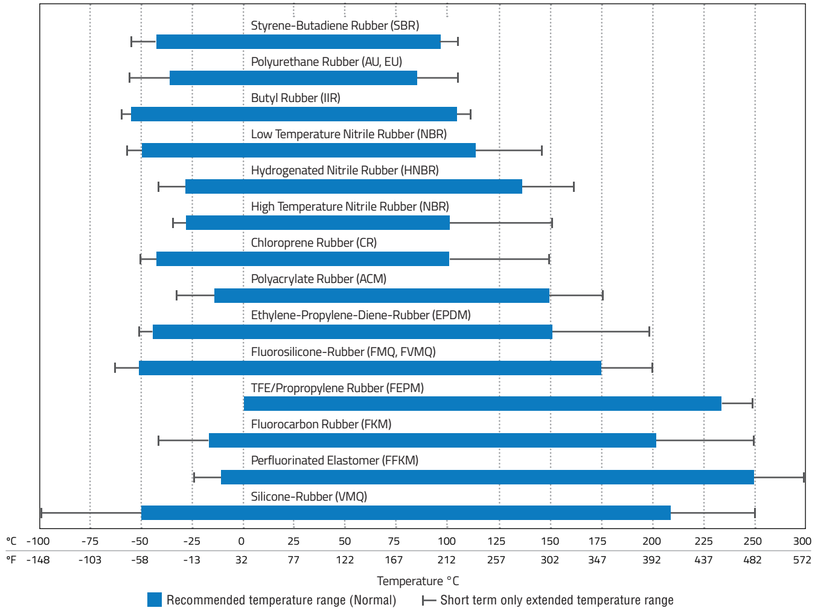
O-Rings have proven to be reliable rotary seals under the proper conditions. Adequate durometer, hardware configuration, and Feet per minute values must be matched to the proper O-Ring compound. A shaft hardness value of 55 Rockwell is typically required for a successful rotary O-Ring. There are a handful of specialized O-Ring compounds designed for rotary service. Contact a Gallagher Engineer to learn more about these applications.





TEMPERATURE

Common Elastomeric Materials Temperature Range



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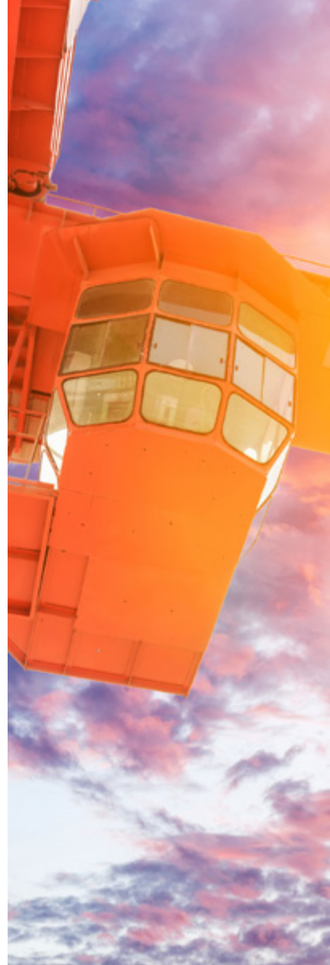
Properties of Commonly Used Elastomers Compared

(P = Poor F = Fair G = Good E = Excellent)

Elastomer Type (Polymer)	Parker Compound Prefix Letter	Abrasion Resitance	Acid Resistance	Chemical Resistance	Cold Resistance	dynamic Properties	Electrical Properties	Flame Resistance	Heat Resistance	Impermeability	Oil Resistance	Ozone Resistance	Set Resistance	Tear Resistance	Tensile Strength	Water / Steam Resistance	Weather Resistance
AFLAS (TFE/Prop)	V	GE	E	E	P	G	E	E	E	G	E	E	PF	PF	FG	GE	E
Butadiene		E	FG	FG	G	F	G	P	F	F	P	P	G	GE	e	FG	F
Butyl	B	FG	G	E	G	F	G	P	G	E	P	GE	FG	G	G	G	GE
Chlorinated Polyethylene		G	F	FG	PF	G	G	GE	G	G	FG	E	F	FG	G	F	E
Chlorosulfonated Polyethylene		G	G	E	FG	F	F	G	G	G	F	E	F	G	F	F	E
Epichlorohydrin	Y	G	FG	G	GE	G	F	FG	FG	GE	E	E	PF	G	G	F	E
Ethylene Acrylic	A	F	F	FG	G	F	F	P	E	E	F	E	G	F	G	PF	E
Ethylene Propylene	E	GE	G	E	GE	Ge	G	P	G	G	P	E	GE	GE	GE	F	E
Fluorocarbon	V	G	E	E	PF	GE	F	E	E	G	E	E	E	F	GE	F	E
Fluorosilicone	L	P	FG	E	GE	P	E	G	E	P	G	E	G	P	F	F	E
Isoprene		E	FG	FG	G	F	G	P	F	F	P	P	G	GE	E	FG	F
Natural Rubber		E	FG	FG	G	F	G	P	F	F	P	P	G	GE	E	FG	F
Neoprene	C	G	FG	FG	FG	F	F	G	G	G	FG	GE	F	FG	G	F	E
HNBR	N, K	G	E	FG	G	GE	F	P	E	G	E	G	GE	FG	GE	FG	F
Nitrile or Buna N	N	G	F	FG	G	GE	F	P	G	G	E	P	GE	FG	GE	FG	E
Perfluorinated Fluoroelastomer	V, F	P	E	E	PF	F	E	E	E	G	E	E	G	PF	FG	GE	E
Polyacrylate	A	G	P	P	P	F	F	P	P	E	E	E	P	P	F	P	E
Polysulfide		P	P	G	G	F	F	P	P	E	E	E	P	P	F	F	E
Polyurethane	P	E	P	FG	G	E	FG	P	F	G	G	E	F	GE	E	P	E
SBR or Buna S		G	F	FG	G	G	G	P	FG	F	P	P	G	FG	GE	FG	F
Silicone	S	P	FG	GE	E	P	E	F	E	P	FG	E	GE	P	P	F	E



Failure Modes

Common Reasons for O-Ring Failure

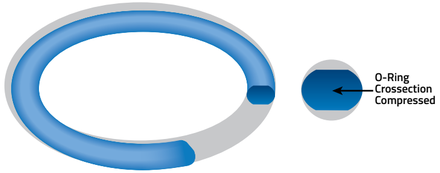
O-rings typically fail in their applications because of the combined adverse effects of several environmental factors.

The most common causes of O-ring failure have been found to be:

- Improper gland design: allowing for too much or too little compression, not enough room for seal expansion, and tolerance stack-up.
- Incorrect O-ring size.
- Incompatibility of O-ring elastomer and environmental elements.
- Improper O-ring installation.
- Inadequate O-ring lubrication.

The combination of stresses on the O-ring can be complex and dif cult to evaluate. Therefore, it is very important that both the O-ring compound and size be tested in the real environment of its service. The following examples are a classi cation of the types of O-ring failure that can occur.

Compression Set



Probably the most common cause of O-ring failure is compression set. An effective O-ring seal requires a continuous "seal line" between the sealed surfaces. The establishment of this "seal line" is a function of gland design and seal cross-section which determines the correct amount of squeeze (compression) on the O-ring to maintain seal integrity without excessive deformation of the seal element.

There are a number of factors that can contribute to compression set failure of an O-ring seal. They are listed below.

Failure Analysis:

In general, Compression Set is caused by one or more of the following conditions:

1. Selection of O-ring materials with inherently poor compression set properties.
2. Improper gland design.
3. Excessive temperature developed causing the O-ring to harden and lose its elastic properties. (High temperatures may be caused by system fluids, external environmental factors, or frictional heat build-up.)
4. Volume swell of the O-ring due to system fluid.
5. Excessive squeeze due to over tightening of adjustable glands.
6. Incomplete curing (Vulcanization) of O-ring material during production.
7. Introduction of fluid incompatable with O-ring material.

Prevention / Correction:

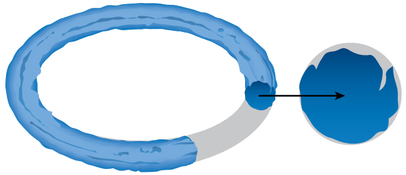
Suggested solutions to the causes of compression set listed above are:

1. Use "Low-Set" O-ring material whenever possible.
2. Select O-ring material compatable with intended service conditions.
3. Reduce system operating temperature.
4. Check frictional heat build-up at seal interface and reduce if excessive.
5. Inspect incoming O-ring shipments for correct physical properties.

Identification:

A typical example of O-ring compression set in simplistic terms: the O-ring ceases to be "O" shaped and is permanently deformed into a flat sided oval, the flat sides of which were the original seal interface under compression before failure.

Extrusion & Nibbling



Extrusion and nibbling of the O-ring is a primary cause of seal failure in dynamic applications such as hydraulic rod and piston seals. This form of failure may also be found from time to time in static applications subject to high pressure pulsing which causes the clearance gap of the mating flanges to open and close, trapping the O-ring between the mating surfaces.

Failure Analysis:

In general, extrusion and nibbling are caused by one or more of the following conditions:

1. Excessive clearances.
2. High pressure (in excess of system design or high pressure excursions).
3. O-ring material too soft.
4. Degradation (swelling, softening, shrinking, cracking, etc.) of O-ring material by system fluid.
5. Irregular clearance gaps caused by eccentricity.
6. Increase in clearance gaps due to excessive system pressure.

7. Improper machining of O-ring gland (sharp edges).
8. Improper size (too large) O-ring installed causing excessive filling of groove.

Prevention / Correction:

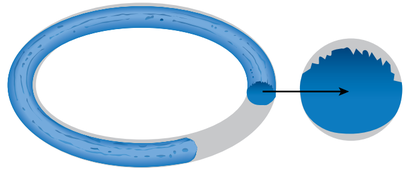
Suggested solutions to the causes of Extrusion and Nibbling listed above are:

1. Decrease clearance by reducing machining tolerances.
2. Use back-up devices.
3. Check O-ring material compatibility with system fluid.
4. Increase rigidity of metal components.
5. Replace current O-ring with a harder O-ring.
6. Break sharp edges of gland to a minimum radius 0.005 inches.
7. Insure installation of proper size O-rings.
8. Use alternative seal shape, for example, in some long stroke piston or rod applications, the Parker T-Seal, with its built-in back-up rings, may prevent extrusion and spiral failure.

Identification:

A typical example of O-ring extrusion is when edges of the ring on the low pressure or downstream side of the gland exhibit a "chewed" or "chipped" appearance. In an O-ring that has failed due to nibbling, it may have the appearance that many small pieces have been removed from the low pressure side. In some forms of extrusion, more than 50% of the O-ring may be destroyed before catastrophic leakage is observed.

Abrasion



Another rather common type of O-ring failure is abrasion. This usually is found only in dynamic seals subject either to reciprocating, oscillating, or rotary motion.

Failure Analysis:

In general, abrasion of O-ring seals is caused by one or more of the following:

1. Improper finish of the surface in dynamic contact with the O-ring. This surface finish may be too rough, acting as an abrasive, or too smooth, causing inadequate lubrication due to inability of surface to hold lubricant.
2. Improper lubrication provided by system fluid.
3. Excessive temperatures.
4. Contamination of system fluid by abrasive particles.

Prevention / Correction:

Suggested solutions to problems caused by abrasion are:

1. Use proper surface finish (see surface finish in Dynamic Seals section).
2. Provide adequate lubrication by use of proper system fluid.
3. Consider use of internally lubricated O-rings to reduce friction and wear.
4. Check for contamination of fluid and eliminate source. Install filters if necessary.
5. Consider changing to an O-ring material with improved abrasion resistance.

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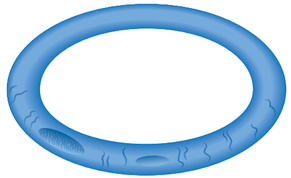
Installation Damage



Many O-ring failures can be directly attributed to improper installation. In spite of its simple appearance, the O-ring is a precision device requiring care during installation.

Failure Analysis:

Damage to an O-ring during installation can occur when:

1. There are sharp corners on mating metal components such as the O-ring gland or threads over which the O-ring must pass during assembly.
2. Insufficient lead-in chamfer.
3. Blind grooves in multi-port valves.
4. Oversize O-ring on piston seal application.
5. Undersize O-ring on rod application.
6. O-ring twisted/pinched during installation.
7. O-ring not properly lubricated before installation.
8. O-ring dirty upon installation.
9. O-ring gland and/or other surfaces over which O-ring must pass during assembly contaminated with metal particles.
10. General Carelessness.

Prevention / Correction:

Probably the best way to prevent damage to O-rings during installation is the use of good old-fashioned "Common Sense." There are some specific solutions which are listed below:

1. Break all sharp edges on metal components.
2. Provide a 20° lead-in chamfer.
3. Check all components for cleanliness before installation.
4. Tape all threads over which the O-ring will pass.
5. Use an O-ring lubricant such as Parker O-Lube or Parker Super O-Lube if its use will not contaminate system.
6. Double check O-ring to ensure correct size and material.
7. Be CAREFUL.

Spiral Failure

Spiral failure of an O-ring is often found on long stroke hydraulic piston seals and to a lesser degree on rod seals. This type of O-ring failure is caused when the seal becomes "hung-up" at one point on its diameter (against the cylinder wall) and slides and rolls at the same time. The resultant twisting of the O-ring as the sealed device is cycled finally causes the seal to develop a series of deep spiral cuts (usually at a 45° angle) on the surface of the seal.

Failure Analysis:

As stated above, spiral failure is generally caused by an O-ring both sliding and rolling at the same time. Conditions which may cause this to occur are:

1. Eccentric components.
2. Wide clearance combined with side loads.

3. Uneven surface finishes.
4. Inadequate or improper lubrication.
5. O-ring too soft.
6. Stroke speed (usually too slow).
7. Improper installation (O-ring pinched or rolled).

Prevention / Correction:

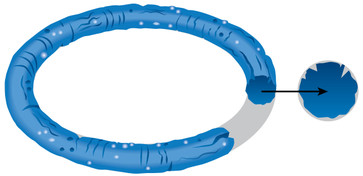
Suggested solutions to the causes of spiral failure are as follows:

1. Improve surface finish of sealed assembly at dynamic interface (Cylinder Bore, Piston Rod).
2. Check for out-of-round components (Cylinder Bores especially).
3. Provide proper lubrication. Consider the use of internally lubed O-rings.
4. Replace with a harder O-ring.
5. Consider use of alternate seal shapes. for example, the Parker T-seal is specifically designed to prevent spiral failure and its use will allow for increased tolerances because of built-in anti-extrusion back-up rings. Parker T-Seals are available to fit a number of standard AS568 O-ring grooves and may directly interchange with O-rings in most cases.

Identification:

You will see the typical cuts that gave this type of O-ring failure its name.

Explosive Decompression



As system pressures increase we are seeing this type of O-ring failure with more frequency. It might be termed O-ring embolism, in that after a period of service under high pressure gas, when the pressure is reduced too rapidly, the gas trapped within the internal structure of the O-ring expands rapidly, causing small ruptures or embolisms on the O-ring surface.

Failure Analysis:

Explosive decompression or gas expansion rupture is caused by high pressure gas trapped within the internal structure of the elastomeric seal element. Rapid decrease in system pressure causes the trapped gas to expand to match the external pressure and this expansion causes blisters and ruptures on the seal surface. If the volume of trapped gas is small, the blisters may recede as the pressure is equalized with little effect on seal integrity. Excessive trapped gas may cause total destruction of the seal. (Refer to Section III, O-Ring Applications, for more information on this problem.)

Prevention / Correction:

Suggested solutions to explosive decompression are:

1. Increase decompression time to allow trapped gas to work out of seal material.
2. Choose a seal material with good resistance to explosive decompression.
3. If problem persists and pressures are very high, consider use of Parker Metal Seals.

Identification:

The seal subjected to explosive decompression will often exhibit small pits or blisters on its surface. In severe cases, examination of the internal structure of the O-ring will reveal other splits and fissures.

Static Axial Seal Gland Dimensions

AS-568* Number	O-ring Dimensions			Internal Pressure	External Pressure	Groove Width	Gland Depth
	I.D. ± Tol.	W. ± Tol.	O.D. (ref)	Diameter A	Diameter B	G	H
Tolerance				+.005 -.000	+.000 -.005	+.010 -.000	+.005 -.000
-004	.070 ± .005	.070 ± .003	.210	**	.075	.125	.049
-005	.101 ± .005		.241	**	.106	.125	.049
-006.	.114 ± .005		.254	**	.119	.125	.049
-007	.145 ± .005		.285	**	.150	.125	.049
-008	.176 ± .005		.316	**	.181	.125	.049
-009	.208 ± .005		.348	**	.213	.125	.049
-010	.239 ± .005		.379	**	.244	.125	.049
-011	.301 ± .005		.441	.436	306	.125	049
-012	.364 ± .005		.504	.499	.369	.125	.049
-013	.426 ± .005		.566	.561	.431	.125	.049
-014	.489 ± .005		.629	.624	.494	.125	.049
-015	.551 ± .007		.691	.686	.556	.125	.049
-016	.614 ± .009		.754	.749	.619	.125	.049
-017	.676 ± .009		.816	.811	.681	.125	.049
-018	.739 ± .009		.879	.874	.744	.125	.049
-019	.801 ± .009		.941	.936	.806	.125	.049
-020	.864 ± .009		1.004	.999	.869	.125	.049
-021	.926 ± .009		1.066	1.061	.931	.125	.049
-022	.989 ± .009		1.129	1.124	.994	.125	.049
-023	1.051 ± .010		1.191	1.186	1.056	.125	.049

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GALLAGHER Fluid Seals, Inc.

Question? 800.822.4063

Static Axial Seal Gland Dimensions

AS-568* Number	O-ring Dimensions			Internal Pressure	External Pressure	Groove Width	Gland Depth
	I.D. ± Tol.	W. ± Tol.	O.D. (ref)	Diameter A	Diameter B	G	H
Tolerance				+.005 -.000	+.000 -.005	+.010 -.000	+.005 -.000
-024	1.114 ± .010	.070 ± .003	1.254	1.249	1.119	.125	.049
-025	1.176 ± .011		1.316	1.31	1.181	.125	.049
-026	1.239 ± .011		1.379	1.374	1.244	.125	.049
-027	1.301 ± .011		1.441	1.436	1.306	.125	.049
-028	1.364 ± .013		1.504	1.499	1.368	.125	.049
-029	1.489 ± .013		1.629	1.624	1.494	.125	.049
-030	1.614 ± .013		1.754	1.749	1.619	.125	.049
-031	1.739 ± .013		1.879	1.874	1.744	.125	.049
-032	1.864 ± .015		2.004	1.999	1.869	.125	.049
-033	1.989 ± .018		2.129	2.124	1.994	.125	.049
-034	2.114 ± .018		2.254	2.249	2.119	.125	.049
-035	2.239 ± .018		2.379	2.374	2.244	.125	.049
-036	2.364 ± .018		2.504	2.499	2.369	.125	.049
-037	2.489 ± .018		2.629	2.624	2.494	.125	.049
-038	2.614 ± .020		2.754	2.749	2.619	.125	.049
-039	2.739 ± .020		2.879	2.874	2.744	.125	.049
-040	2.864 ± .020		3.004	2.999	2.869	.125	.049
-041	2.989 ± .024		3.129	3.124	2.994	.125	.049
-042	3.239 ± .024		3.379	3.374	3.244	.125	.049
-043	3.489 ± .024		3.629	3.624	3.494	.125	.049
-044	3.739 ± .027		3.879	3.874	3.744	.125	.049
-045	3.989 ± .027		4.129	4.124	3.994	.125	049
-046	4.239 ± .030		4.379	4.374	4.244	.125	.049
-047	4.489 ± .030		4.629	4.624	4.494	.125	.049
-048	4.739 ± .037		4.879	4.874	4.744	.125	.049
-049	4.989 ± .037		5.129	5.124	4.994	.125	.049
-050	5.239 ± .037		5.379	5.374	5.244	.125	.049
-102	.049 ± .005	.103 ± .003	0.255	**	.054	.170	.075
-103	.081 ± .005		0.287	**	.086	.170	075
-104	.112 ± .005		0.318	**	.117	.170	.075

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Static Axial Seal Gland Dimensions

AS-568* Number	O-ring Dimensions			Internal Pressure	External Pressure	Groove Width	Gland Depth
	I.D. ± Tol.	W. ± Tol.	O.D. (ref)	Diameter A	Diameter B	G	H
Tolerance				+.005 -.000	+.000 -.005	+.010 -.000	+.005 -.000
-105	.143 ± .005	.103 ± .003	0.349	**	.148	.170	.075
-106	.174 ± .005		0.380	**	.179	.170	.075
-107	.206 ± .005		0.412	**	.211	.170	.075
-108	.237 ± .005		0.443	**	.242	.170	.075
-109	.299 ± .005		0.505	**	.304	170	.075
-110	.362 ± .005		0.568	.563	.367	.170	.075
-111	.424 ± .005		0.630	.625	.429	.170	.075
-112	.487 ± .005		0.693	.688	.492	.170	.075
-113	.549 ± .005		0.755	.750	.554	.170	.075
-114	.612 ± .009		0.818	.813	.617	.170	.075
-115	.674 ± .009		0.880	.875	.679	.170	.075
-116	.737 ± .009		0.943	.938	.742	.170	.075
-117	.799 ± .010		1.005	1.000	.804	.170	.075
-118	.862 ± .010		1.068	1.063	.867	.170	.075
-119	.924 ± .010		1.130	1.125	.929	.170	.075
-120	.987 ± .010		1.193	1.188	.992	.170	.075
-121	1.049 ± .010		1.255	1.250	1.054	.170	.075
-122	1.112 ± .010		1.318	1.313	1.117	.170	.075
-123	1.174 ± .012		1.380	1.375	1.179	.170	.075
-124	1.237 ± .012		1.443	1.438	1.242	.170	.075
-125	1.299 ± .012		1.505	1.500	1.304	.170	.075
-126	1.362 ± .012		1.568	1.563	1.367	.170	.075
-127	1.424 ± .012		1.630	1.625	1.429	.170	.075
-128	1.487 ± .012		1.693	1.688	1.492	.170	.075
-129	1.549 ± .015		1.755	1.750	1.554	.170	.075
-130	1.612 ± .015		1.818	1.813	1.617	.170	.075
-131	1.674 ± .015		1.880	1.875	1.679	.170	.075
-132	1.737 ± .015		1.943	1.938	1.742	.170	.075
-133	1.799 ± .015		2.005	2.000	1.804	.170	.075
-134	1.862 ± .015		2.068	2.063	1.867	.170	.075

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Question? 800.822.4063

Static Axial Seal Gland Dimensions

AS-568* Number	O-ring Dimensions			Internal Pressure	External Pressure	Groove Width	Gland Depth
	I.D. ± Tol.	W. ± Tol.	O.D. (ref)	Diameter A	Diameter B	G	H
Tolerance				+.005 -.000	+.000 -.005	+.010 -.000	+.005 -.000
-135	1.925 ± .017	.103 ± .003	2.131	2.126	1.930	.170	.075
-136	1.987 ± .017		2.193	2.188	1.992	.170	.075
-137	2.050 ± .017		2.256	2.251	2.055	.170	.075
-138	2.112 ± .017		2.318	2.313	2.117	.170	.075
-139	2.175 ± .017		2.381	2.376	2.180	.170	.075
-140	2.237 ± .017		2.443	2.438	2.242	.170	.075
-141	2.300 ± .020		2.506	2.501	2.305	.170	.075
-142	2.362 ± .020		2.568	2.563	2.367	.170	.075
-143	2.425 ± .020		2.631	2.626	2.430	.170	.075
-144	2.487 ± .020		2.693	2.688	2.492	.170	.075
-145	2.550 ± .020		2.756	2.751	2.555	.170	.075
-146	2.612 ± .020		2.818	2.813	2.617	.170	.075
-147	2.675 ± .022		2.881	2.876	2.680	.170	.075
-148	2.737 ± .022		2.943	2.938	2.742	.170	.075
-149	2.800 ± .022		3.006	3.001	2.805	.170	.075
-150	2.862 ± .022		3.068	3.063	2.867	.170	.075
-151	2.987 ± .024		3.193	3.188	2.992	.170	.075
-152	3.237± .024		3.443	3.438	3.242	.170	.075
-153	3.487 ± .024		3.693	3.688	3.492	.170	.075
-154	3.737 ± .028		3.943	3.938	3.742	.170	.075
-155	3.987 ± .024		4.193	4.188	3.992	.170	.075
-156	4.237 ± .030		4.443	4.438	4.242	.170	.075
-157	4.487 ± .030		4.693	4.688	4.492	.170	.075
-158	4.737 ± .030		4.943	4.938	4.742	.170	.075
-159	4.987 ± .035		5.193	5.188	4.992	.170	.075
-160	5.237 ± .035		5.443	5.438	5.242	.170	.075
-161	5.487 ± .035		5.693	5.688	5.492	.170	.075
-162	5.737 ± .035		5.943	5.938	5.742	.170	.075
-163	5.987 ± .035		6.193	6.188	5.992	.170	.075
-164	6.237 ± .040		6.443	6.438	6.242	.170	.075

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Static Axial Seal Gland Dimensions

AS-568* Number	O-ring Dimensions			Internal Pressure	External Pressure	Groove Width	Gland Depth
	I.D. ± Tol.	W. ± Tol.	O.D. (ref)	Diameter A	Diameter B	G	H
Tolerance				+.005 -.000	+.000 -.005	+.010 -.000	+.005 -.000
-165	6.487 ± .040	.103 ± .003	6.693	6.688	6.492	.170	.075
-166	6.737 ± .040		6.943	6.938	6.742	.170	.075
-167	6.987 ± .040		7.193	7.188	6.992	.170	.075
-168	7.237 ± .045		7.443	7.438	7.242	.170	.075
-169	7.487 ± 0.45		7.693	7.688	7.492	170	075
-170	7.737 ± .045		7.943	7.938	7.742	.170	.075
-171	7.987 ± .045		8.193	8.188	7.992	.170	.075
-172	8.237 ± .050		8.443	8.438	8.242	.170	.075
-173	8.487 ± .050		8.693	8.688	8.492	.170	.075
-174	8.737 ± .050		8.943	8.938	8.742	.170	.075
-175	8.987 ± .050		9.193	9.188	8.992	.170	.075
-176	9.237 ± .055		9.443	9.438	9.242	.170	.075
-177	9.487 ± .055		9.693	9.688	9.492	.170	.075
-178	9.737 ± .055		9.943	9.939	9.742	.170	.075
-201	171 ± .005	.139 ± .004	0.449	**	.176	.210	.107
-202	.234 ± .005		0.512	**	.239	.210	.107
-203	.296 ± .005		0.574	**	.301	.210	.107
-204	.359 ± .005		0.637	**	.364	.210	.107
-205	.421 ± .005		0.699	.694	.426	.210	.107
-206	.484 ± .005		0.762	.757	.489	.210	.107
-207	.546 ± .007		0.824	.819	.551	.210	.107
-208	.609 ± .009		0.887	.882	.614	.210	.107
-209	.671 ± .009		0.949	.944	.676	.210	.107
-210	.734 ± .010		1.012	1.007	.739	.210	.107
-211	.796 ± .030		1.074	1.069	.801	.210	.107
-212	.859 ± .010		1.137	1.132	.864	.210	.107
-213	.921 ± .010		1.199	1.194	.926	.210	.107
-214	.984 ± .010		1.262	1.257	.989	.210	.107
-215	1.046 ± .010		1.324	1.319	1.051	.210	.107
-216	1.109 ± .012		1.387	1.382	1.114	.210	.107

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Static Axial Seal Gland Dimensions

AS-568* Number	O-ring Dimensions			Internal Pressure	External Pressure	Groove Width	Gland Depth
	I.D. ± Tol.	W. ± Tol.	O.D. (ref)	Diameter A	Diameter B	G	H
Tolerance				+.005 -.000	+.000 -.005	+.010 -.000	+.005 -.000
-217	1.171 ± .012	.139 ± .004	1.449	1.444	1.176	.210	.107
-218	1.234 ± .012		1.512	1.507	1.239	.210	.107
-219	1.296 ± .012		1.574	1.569	1.301	.210	.107
-220	1.359 ± .012		1.637	1.632	1.364	.210	.107
-221	1.421 ± .012		1.699	1.694	1.426	.210	.107
-222	1.484 ± .015		1.762	1.757	1.489	.210	.107
-223	1.609 ± .015		1.887	1.882	1.614	.210	.107
-224	1.734 ± .015		2.012	2.007	1.739	.210	.107
-225	1.859 ± .018		2.137	2.132	1.864	.210	.107
-226	1.984 ± .018		2.262	2.257	1.989	.210	.107
-227	2.109 ± .018		2.387	2.382	2.114	.210	.107
-228	2.234 ± .020		2.512	2.507	2.239	.210	.107
-229	2.359 ± .020		2.637	2.632	2.364	.210	.107
-230	2.484 ± .020		2.762	2.757	2.489	.210	.107
-231	2.609 ± .020		2.887	2.882	2.614	.210	.107
-232	2.734 ± .024		3.012	3.007	2.739	.210	.107
-233	2.859 ± .024		3.137	3.132	2.864	.210	.107
-234	2.984 ± .024		3.262	3.257	2.989	.210	.107
-235	3.109 ± .024		3.387	3.382	3.114	.210	.107
-236	3.234 ± .024		3.512	3.507	3.239	.210	.107
-237	3.359 ± .024		3.637	3.632	3.364	.210	.107
-238	3.484 ± .024		3.762	3.757	3.489	.210	.107
-239	3.609 ± .028		3.887	3.882	3.614	.210	.107
-240	3.734 ± .028		4.012	4.007	3.739	.210	.107
-241	3.859 ± .028		4.137	4.132	3.864	.210	.107
-242	3.984 ± .028		4.262	4.257	3.989	.210	.107
-243	4.109 ± .028		4.387	4.382	4.114	.210	.107
-244	4.234 ± .030		4.512	4.507	4.239	.210	.107
-245	4.359 ± .030		4.637	4.632	4.364	.210	.107
-246	4.484 ± .030		4.762	4.757	4.489	.210	.107

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AS-568* Number	O-ring Dimensions			Internal Pressure	External Pressure	Groove Width	Gland Depth
	I.D. ± Tol.	W. ± Tol.	O.D. (ref)	Diameter A	Diameter B	G	H
Tolerance				+.005 -.000	+.000 -.005	+.010 -.000	+.005 -.000
-247	4.609 ± .030	.139 ± .004	4.887	4.882	4.614	.210	.107
-248	4.734 ± .030		5.012	5.007	4.739	.210	.107
-249	4.859 ± .035		5.137	5.132	4.864	.210	.107
-250	4.859 ± .035		5.262	5.257	4.989	.210	.107
-251	5.109 ± .035		5.387	5.382	5.114	.210	.107
-252	5.234 ± .035		5.512	5.507	5.239	.210	.107
-253	5.359 ± .035		5.637	5.632	5.359	.210	.107
-254	5.484 ± .035		5.762	5.757	5.489	.210	.107
-255	5.609 ± .035		5.887	5.882	5.614	.210	.107
-256	5.734 ± .035		6.012	6.007	5.739	.210	.107
-257	5.859 ± .035		6.137	6.132	5.864	.210	.107
-258	5.984 ± .035		6.262	6.257	5.989	.210	.107
-259	6.234 ± .040		6.512	6.507	6.239	.210	.107
-260	6.484 ± .040		6.762	6.757	6.489	.210	.107
-261	6.734 ± .040		7.012	7.007	6.739	.210	.107
-262	6.984 ± .040		7.262	7.257	6.989	.210	.107
-263	7.234 ± .045		7.512	7.507	7.239	.210	.107
-264	7.484 ± .045		7.762	7.757	7.489	.210	.107
-265	7.734 ± .045		8.012	8.007	7.739	.210	.107
-266	7.984 ± .045		8.262	8.257	7.989	.210	.107
-267	8.234 ± .050		8.512	8.507	8.239	.210	.107
-268	8.484 ± .050		8.762	8.757	8.489	.210	.107
-269	8.734 ± .050		9.012	9.007	8.739	.210	.107
-270	8.984 ± .050		9.262	9.257	8.989	.210	.107
-271	9.234 ± .055		9.512	9.507	9.239	.210	.107
-272	9.484 ± .055		9.762	9.757	9.489	.210	.107
-273	9.734 ± .055		10.012	10.007	9.739	.210	.107
-274	9.984 ± .055		10.262	10.257	9.989	.210	.107
-275	10.484 ± .055		10.762	10.757	10.489	.210	.107
-276	10.984 ± .065		11.262	11.257	10.989	.210	.107

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AS-568* Number	O-ring Dimensions			Internal Pressure	External Pressure	Groove Width	Gland Depth
	I.D. ± Tol.	W. ± Tol.	O.D. (ref)	Diameter A	Diameter B	G	H
Tolerance				+.005 -.000	+.000 -.005	+.010 -.000	+.005 -.000
-277	11.484 ± .065	.139 ± .004	11.762	11.757	11.489	.210	.107
-278	11.984 ± .065		12.262	12.257	11.989	.210	.107
-279	12.984 ± .065		13.262	13.257	12.989	.210	.107
-270	13.984 ± .065		14.262	14.257	13.989	.210	.107
-281	14.984 ± .065		15.262	15.257	14.989	.210	.107
-282	15.955 ± .075		16.233	16.228	15.960	.210	.107
-283	16.955 ± .080		17.233	17.228	16.960	.210	.107
-284	17.955 ± .085		18.233	18.228	17.960	.210	.107
-309	.412 ± .005	.210 ± .005	0.832	**	.417	300	.169
-310	.475 ± .005		0.895	.890	.480	.300	.169
-311	.537 ± .007		0.957	.952	.542	.300	.169
-312	.600 ± .009		1.020	1.015	605	.300	.169
-313	.662 ± .009		1.082	1.077	.667	.300	.169
-314	.725 ± .010		1.145	1.140	.730	.300	.169
-315	.787 ± .010		1.207	1.202	.792	.300	.169
-316	.850 ± .010		1.270	1.265	.855	.300	.169
-317	.912 ± .010		1.332	1.327	.917	.300	.169
-318	.975 ± .015		1.395	1.390	.980	.300	.169
-319	1.037 ± .010		1.457	1.452	1.042	.300	.169
-320	1.100 ± .012		1.520	1.515	1.105	.300	.169
-321	1.162 ± .045		1.582	1.577	1.167	.300	.169
-322	1.225 ± .012		1.645	1.640	1.230	.300	.169
-323	1.287 ± .012		1.707	1.702	1.292	.300	.169
-324	1.350 ± .012		1.770	1.765	1.355	.300	.169
-325	1.475 ± .012		1.895	1.890	1.480	.300	.169
-326	1.600 ± .015		2.020	2.015	1.605	.300	.169
-327	1.725 ± .015		2.145	2.140	1.730	.300	.169
-328	1.850 ± .015		2.270	2.265	1.855	.300	.169
-329	1.975 ± .018		2.395	2.390	1.980	.300	.169
-330	2.100 ± .018		2.520	2.515	2.105	.300	.169

*Note: The current revision of the Standard is "C" but it changes periodically.

**O-Ring seal sizes not listed are not recommended for axial seals because the seal ID after installation becomes too small for practical use.

Static Axial Seal Gland Dimensions

AS-568* Number	O-ring Dimensions			Internal Pressure	External Pressure	Groove Width	Gland Depth
	I.D. ± Tol.	W. ± Tol.	O.D. (ref)	Diameter A	Diameter B	G	H
Tolerance				+.005 -.000	+.000 -.005	+.010 -.000	+.005 -.000
-331	2.225 ± .018	.210 ± .005	2.645	2.640	2.230	.300	.169
-332	2.350 ± .018		2.770	2.765	2.355	.300	.169
-333	2.475 ± .020		2.895	2.890	2.480	.300	.169
-334	2.600 ± .020		3.020	3.015	2.605	.300	.169
-335	2.725 ± .020		3.145	3.140	2.730	.300	.169
-336	2.850 ± .020		3.270	3.265	2.855	.300	.169
-337	2.975 ± .024		3.395	3.390	2.980	.300	.169
-338	3.100 ± .024		3.520	3.515	3.105	.300	.169
-339	3.225 ± .024		3.645	3.640	3.230	.300	.169
-340	3.350 ± .024		3.770	3.765	3.355	.300	.169
-341	3.475 ± .024		3.895	3.890	3.480	.300	.169
-342	3.600 ± .028		4.020	4.015	3.605	.300	.169
-343	3.725 ± .028		4.145	4.140	3.730	.300	.169
-344	3.850 ± .028		4.270	4.265	3.855	.300	.169
-345	3.975 ± .028		4.395	4.390	3.980	.300	.169
-346	4.100 ± .028		4.520	4.515	4.105	.300	.169
-347	4.225 ± .030		4.645	4.640	4.230	.300	.169
-348	4.350 ± .030		4.770	4.765	4.355	.300	.169
-349	4.475 ± .030		4.895	4.890	4.480	.300	.169
-350	4.600 ± .030		5.020	5.015	4.605	.300	.169
-351	4.725 ± .030		5.145	5.140	4.730	.300	.169
-352	4.850 ± .030		5.270	5.265	4.855	.300	.169
-353	4.975 ± .037		5.395	5.390	4.980	.300	.169
-354	5.100 ± .037		5.520	5.515	5.105	.300	.169
-355	5.225 ± .037		5.645	5.640	5.230	.300	.169
-356	5.350 ± .037		5.770	5.765	5.355	.300	.169
-357	5.475 ± .037		5.895	5.890	5.480	.300	.169
-358	5.600 ± .037		6.020	6.015	5.605	.300	.169
-359	5.725 ± .037		6.145	6.140	5.730	.300	.169
-360	5.850 ± .037		6.270	6.265	5.855	.300	.169

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**O-Ring seal sizes not listed are not recommended for axial seals because the seal ID after installation becomes too small for practical use.

GALLAGHER Fluid Seals, Inc.

Question? 800.822.4063

Static Axial Seal Gland Dimensions

AS-568* Number	O-ring Dimensions			Internal Pressure	External Pressure	Groove Width	Gland Depth
	I.D. ± Tol.	W. ± Tol.	O.D. (ref)	Diameter A	Diameter B	G	H
Tolerance				+.005 -.000	+.000 -.005	+.010 -.000	+.005 -.000
-361	5.975 ± .037	.210 ± .005	6.395	6.390	5.980	.300	.169
-362	6.225 ± .040		6.645	6.640	6.230	.300	.169
-363	6.475 ± .040		6.895	6.890	6.480	.300	.169
-364	6.725 ± .040		7.145	7.140	6.730	.300	.169
-365	6.975 ± .040		7.395	7.390	6.980	.300	.169
-366	7.225 ± .045		7.645	7.640	7.230	.300	.169
-367	7.475 ± .045		7.895	7.890	7.480	.300	.169
-368	7.725 ± .045		8.145	8.140	7.730	.300	.169
-369	7.975 ± .045		8.395	8.390	7.980	.300	.169
-370	8.225 ± .050		8.645	8.640	8.230	.300	.169
-371	8.475 ± .050		8.895	8.890	8.480	.300	.169
-372	8.725 ± .050		9.145	9.140	8.730	.300	.169
-373	8.975 ± .050		9.395	9.390	8.980	.300	.169
-374	9.225 ± .055		9.645	9.640	9.230	.300	.169
-375	9.475 ± .055		9.895	9.890	9.480	.300	.169
-376	9.725 ± .055		10.145	10.140	9.730	.300	.169
-377	9.975 ± .055		10.395	10.390	9.980	.300	.169
-378	10.475 ± .060		10.895	10.890	10.480	.300	.169
-379	10.975 ± .060		11.395	11.390	10.980	.300	.169
-380	11.475 ± .065		11.895	11.890	11.480	.300	.169
-381	11.975 ± .065		12.395	12.390	11.980	.300	.169
-382	12.975 ± .065		13.395	13.390	12.980	.300	.169
-383	13.975 ± .070		14.395	14.390	13.980	.300	.169
-384	14.975 ± .070		15.395	15.390	14.980	.300	.169
-385	15.955 ± .075		16.375	16.370	15.960	.300	.169
-386	16.955 ± .080		17.375	17.370	16.960	.300	.169
-387	17.955 ± .085		18.375	18.370	17.960	.300	.169
-388	18.955 ± .090		19.375	19.370	18.960	.300	.169
-389	19.955 ± .095		20.375	20.370	19.960	.300	.169
-390	20.955 ± .095		21.375	21.370	20.960	.300	.169

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Static Axial Seal Gland Dimensions

AS-568* Number	O-ring Dimensions			Internal Pressure Diameter A	External Pressure Diameter B	Groove Width G	Gland Depth H
	I.D. ± Tol.	W. ± Tol.	O.D. (ref)				
Tolerance				+.005 -.000	+.000 -.005	+.010 -.000	+.005 -.000
-391	21.955 ± .100	.210 ± .005	22.375	22.370	21.960	.300	.169
-392	22.940 ± .105		23.360	23.355	22.945	.300	.169
-393	23.940 ± .110		24.360	24.355	23.945	.300	.169
-394	24.940 ± .115		25.360	25.355	24.945	.300	.169
-395	25.940 ± .120		26.360	26.355	25.945	.300	.169
-425	4.475 ± .033	.275 ± .006	5.025	5.020	4.480	.355	.231
-426	4.600 ± .033		5.150	5.145	4.605	.355	.231
-427	4.725 ± .033		5.275	5.270	4.730	.355	.231
-428	4.850 ± .033		5.400	5.395	4.855	.355	.231
-429	4.975 ± .037		5.525	5.520	4.980	.355	.231
-430	5.100 ± .037		5.650	5.645	5.105	.355	.231
-431	5.225 ± .037		5.775	5.770	5.230	.355	.231
-432	5.350 ± .037		5.900	5.895	5.355	.355	.231
-433	5.475 ± .037		6.025	6.020	5.480	.355	.231
-434	5.600 ± .037		6.150	6.145	5.605	.355	.231
-435	5.725 ± .037		6.275	6.270	5.730	.355	.231
-436	5.850 ± .037		6.400	6.395	5.855	.355	.231
-437	5.975 ± .037		6.525	6.520	5.980	.355	.231
-438	6.225 ± .040		6.775	6.770	6.230	.355	.231
-439	6.475 ± .040		7.025	7.020	6.480	.355	.231
-440	6.725 ± .040		7.275	7.270	6.730	.355	.231
-441	6.975 ± .040		7.525	7.520	6.980	.355	.231
-442	7.225 ± .045		7.775	7.770	7.230	.355	.231
-443	7.475 ± .045		8.025	8.020	7.480	.355	.231
-444	7.725 ± .045		8.275	8.270	7.730	.355	.231
-445	7.975 ± .045		8.525	8.520	7.980	.355	.231
-446	8.475 ± .055		9.025	9.020	8.480	.355	.231
-447	8.975 ± .055		9.525	9.520	8.980	.355	.231
-448	9.475 ± .055		10.025	10.020	9.480	.355	.231
-449	9.975 ± .055		10.525	10.520	9.980	.355	.231

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GALLAGHER Fluid Seals, Inc.

Question? 800.822.4063

Static Axial Seal Gland Dimensions

AS-568* Number	O-ring Dimensions			Internal Pressure Diameter A	External Pressure Diameter B	Groove Width G	Gland Depth H
	I.D. ± Tol.	W. ± Tol.	O.D. (ref)				
Tolerance				+.005 -.000	+.000 -.005	+.010 -.000	+.005 -.000
-450	10.475 ± .060	.275 ± .006	11.025	11.020	10.480	.355	.231
-451	10.975 ± .060		11.525	11.520	10.980	.355	.231
-452	11.475 ± .060		12.025	12.020	11.480	.355	.231
-453	11.975 ± .060		12.525	12.520	11.980	.355	.231
-454	12.475 ± .060		13.025	13.020	12.480	.355	.231
-455	12.975 ± .060		13.525	13.520	12.980	.355	.231
-456	13.475 ± .070		14.025	14.020	13.480	.355	.231
-457	13.975 ± .070		14.525	14.520	13.980	.355	.231
-458	14.475 ± .070		15.025	15.020	14.480	.355	.231
-459	14.975 ± .070		15.525	15.520	14.980	.355	.231
-460	15.475 ± .070		16.025	16.020	15.480	.355	.231
-461	15.955 ± .075		16.505	16.500	15.960	.355	.231
-462	16.455 ± .075		17.005	17.000	16.460	.355	.231
-463	16.955 ± .080		17.505	17.500	16.960	.355	.231
-464	17.455 ± .085		18.005	18.000	17.460	.355	.231
-465	17.955 ± .085		18.505	18.500	17.960	.355	.231
-466	18.455 ± .085		19.005	19.000	18.460	.355	.231
-467	18.955 ± .090		19.505	19.500	18.960	.355	.231
-468	19.455 ± .090		20.005	20.000	19.460	.355	.231
-469	19.955 ± .090		20.505	20.500	19.960	.355	.231
-470	20.955 ± .090		21.505	21.500	20.960	.355	.231
-471	21.955 ± .100		22.505	22.500	21.960	.355	.231
-472	22.940 ± .105		23.490	23.485	22.945	.355	.231
-473	23.940 ± .110		24.490	24.485	23.945	.355	.231
-474	24.940 ± .115		25.490	25.485	24.945	.355	.231
-475	25.940 ± .120		26.490	26.485	25.945	.355	.231

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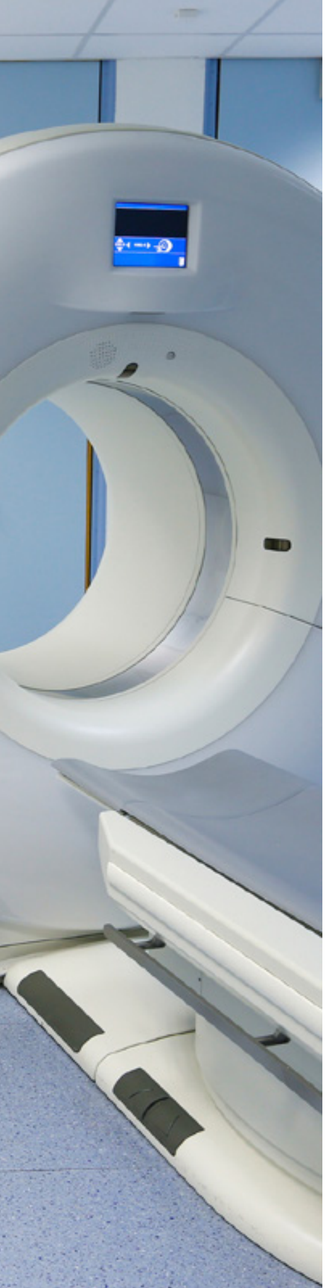

Static Radial Seal Gland Dimensions

AS-568* Number	O-Ring Dimensions ID	± Tol.	W	(OD)	A Cylinder Bore Dia.	B Piston Dia.	C Piston Gland Dia.	D Rod Bore Dia.	E Rod Dia.	F Rod Gland Dia.	G Gland Width
Tolerance			±0.003		+.002 -.000	+.000 -.001	+.000 -.001	+.002 -.000	+.000 -.001	+.001 -.000	+.010 -.000
-001	.029	.004	0.040	0.109	.082	.081	.035	.036	.035	.083	.101
-002	.042	.004	0.050	0.142	.115	.114	.048	.049	.048	.116	.101
-003	.056	.004	0.060	0.176	.148	.147	.062	.063	062	.149	.101
-004	.070	.005	0.070	0.210	.181	.180	.077	.078	.077	.182	.105
-005	.101	.005		0.241	.215	.214	.109	.110	.109	.216	.105
-006	.114	.005		0.254	.229	.228	.122	.123	.122	.230	.105
-007	.145	.005		0.285	.262	.261	.154	.155	.154	.263	.105
-008	.176	.005		0.316	.295	.294	.186	.187	.186	.296	.105
-009	.208	.005		0.348	.326	.325	.218	.219	.218	.327	.105
-010	.239	.005		0.379	.359	.358	.250	.251	.250	.360	.105
-011	.301	.005		0.441	.421	.420	.313	.314	.313	.422	.105
-012	.364	.005		0.504	.486	.485	.377	.378	.377	.487	.105
-013	.426	.005		0.566	.550	.549	.441	.442	.442	.551	.105
-014	.489	.005		0.629	.614	.613	.505	.506	.505	.615	.105
Tolerance			±0.003		+.002 -.000	+.000 -.002	+.000 -.003	+.002 -.000	+.000 -.002	+.003 -.000	+.010 -.000
-015	.551	.007	0.070	0.691	.680	.679	.572	.572	.571	.679	.105
-016	.614	.009		0.754	.746	.745	.638	.638	.637	.745	.105
-017	.676	.009		0.816	.810	.809	.702	.702	.701	.809	.105
-018	.739	.009		0.879	.874	.873	.766	.766	.765	.873	.105
-019	.801	.009		0.941	.937	.936	.829	.829	.828	.936	.105
-020	.864	.009		1.004	1.000	.999	.893	.893	.892	.999	.105
-021	.926	.009		1.066	1.064	1.063	.957	.957	.956	.1063	.105
-022	.989	.010		1.129	1.129	1.128	1.022	1.022	1.021	1.128	.105
-023	1.051	.010		1.191	1.192	1.191	1.085	1.085	1.084	1.191	.105
-024	1.114	.010		1.254	1.257	1.256	1.149	1.149	1.148	1.256	.105

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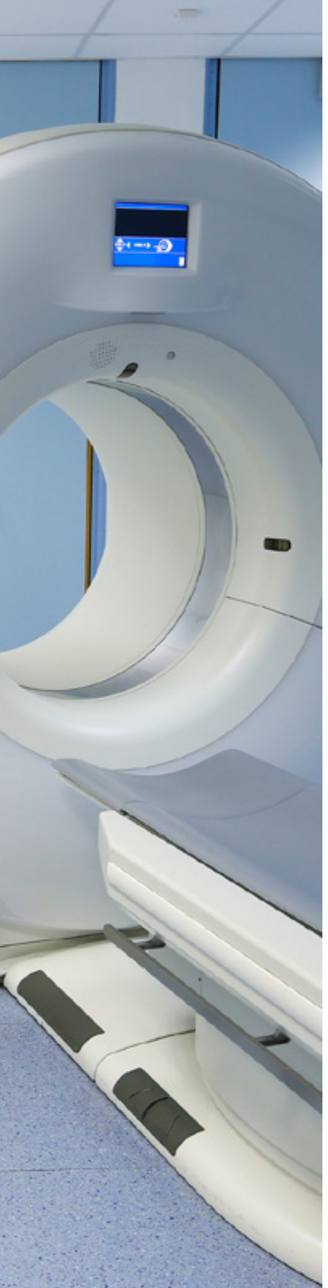
Static Radial Seal Gland Dimensions

AS-568* Number	O-Ring Dimensions ID	± Tol.	W	(OD)	A Cylinder Bore Dia.	B Piston Dia.	C Piston Gland Dia.	D Rod Bore Dia.	E Rod Dia.	F Rod Gland Dia.	G Gland Width
Tolerance			±0.003		+.002 -.000	+.000 -.002	+.000 -.003	+.002 -.000	+.000 -.002	+.003 -.000	+.010 -.000
-025	1.176	.011	0.070	1.316	1.321	1.320	1.214	1.214	1.213	1.320	.105
-026	1.239	.011		1.379	1.386	1.385	1.278	1.278	1.277	1.385	.105
-027	1.301	.011		1.441	1.449	1.448	1.341	1.341	1.340	1.448	.105
-028	1.364	.013		1.504	1.515	1.514	1.408	1.408	1.407	1.514	.105
-029	1.489	.013		1.629	1.643	1.642	1.535	1.535	1.534	1.642	.105
-030	1.614	.013		1.754	1.771	1.770	1.663	1.663	1.662	1.770	.105
-031	1.739	.015		1.879	1.900	1.899	1.792	1.791	1.792	1.899	.105
-032	1.864	.015		2.004	2.028	2.027	1.920	1.920	1.919	2.027	.105
-033	1.989	.018		2.129	2.158	2.157	2.050	***	***	***	.105
-034	2.114	.018		2.254	2.286	2.285	2.178	***	***	***	.105
-035	2.239	.018		2.379	2.413	2.412	2.305	***	***	***	.105
-036	2.364	.018		2.504	2.541	2.540	2.433	***	***	***	.105
-037	2.489	.018		2.629	2.668	2.667	2.560	***	***	***	.105
-038	2.614	.020		2.754	2.798	2.797	2.690	***	***	***	.105
-039	2.739	.020		2.879	2.925	2.924	2.817	***	***	***	.105
-040	2.864	.020		3.004	3.053	3.052	2.945	***	***	***	.105
-041	2.989	.024		3.129	3.184	3.183	3.076	***	***	***	.105
-042	3.239	.024		3.379	3.439	3.438	3.331	***	***	***	.105
-043	3.489	.024		3.629	3.694	3.693	3.586	***	***	***	.105
-044	3.739	.027		3.879	3.952	3.951	3.844	***	***	***	.105
-045	3.989	.027		4.129	4.207	4.206	4.099	***	***	***	.105
-046	4.239	.030		4.379	4.465	4.464	4.357	***	***	***	.105
-047	4.489	.030		4.629	4.720	4.719	4.612	***	***	***	.105
-048	4.739	.030		4.879	4.975	4.974	4.867	***	***	***	.105
-049	4.989	.037		5.129	5.238	5.237	5.130	***	***	***	.105
-050	5.239	.037		5.379	5.493	5.492	5.385	***	***	***	.105
Tolerance			±0.003		+.003 -.000	+.000 -.002	+.000 -.004	+.003 -.000	+.000 -.002	+.003 -.000	+.010 -.000
-102	.049	.005	0.103	0.255	.213	.212	.059	.058	.057	.212	.146
-103	.081	.005		0.287	.251	.250	.092	.091	.090	.250	.146
-104	.112	.005		0.318	.285	284	.123	.122	.121	.284	.146
-105	.143	.005		0.349	.318	.317	.155	.154	.153	.317	.146
-106	.174	.005		0.380	.350	.349	.187	.186	.185	.349	.146

*Note: The current revision of the Standard is "C" but it changes periodically.



Static Radial Seal Gland Dimensions

AS-568* Number	O-Ring Dimensions ID	± Tol.	W	(OD)	A Cylinder Bore Dia.	B Piston Dia.	C Piston Gland Dia.	D Rod Bore Dia.	E Rod Dia.	F Rod Gland Dia.	G Gland Width
Tolerance			±0.003		+.003 -.000	+.000 -.002	+.000 -.004	+.003 -.000	+.000 -.002	+.003 -.000	+.010 -.000
-107	.206	.005	0.103	0.412	.382	.381	.219	.218	.217	.381	.146
-108	.237	.005		0.443	.415	.414	.251	.250	.249	.414	.146
-109	.299	.005		0.505	.478	.477	.314	.313	.312	.477	.146
-110	.362	.005		0.568	.541	.540	.378	.377	.376	.540	.146
-111	.424	.005		0.630	.606	.605	.442	.441	.440	.605	.146
-112	.487	.005		0.693	.669	.668	.506	.505	.504	.668	.146
-113	.549	.005		0.755	.734	.733	.571	.570	.569	.733	.146
-114	612	.009		0.818	.800	.799	.637	.636	.635	.799	.146
-115	.674	.009		0.880	.864	.863	.701	.700	.699	.863	.146
-116	.737	.009		0.943	.929	.928	.765	.764	.763	.928	.146
-117	.799	.010		1.005	.993	.992	.829	.828	.827	.992	.146
-118	.862	.010		1.068	1.056	1.055	.893	.892	.891	1.055	.146
-119	.924	.010		1.130	1.120	1.119	.957	.958	.955	1.119	.146
-120	.987	.010		1.193	1.184	1.183	1.021	1.020	1.019	1.183	.146
-121	1.049	.010		1.255	1.247	1.246	1.084	1.083	1.082	1.246	.146
-122	1.112	.010		1.318	1.311	1.310	1.148	1.147	1.146	1.310	.146
-123	1.174	.012		1.380	1.377	1.376	1.214	1.213	1.212	1.376	.146
-124	1.237	.012		1.443	1.441	1.440	1.278	1.277	1.276	1.440	.146
-125	1.299	.012		1.505	1.504	1.503	1.341	1.340	1.339	1.503	.146
-126	1.362	.012		1.568	1.568	1.567	1.405	1.404	1.403	1.567	.146
-127	1.424	.012		1.630	1.633	1.632	1.469	1.468	1.467	1.632	.146
-128	1.487	.012		1.693	1.696	1.695	1.533	1.532	1.531	1.695	.146
-129	1.549	.015		1.755	1.762	1.761	1.599	1.598	1.597	1.761	.146
-130	1.612	.015		1.818	1.827	1.826	1.664	1.663	1.662	1.826	.146
-131	1.674	.015		1.880	1.890	1.889	1.727	1.726	1.725	1.889	.146
-132	1.737	.015		.943	1.954	1.953	1.791	1.790	1.789	1.953	.146
Tolerance			±0.003		+.003 -.000	+.000 -.002	+.000 -.004	+.003 -.000	+.000 -.002	+.004 -.000	+.010 -.000
-133	1.799	.015	0.103	2.005	2.018	2.017	1.854	1.853	1.852	2.017	.146
-134	1.862	.015		2.068	2.083	2.082	1.919	1.918	1.917	2.082	.146
-135	1.925	.017		2.131	2.148	2.147	1.985	1.984	1.983	2.147	.146
-136	1.987	.017		2.193	2.211	2.210	2.048	2.047	2.046	2.210	.146
-137	2.050	.017		.256	2.276	2.275	2.112	2.111	2.110	2.275	.146

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GALLAGHER Fluid Seals, Inc.

Question? 800.822.4063

Static Radial Seal Gland Dimensions

AS-568* Number	O-Ring Dimensions ID	± Tol.	W	(OD)	A Cylinder Bore Dia.	B Piston Dia.	C Piston Gland Dia.	D Rod Bore Dia.	E Rod Dia.	F Rod Gland Dia.	G Gland Width
Tolerance			±0.003		+.003 -.000	+.000 -.002	+.000 -.004	+.003 -.000	+.000 -.002	+.004 -.000	+.010 -.000
-138	2.112	.017	0.103	2.318	2.340	2.339	2.176	2.175	2.174	2.339	.146
-139	2.175	.017		2.381	2.403	2.402	2.240	2.239	2.238	2.402	.146
-140	2.237	.017		2.443	2.466	2.465	2.303	2.302	2.301	2.465	.146
-141	2.300	.020		2.506	2.533	2.532	2.370	2.369	2.368	2.532	.146
-142	2.362	.020		2.568	2.597	2.596	2.434	2.433	2.432	2.596	.146
-143	2.425	.020		2.631	2.662	2.661	2.498	2.497	2.496	2.661	.146
-144	2.487	.020		2.693	2.724	2.723	2.561	2.560	2.559	2.723	.146
-145	2.550	.020		2.756	2.788	2.787	2.625	2.624	2.623	2.787	.146
-146	2.612	.020		2.818	2.852	2.851	2.689	2.688	2.687	2.851	.146
-147	2.675	.022		2.881	2.919	2.918	2.755	2.754	2.753	2.9	.146
-148	2.737	.022		2.943	2.981	2.980	2.818	2.817	2.816	2.980	146
-149	2.800	.022		3.006	3.045	3.044	2.882	2.881	2.880	3.044	.146
-150	2.862	.022		3.068	3.109	3.108	2.946	2.945	2.944	3.108	.146
-151	2.987	.024		3.193	3.238	3.237	3.075	3.074	3.073	3.237	.146
-152	3.237	.024		3.443	3.493	3.492	3.330	***	***	***	.146
-153	3.487	.024		3.693	3.748	3.747	3.585	***	***	***	.146
-154	3.737	.028		3.943	4.007	4.006	3.844	***	***	***	.146
-155	3.987	.028		4.193	4.262	4.261	4.099	***	***	***	.146
-156	4.237	.030		4.443	4.519	4.518	4.356	***	***	***	.146
-157	4.487	.030		4.693	4.774	4.773	4.611	***	***	***	.146
-158	4.737	.030		4.943	5.029	5.028	4.866	***	***	***	.146
-159	4.987	.035		5.193	5.289	5.288	5.126	***	***	***	.146
-160	5.237	.035		5.443	5.544	5.543	5.381	***	***	***	.146
-161	5.487	.035		5.693	5.799	5.798	5.636	***	***	***	.146
-162	5.737	.035		5.943	6.054	6.053	5.891	***	***	***	.146
-163	5.987	.035		6.193	6.309	6.308	6.146	***	***	***	.146
-164	6.237	.040		6.443	6.570	6.569	6.407	***	***	***	.146
-165	6.487	.040		6.693	6.825	6.824	6.662	***	***	***	.146
-166	6.737	.040		6.943	7.080	7.079	6.917	***	***	***	.146
-167	6.987	.040		7.193	7.335	7.334	7.172	***	***	***	.146

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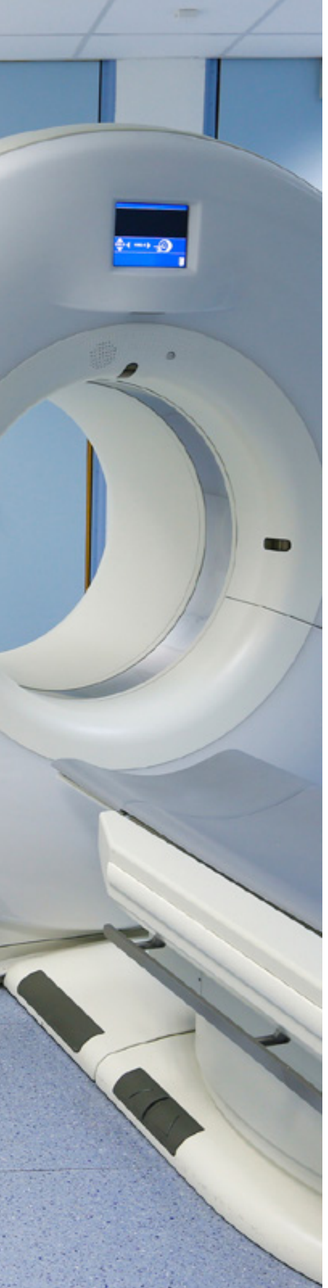

Static Radial Seal Gland Dimensions

AS-568* Number	O-Ring Dimensions ID	± Tol.	W	(OD)	A Cylinder Bore Dia.	B Piston Dia.	C Piston Gland Dia.	D Rod Bore Dia.	E Rod Dia.	F Rod Gland Dia.	G Gland Width
Tolerance			±0.003		+.003 -.000	+.000 -.002	+.000 -.004	+.003 -.000	+.000 -.002	+.004 -.000	+.010 -.000
-168	7.237	.045	0.103	7.443	7.596	7.594	7.432	***	***	***	.146
-169	7.487	.045		6.693	7.850	7.849	7.687	***	***	***	.146
-170	7.737	.045		7.943	8.105	8.104	7.942	***	***	***	.146
-171	7.987	.045		8.193	8.360	8.359	8.197	***	***	***	.146
-172	8.237	.050		8.443	8.620	8.619	8.457	***	***	***	.146
-173	8.487	.050		8.693	8.875	8.874	8.712	***	***	***	.146
Tolerance			±0.003		+.003 -.000	+.000 -.002	+.000 -.004	+.003 -.000	+.000 -.003	+.006 -.000	+.010 -.000
-174	8.737	.050	0.103	8.943	9.130	9.129	8.967	***	***	***	.146
-175	8.987	.050		9.193	9.385	9.384	9.222	***	***	***	.146
-176	9.237	.055		9.443	9.645	9.644	9.482	***	***	***	.146
-177	9.487	.055		9.693	9.900	9.899	9.737	***	***	***	.146
-178	9.737	.055		9.943	10.155	10.154	9.992	***	***	***	.146
Tolerance			±0.004		+.003 -.000	+.000 -.003	+.000 -.006	+.003 -.000	+.000 -.003	+.006 -.000	+.010 -.000
-201	0.171	.005	0.139	0.449	.408	.406	.186	.185	.183	.405	.195
-202	0.234	.005		0.512	.472	.470	.250	.249	.247	.469	.195
-203	0.296	.005		0.574	.534	.532	.313	.312	.310	.531	.195
-204	0.359	.005		0.637	.599	.597	.377	.376	.374	.596	.195
-205	0.421	.005		0.699	.663	.661	.441	.440	.438	.660	.195
-206	0.484	.005		0.762	.726	.724	.505	.504	.502	.723	.195
-207	0.546	.007		0.824	.792	.790	.570	.569	.567	.789	.195
-208	0.609	.009		0.887	.858	.856	.636	.635	.633	.855	.195
-209	0.671	.009		0.949	.921	.919	.700	.699	.697	.918	.195
-210	0.734	.010		1.012	.986	.984	.765	.764	.762	.983	.195
-211	0.796	.010		1.074	1.050	1.048	.828	.827	.825	1.047	.195
-212	0.859	.010		1.137	1.114	1.112	.892	.891	.889	1.111	.195
-213	0.921	.010		1.199	1.177	1.175	.956	.955	.953	1.174	.195
-214	0.984	.010		1.262	1.242	1.240	1.020	1.019	1.017	1.239	.195
-215	1.046	.010		1.324	1.305	1.303	1.083	1.082	1.080	1.302	.195

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GALLAGHER Fluid Seals, Inc.

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Tolerance			±0.004		+.003 -.000	+.000 -.003	+.000 -.006	+.003 -.000	+.000 -.003	+.006 -.000	+.010 -.000
-216	1.109	.012	0.139	1.387	1.370	1.368	1.149	1.148	1.146	1.367	.195
-217	1.171	.012		1.449	1.435	1.433	1.213	1.212	1.210	1.432	.195
-218	1.234	.012		1.512	1.499	1.497	1.277	1.276	1.274	1.496	.195
-219	1.296	.012		1.574	1.562	1.560	1.340	1.339	1.337	1.559	.195
-220	1.359	.012		1.637	1.626	1.624	1.404	1.403	1.401	1.623	.195
-221	1.421	.012		1.699	1.690	1.688	1.468	1.467	1.465	1.687	.195
-222	1.484	.015		1.762	1.757	1.755	1.535	1.534	1.532	1.754	.195
-223	1.609	.015		1.887	1.884	1.882	1.662	1.661	1.659	1.881	.195
-224	1.734	.015		2.012	2.012	2.010	1.790	1.789	1.787	2.009	.195
-225	1.859	.018		2.137	2.143	2.141	1.921	1.920	1.918	2.140	.195
-226	1.984	.018		2.262	2.270	2.268	2.048	2.047	2.045	2.267	.195
-227	2.109	.018		2.387	2.398	2.396	2.176	2.175	2.173	2.395	.195
228	2.234	.020		2.512	2.527	2.525	2.305	2.304	2.302	2.524	.195
-229	2.359	.020		2.637	2.655	2.653	2.433	2.432	2.430	2.652	.195
-230	2.484	.020		2.762	2.781	2.779	2.560	2.559	2.557	2.778	195
-231	2.609	.020		2.887	2.909	2.907	2.688	2.687	2.685	2.906	.195
-232	2.734	.024		3.012	3.041	3.039	2.819	2.818	2.816	3.038	.195
-233	2.859	.024		3.137	3.169	3.167	2.947	2.946	2.944	3.166	.195
-234	2.984	.024		3.262	3.296	3.293	3.074	3.073	3.071	3.292	.195
-235	3.109	.024		3.387	3.423	3.421	3.202	3.201	3.199	3.420	.195
-236	3.234	.024		3.512	3.551	3.549	3.329	3.328	3.326	3.548	.195
-237	3.359	.024		3.637	3.679	3.677	3.457	3.456	3.454	3.678	.195
-238	3.484	.024		3.762	3.806	3.804	3.584	3.583	3.581	3.803	.195
-239	3.609	.028		3.887	3.937	3.935	3.716	3.715	3.713	3.934	.195
-240	3.734	.028		4.012	4.065	4.063	3.843	3.842	3.840	4.062	.195
-241	3.859	.028		4.137	4.193	4.191	3.971	3.970	3.968	4.190	.195
-242	3.984	.028		4.262	4.320	4.318	4.098	4.097	4.095	4.317	.195
-243	4.109	.028		4.387	4.448	4.446	4.226	4.225	4.223	4.445	.195
-244	4.234	.030		4.512	4.577	4.575	4.355	4.354	4.352	4.574	.195
-245	4.359	.030		4.637	4.705	4.703	4.483	***	***	***	.195

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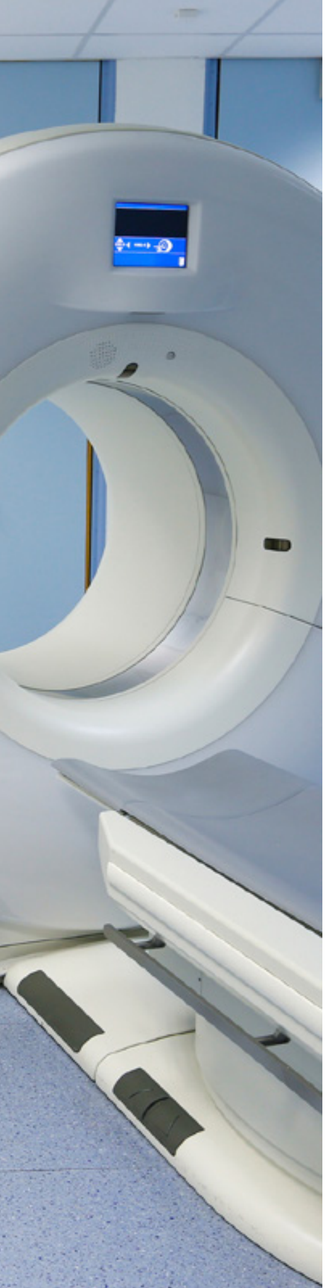

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Tolerance			±0.004		+.003 -.000	+.000 -.003	+.000 -.006	+.003 -.000	+.000 -.003	+.006 -.000	+.010 -.000
-246	4.484	.030	0.139	4.762	4.832	4.830	4.610	***	***	***	.195
-247	4.609	.030		4.887	4.960	4.958	4.738	***	***	***	.195
-248	4.734	.030		5.012	5.087	5.085	4.865	***	***	***	.195
-249	4.859	.035		5.137	5.220	5.218	4.998	***	***	***	.195
-250	4.984	.035		5.262	5.347	5.345	5.125	***	***	***	.195
-251	5.109	.035		5.387	5.475	5.473	5.253	***	***	***	.195
-252	5.234	.035		5.512	5.602	5.600	5.380	***	***	***	.195
-253	5.359	.035		5.637	5.730	5.728	5.508	***	***	***	.195
-254	5.484	.035		5.762	5.857	5.855	5.635	***	***	***	.195
-255	5.609	.035		5.887	5.985	5.983	5.763	***	***	***	.195
-256	5.734	.035		6.012	6.112	6.110	5.890	***	***	***	.195
-257	5.859	.035		6.137	6.240	6.238	6.018	***	***	***	.195
-258	5.984	.035		6.262	6.367	6.365	6.145	***	***	***	.195
-259	6.234	.040		6.512	6.627	6.625	6.405	***	***	***	.195
-260	6.484	.040		6.762	6.882	6.880	6.660	***	***	***	.195
-261	6.734	.040		7.012	7.137	7.135	6.915	***	***	***	.195
-262	6.984	.040		7.262	7.392	7.390	7.170	***	***	***	.195
-263	7.234	.045		7.512	7.653	7.651	7.431	***	***	***	.195
-264	7.484	.045		7.762	7.908	7.906	7.686	***	***	***	.195
-265	7.734	.045		8.012	8.163	8.161	7.941	***	***	***	.195
-266	7.984	.045		8.262	8.418	8.416	8.196	***	***	***	.195
-267	8.234	.050		8.512	8.678	8.676	8.456	***	***	***	.195
-268	8.484	.050		8.762	8.933	8.931	8.711	***	***	***	.195
-269	8.734	.050		9.012	9.188	9.186	8.966	***	***	***	.195
-270	8.984	.050		9.262	9.442	9.440	9.221	***	***	***	.195
-271	9.234	.055		9.512	9.703	9.701	9.481	***	***	***	.195
-272	9.484	.055		9.762	9.958	9.956	9.736	***	***	***	.195
-273	9.734	.055		10.012	10.213	10.211	9.991	***	***	***	.195
-274	9.984	.055		10.262	10.467	10.465	10.246	***	***	***	.195
-275	10.484	.055		10.762	10.977	10.975	0.756	***	***	***	.195

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Tolerance			±0.004		+.003 -.000	+.000 -.003	+.000 -.006	+.003 -.000	+.000 -.003	+.006 -.000	+.010 -.000
-276	10.984	.065	0.139	11.262	11.498	11.496	11.276	***	***	***	.195
-277	11.484	.065		11.762	12.008	12.006	11.786	***	***	***	.195
-278	11.984	.065		12.262	12.517	12.515	12.296	***	***	***	.195
-279	12.984	.065		13.262	13.537	13.535	13.316	***	***	***	.195
-280	13.984	.065		4.262	14.558	14.556	14.336	***	***	***	.195
-281	14.984	.065		15.262	15.578	15.576	15.356	***	***	***	.195
-282	15.955	.075		16.233	16.578	16.576	16.357	***	***	***	.195
-283	16.955	.080		17.233	17.603	17.601	17.382	***	***	***	.195
-284	17.955	.085		8.233	18.628	18.626	18.407	***	***	***	.195
Tolerance			±0.005		+.003 -.000	+.000 -.003	+.000 -.008	+.003 -.000	+.000 -.003	+.008 -.000	+.010 -.000
-309	0.412	.005	0.210	0.832	.778	.775	.433	.431	.428	.773	.280
-310	0.475	.005		0.895	.843	.840	.498	.496	.493	.838	.280
-311	0.537	.007		0.957	.908	.905	.563	.561	.558	.903	.280
-312	0.600	.009		1.020	.973	.970	.629	.627	.624	.968	.280
-313	0.662	.009		1.082	1.037	1.034	692	.690	.687	1.032	.280
-314	0.725	.010		1.145	1.103	1.100	.758	.756	.753	1.098	.280
-315	0.787	.010		1.207	1.165	1.162	.821	.819	.816	1.160	.280
-316	0.850	.010		1.270	1.230	1.227	.885	.883	.880	1.225	.280
-317	0.912	.010		1.332	1.292	1.289	.948	.946	.943	1.287	.280
-318	0.975	.010		1.395	1.358	1.355	1.013	1.011	1.008	1.353	.280
-319	1.037	.010		1.457	1.421	1.418	1.076	1.074	1.071	1.416	.280
-320	1.100	.012		1.520	1.487	1.484	1.142	1.140	1.137	1.482	.280
-321	1.162	.012		1.582	1.550	1.547	1.205	1.203	1.200	1.545	.280
-322	1.225	.012		1.645	1.615	1.612	1.270	1.268	1.265	1.610	.280
-323	1.287	.012		1.707	1.678	1.675	1.333	1.331	1.328	1.673	.280
-324	1.350	.012		1.770	1.741	1.738	1.397	1.395	1.392	1.736	.280
-325	1.475	.015		1.895	1.873	1.870	1.528	1.526	1.523	1.868	.280
-326	1.600	.015		2.020	2.000	1.997	1.655	1.653	1.650	1.995	.280
-327	1.725	.015		2.145	2.127	2.124	1.783	1.781	1.778	2.122	.280
-328	1.850	.015		2.270	2.255	2.252	1.910	1.908	1.905	2.250	.280

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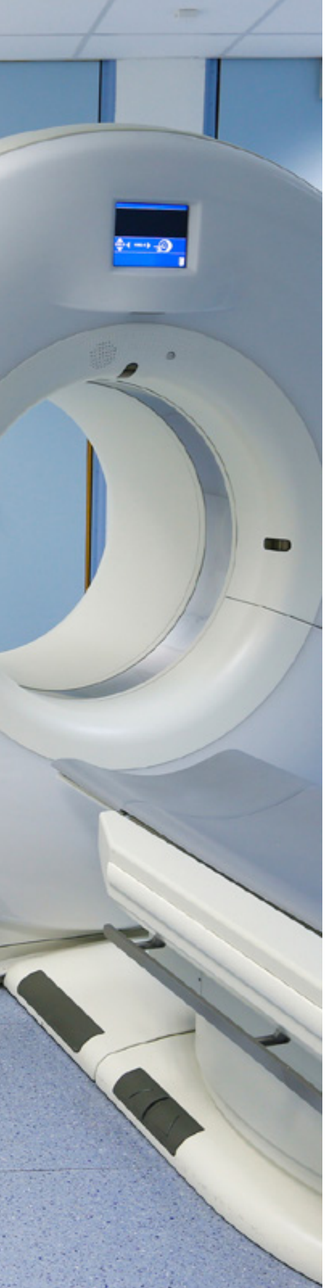
**Standard glands are not provided for the larger diameter bore-mounted applications because Diameter F becomes larger than the outside diameter of the O-Ring seal, making the installation of the seal impractical



Static Radial Seal Gland Dimensions

AS-568* Number	O-Ring Dimensions ID	± Tol.	W	(OD)	A Cylinder Bore Dia.	B Piston Dia.	C Piston Gland Dia.	D Rod Bore Dia.	E Rod Dia.	F Rod Gland Dia.	G Gland Width
Tolerance			±0.005		+.003 -.000	+.000 -.003	+.000 -.008	+.003 -.000	+.000 -.003	+.008 -.000	+.010 -.000
-329	1.975	.018	0.210	2.395	2.386	2.383	2.041	2.039	2.036	2.381	.280
-330	2.100	.018		2.520	2.513	2.510	2.168	2.166	2.163	2.508	.280
-331	2.225	.018		2.645	2.641	2.638	2.296	2.294	2.291	2.636	.280
-332	2.350	.018		2.770	2.768	2.765	2.423	2.421	2.418	2.763	.280
-333	2.475	.020		2.895	2.898	2.895	2.553	2.551	2.548	2.893	.280
-334	2.600	.020		3.020	3.025	3.022	2.680	2.678	2.675	3.020	.280
-335	2.725	.020		3.145	3.153	3.150	2.808	2.806	2.803	3.148	.280
-336	2.850	.020		3.270	3.279	3.276	2.935	2.933	2.930	3.274	.280
-337	2.975	.024		3.395	3.412	3.409	3.067	3.065	3.062	3.407	.280
-338	3.100	.024		3.520	3.539	3.536	3.194	3.192	3.189	3.534	.280
-339	3.225	.024		3.645	3.667	3.664	3.322	3.320	3.317	3.662	.280
-340	3.350	024		3.770	3.794	3.791	3.449	3.447	3.444	3.789	.280
-341	3.475	.024		3.895	3.921	3.918	3.577	3.575	3.572	3.916	.280
-342	3.600	.028		4.020	4.054	4.051	3.709	3.707	3.704	4.049	.280
-343	3.725	.028		4.145	4.181	4.178	3.836	3.834	3.831	4.176	.280
-344	3.850	.028		4.270	4.309	4.306	3.964	3.962	3.959	4.304	.280
-345	3.975	.028		4.395	4.436	4.433	4.091	4.089	4.086	4.431	.280
-346	4.100	.028		4.520	4.563	4.560	4.219	4.217	4.214	4.558	.280
-347	4.225	.030		4.645	4.693	4.690	4.348	4.346	4.343	4.688	.280
-348	4.350	.030		4.770	4.820	4.817	4.476	4.474	4.471	4.815	.280
-349	4.475	.030		4.895	4.948	4.945	4.603	4.601	4.598	4.943	.280
-350	4.600	.030		5.020	5.076	5.073	4.731	4.729	4.726	5.071	.280
-351	4.725	.030		5.145	5.203	5.200	4.858	4.856	4.853	5.198	.280
-352	4.850	.030		5.270	5.331	5.328	4.986	4.984	4.981	5.326	.280
-353	4.975	.037		5.395	5.465	5.462	5.120	5.118	5.115	5.460	.280
-354	5.100	.037		5.520	5.593	5.590	5.248	5.246	5.243	5.588	.280
-355	5.225	.037		5.645	5.720	5.717	5.375	5.373	5.370	5.715	.280
-356	5.350	.037		5.770	5.847	5.844	5.503	5.501	5.498	5.842	.280
-357	5.475	.037		5.895	5.975	5.972	5.630	5.628	5.625	5.970	.280
-358	5.600	.037		6.020	6.103	6.100	5.758	5.756	5.753	6.098	.280

*Note: The current revision of the Standard is "C" but it changes periodically. *

**Standard glands are not provided for the larger diameter bore-mounted applications because Diameter F becomes larger than the outside diameter of the O-Ring seal, making the installation of the seal impractical

GALLAGHER Fluid Seals, Inc.

Question? 800.822.4063

Static Radial Seal Gland Dimensions

AS-568* Number	O-Ring Dimensions ID	± Tol.	W	(OD)	A Cylinder Bore Dia.	B Piston Dia.	C Piston Gland Dia.	D Rod Bore Dia.	E Rod Dia.	F Rod Gland Dia.	G Gland Width
Tolerance			±0.005		+.003 -.000	+.000 -.003	+.000 -.008	+.003 -.000	+.000 -.003	+.008 -.000	+.010 -.000
-359	5.725	.037	0.210	6.145	6.230	6.227	5.885	5.883	5.880	6.225	.280
-360	5.850	.037		6.270	6.358	6.355	6.013	6.011	6.008	6.353	.280
-361	5.975	.037		6.395	6.485	6.482	6.140	6.138	6.135	6.480	.280
-362	6.225	.040		6.645	6.743	6.740	6.398	6.396	6.393	6.738	.280
-363	6.475	.040		6.895	6.998	6.995	6.653	6.651	6.648	6.993	.280
-364	6.725	.040		7.145	7.253	7.250	6.908	6.906	6.903	7.248	.280
-365	6.975	.040		7.395	7.508	7.505	7.163	7.161	7.158	7.503	280
-366	7.225	.045		7.645	7.768	7.765	7.423	7.421	7.418	7.763	.280
-367	7.475	.045		7.895	8.023	8.020	7.678	7.676	7.673	8.018	.280
-368	7.725	.045		8.145	8.278	8.275	7.933	7.931	7.928	8.273	.280
-369	7.975	.045		8.395	8.533	8.530	8.188	8.186	8.183	8.528	.280
-370	8.225	.050		8.645	8.794	8.791	8.449	8.447	8.444	8.789	.280
-371	8.475	.050		8.895	9.049	9.046	8.704	***	***	***	.280
-372	8.725	.050		9.145	9.304	9.301	8.959	***	***	***	.280
-373	8.975	.050		9.395	9.559	9.556	9.214	***	***	***	.280
-374	9.225	.055		9.645	9.819	9.816	9.474	***	***	***	.280
-375	9.475	055		9.895	10.074	10.071	9.729	***	***	***	.280
-376	9.725	.055		10.145	10.329	10.326	9.984	***	***	***	.280
-377	9.975	.055		10.395	10.584	10.581	10.239	***	***	***	.280
-378	10.475	.060		10.895	11.099	11.096	10.754	***	***	***	.280
-379	10.975	.060		11.395	11.609	11.606	11.264	***	***	***	.280
-380	11.475	.065		11.895	12.124	12.121	11.779	***	***	***	.280
-381	11.975	.065		12.395	12.634	12.631	12.289	***	***	***	.280
Tolerance			±0.005		+.003 -.000	+.000 -.003	+.000 -.008	+.004 -.000	+.000 -.003	+.010 -.000	+.010 -.000
-382	12.975	.065	0.210	13.395	13.654	13.651	13.309	***	***	***	.280
-383	13.975	.070		14.395	14.679	14.676	14.334	***	***	***	.280
-384	14.975	.070		15.395	15.699	15.696	15.354	***	***	***	.280
-385	15.955	.075		16.375	16.703	16.700	16.359	***	***	***	.280
-386	16.955	.080		17.375	17.728	17.725	7.384	***	***	***	.280

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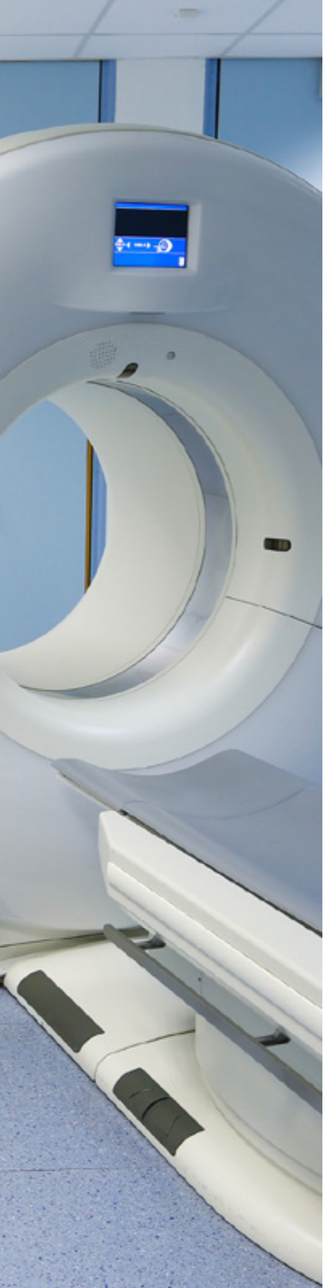

Static Radial Seal Gland Dimensions

AS-568* Number	O-Ring Dimensions ID	± Tol.	W	(OD)	A Cylinder Bore Dia.	B Piston Dia.	C Piston Gland Dia.	D Rod Bore Dia.	E Rod Dia.	F Rod Gland Dia.	G Gland Width
Tolerance			±0.005		+.003 -.000	+.000 -.003	+.000 -.008	+.004 -.000	+.000 -.003	+.010 -.000	+.010 -.000
-387	17.955	.085	0.210	18.375	18.753	18.750	18.409	***	***	***	.280
-388	18.955	.090		19.375	19.778	19.775	19.434	***	***	***	.280
-389	19.955	.095		20.375	20.803	20.800	20.459	***	***	***	.280
-390	20.955	.095		21.375	21.824	21.821	21.479	***	***	***	.280
-391	21.955	.100		22.375	22.849	22.846	22.504	***	***	***	280
-392	22.940	.105		23.360	23.859	23.856	23.514	***	***	***	.280
-393	23.940	.110		24.360	24.884	24.881	24.539	***	***	***	.280
-394	24.940	.115		25.360	25.909	25.906	25.564	***	***	***	.280
-395	25.940	.120		26.360	26.934	26.931	26.589	***	***	***	.280
Tolerance			±0.006		+.004 -.000	+.000 -.003	+.000 -.010	+.004 -.000	+.000 -.003	+.010 -.000	+.010 -.000
-425	4.475	.033	0.275	5.025	5.065	5.061	4.608	4.606	4.601	5.059	.350
-426	4.600	.033		5.150	5.193	5.189	4.736	4.734	4.729	5.187	.350
-427	4.725	.033		5.275	5.321	5.317	4.863	4.861	4.856	5.315	.350
-428	4.850	.033		5.400	5.449	5.445	4.991	4.989	4.984	5.443	.350
-429	4.975	.037		5.525	5.579	5.575	5.122	5.120	5.115	5.573	.350
-430	5.100	.037		5.650	5.707	5.703	5.250	5.248	5.243	5.701	.350
-431	5.225	.037		5.775	5.835	5.831	5.377	5.375	5.370	5.829	.350
-432	5.350	.037		5.90	5.963	5.959	5.505	5.503	5.498	5.957	.350
-433	5.475	.037		6.025	6.090	6.086	5.632	5.630	5.625	6.084	.350
-434	5.600	.037		6.150	6.218	6.214	5.760	5.758	5.753	6.212	.350
-435	5.725	.037		6.275	6.344	6.340	5.887	5.885	5.880	6.338	.350
-436	5.850	.037		6.400	6.472	6.468	6.015	6.013	6.008	6.466	.350
-437	5.975	.037		6.525	6.599	6.595	6.142	6.140	6.135	6.593	.350
-438	6.225	.040		6.775	6.857	6.853	6.400	6.398	6.393	6.851	.350
-439	6.475	.040		7.025	7.112	7.108	6.655	6.653	6.648	7.106	.350
-440	6.725	.040		7.275	7.367	7.363	6.910	6.908	6.903	7.361	.350
-441	6.975	.040		7.525	.623	7.619	7.165	7.163	7.158	7.617	.350
-442	7.225	.045		7.775	7.882	7.878	7.425	7.423	7.418	7.876	.350
-443	7.475	.045		8.025	8.137	8.133	7.680	7.678	7.673	8.131	.350
-444	7.725	.045		8.275	8.392	8.388	7.935	7.933	7.928	8.386	.350

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GALLAGHER Fluid Seals, Inc.

Question? 800.822.4063

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AS-568* Number	O-Ring Dimensions ID	± Tol.	W	(OD)	A Cylinder Bore Dia.	B Piston Dia.	C Piston Gland Dia.	D Rod Bore Dia.	E Rod Dia.	F Rod Gland Dia.	G Gland Width
Tolerance			±0.006		+.004 -.000	+.000 -.003	+.000 -.010	+.004 -.000	+.000 -.003	+.010 -.000	+.010 -.000
-445	7.975	.045	0.275	8.525	8.648	8.644	8.190	8.188	8.183	8.642	.350
-446	8.475	.055		9.025	9.168	9.164	8.711	8.709	8.704	9.162	.350
-447	8.975	.055		9.525	9.678	9.674	9.221	9.219	9.214	9.672	.350
-448	9.475	.055		10.025	10.188	10.184	9.731	***	***	***	.350
-449	9.975	.055		10.525	10.699	10.695	10.241	***	***	***	.350
-450	10.475	.060		11.025	11.213	11.209	10.756	***	***	***	.350
-451	10.975	.060		11.525	11.724	11.720	11.266	***	***	***	.350
-452	11.475	.060		12.025	12.233	12.229	11.776	***	***	***	.350
-453	11.975	.060		12.525	12.743	12.739	12.286	***	***	***	.350
-454	12.475	.060		13.025	13.253	13.249	12.796	***	***	***	.350
-455	12.975	.060		13.525	13.763	13.759	13.306	***	***	***	.350
-456	13.475	.070		14.025	14.283	14.279	13.826	***	***	***	.350
-457	13.975	.070		14.525	14.793	14.789	14.336	***	***	***	.350
-458	14.475	.070		15.025	15.303	15.299	14.846	***	***	***	.350
-459	14.975	.070		15.525	15.813	15.809	15.356	***	***	***	.350
-460	15.475	.070		16.025	16.323	16.319	15.866	***	***	***	.350
-461	15.955	.075		16.505	16.818	16.814	16.361	***	***	***	.350
-462	16.455	.075		17.005	17.328	17.324	16.871	***	***	***	.350
-463	16.955	.080		17.505	17.843	17.839	17.386	***	***	***	.350
-464	17.455	.085		18.005	18.358	18.354	17.901	***	***	***	.350
-465	17.955	.085		18.505	18.868	18.864	18.411	***	***	***	.350
-466	18.455	.085		19.005	19.378	19.374	18.921	***	***	***	.350
-467	18.955	.090		19.505	19.893	19.889	19.436	***	***	***	.350
-468	19.455	.090		20.005	20.403	20.399	19.946	***	***	***	.350
-469	19.455	.090		20.505	20.918	20.914	20.461	***	***	***	.350
-470	20.955	.090		21.505	21.938	21.934	21.481	***	***	***	.350
-471	21.955	.100		22.505	22.963	22.959	22.506	***	***	***	.350
-472	22.940	.105		23.490	23.973	23.969	23.516	***	***	***	.350
-473	23.940	.110		24.490	24.998	24.994	24.541	***	***	***	.350
-474	24.940	.115		25.490	26.023	26.019	25.566	***	***	***	.350
-475	25.940	.120		26.490	27.048	27.044	26.591	***	***	***	.350

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Common Military Specifications

Material Specification	Numbering Series	Durometer (+/-5)	Base Polymer	Temp. Range (°F)	Description
AMS3209	N/A	70	Neoprene	-40 to +225	Weather Resistant
AMS3301	N/A	40	Silicone	-85 to +400	General Purpose
AMS3302	N/A	50	Silicone	-85 to +400	General Purpose
AMS3303	N/A	60	Silicone	-85 to +400	General Purpose
AMS3304	MS9068 (1)	70	Silicone	-85 to +400	General Purpose
AMS3305	N/A	80	Silicone	-85 to +400	General Purpose
AMS7271	MS9020 (2) MS9021 (1)	65	Nitrile	-67 to +300	Phosphate Ester Resistant
AMS7277	N/A	70-85	Butyl	-85 to +400	General purpose
MIL-P-5315	MS29512 (2) MS29513 (1)	70	Nitrile	-65 to +200	Hydrocarbon Fuel Resistant
MIL-P-5510	MS28778 (2)	90	Nitrile	-65 to +212	For Hydraulic Fluid Systems
MIL-P-5516	AN6227 AN6230	70	Nitrile	-65 to +275	Hydraulic Fluids MIL-H-5606
MIL-R-7362	MS29561 (1) NAS617 (2)	70	Nitrile	-65 to +250	For MIL-L-7808 Fluids
MIL-P-25732	MS28775 (1)	70	Nitrile	-65 to +275	For Hydraulic Fluid Systems
MIL-R-83248 Type 1, Class 1	M83248/1 (1)	75	Fluorocarbon	-20 to +400	High Temperature, Fluid & Compression Set Resistance
Type 1, Class 2	M83248/2 (1)	90	Fluorocarbon	-20 to +400	
MIL-R-25988 Class 1, Grade 70	M25988/1 (1)	70	Fluorosilicone	-80 to +350	Oil & Fuel Resistant
Class 1, Grade 60	M25988/3 (1)	60	Fluorosilicone	-80 to +350	Oil & Fuel Resistant
Class 1, Grade 80	M25988/4 (1)	80	Fluorosilicone	-80 to +350	Oil & Fuel Resistant
ZZR-765B Class 1A & 1B Grade 40	N/A	40	Silicone	-80 to +437	High Temperature & Low Compression Set Resistant
Grade 50	N/A	50	Silicone	-103 to +437	High & Low Temperature Resistant & Low Compression Set Resistant
Grade 60	N/A	60	Silicone	-103 to +437	Same As Above
Grade 70	N/A	70	Silicone	-103 to +437	Low Temperature & Low Compression Set Resistant
ZZR-765B Class 2A & 2B Grade 40	N/A	40	Silicone	-80 to +437	High Temperature & Low Compression Set Resistant
Grade 50	N/A	50	Silicone	-103 to +437	High & Low Temperature Resistant & Low Compression Set Resistant
Grade 70	N/A	70	Silicone	-80 to +437	Low Temperature & Low Compression Set Resistant
Grade 80	N/A	80	Silicone	-80 to +437	Same As Above
ZZR-765B Class 2A Grade 60	N/A	60	Silicone	-103 to +437	High & Low Temperature Resistant & Low Compression Set Resistant
ZZR-765B Class 2B Grade 60	N/A	60	Silicone	-80 to +437	High Temperature Resistant & Low Compression Set Resistant
ZZR-765B Class 3B Grade 70	N/A	70	Silicone	-94 to +392	Tear & Flex Resistant
Grade 80	N/A	80	Silicone	-94 to +392	Same As Above

AMS (Aerospace Material Specifications)
AN (Air Force/Navy Specifications)
M; MIL; MS (Military Specifications)
NAS (National Aeronautical Specifications)

(1) Dash numbers correspond with the AS-568B dash numbers
(2) Dash numbers correspond with the 900 tube fitting series

Dynamic Radial Seal Gland Dimensions

AS-568* Number	O-ring Dimensions				A	B	C	D	E	F	G
	ID	± Tol.	W	(OD)	Cylinder BoreDia.	PistonDia.	Piston GlandDia.	Rod BoreDia.	RodDia.	Rod GlandDia.	Gland Width
Tolerance			±0.003		+.001 -.000	+.000 -.001	+.000 -.001	+.001 -.000	+.000 -.001	+.001 -.000	+.010 -.000
-006	0.114	0.005	0.070	0.254	0.230	0.229	0.121	0.123	0.121	0.230	0.100
-007	0.145	0.005	↓	0.285	0.262	0.261	0.152	0.154	0.152	0.262	↓
-008	0.176	0.005	↓	0.316	0.294	0.293	0.183	0.185	0.183	0.294	↓
-009	0.208	0.005	↓	0.348	0.326	0.325	0.215	0.217	0.215	0.326	↓
-010	0.239	0.005	↓	0.379	0.358	0.357	0.246	0.248	0.246	0.358	↓
-011	0.301	0.005	↓	0.441	0.421	0.420	0.308	0.310	0.308	0.421	↓
-012	0.364	0.005	↓	0.504	0.484	0.483	0.371	0.373	0.371	0.484	↓
-013	0.426	0.005	↓	0.566	0.546	0.545	0.433	0.435	0.433	0.546	↓
-014	0.489	0.005	↓	0.629	0.609	0.608	0.496	0.498	0.496	0.609	↓
Tolerance			±0.003		+.002 -.000	+.000 -.001	+.000 -.002	+.002 -.000	+.000 -.002	+.002 -.000	+.010 -.000
-015	0.551	0.007	0.070	0.691	0.672	0.671	0.561	0.562	0.561	0.672	↓
-016	0.614	0.009	↓	0.754	0.736	0.735	0.626	0.627	0.626	0.736	↓
-017	0.676	0.009	↓	0.816	0.798	0.797	0.688	0.689	0.688	0.798	↓
-018	0.739	0.009	↓	0.879	0.862	0.861	0.751	0.752	0.751	0.862	↓
-019	0.801	0.009	↓	0.941	0.925	0.924	0.814	0.815	0.814	0.925	↓
-020	0.864	0.009	↓	1.004	0.988	0.987	0.877	0.878	0.877	0.988	↓
Tolerance			±0.003		+.002 -.000	+.000 -.002	+.000 -.002	+.002 -.000	+.000 -.002	+.002 -.000	+.010 -.000
-106	0.174	0.005	0.103	0.380	0.351	0.350	0.182	0.184	0.182	0.351	0.135
-107	0.206	0.005	↓	0.412	0.384	0.383	0.214	0.216	0.214	0.384	↓
-108	0.237	0.005	↓	0.443	0.415	0.414	0.245	0.247	0.245	0.415	↓
-109	0.299	0.005	↓	0.505	0.479	0.478	0.307	0.309	0.307	0.479	↓
-110	0.362	0.005	↓	0.568	0.542	0.541	0.370	0.372	0.370	0.542	↓
-111	0.424	0.005	↓	0.630	0.605	0.604	0.432	0.434	0.432	0.605	↓

*Note: The current revision of the Standard is "C" but it changes periodically.

Dynamic Radial Seal Gland Dimensions

AS-568* Number	O-Ring Dimensions ID	± Tol.	W	(OD)	A Cylinder BoreDia.	B PistonDia.	C Piston GlandDia.	D Rod BoreDia.	E RodDia.	F Rod GlandDia.	G Gland Width
Tolerance			±0.003		+.002 -.000	+.000 -.001	+.000 -.002	+.002 -.000	+.000 -.002	+.002 -.000	+.010 -.000
-112	0.487	0.005	0.103	0.693	0.668	0.667	0.495	0.497	0.495	0.668	
-113	0.549	0.005		0.755	0.732	0.731	0.559	0.561	0.559	0.732	
-114	0.612	0.009		0.818	0.796	0.795	0.624	0.626	0.624	0.796	
-115	0.674	0.009		0.880	0.859	0.858	0.686	0.688	0.686	0.859	
-116	0.737	0.009		0.943	0.922	0.921	0.749	0.751	0.749	0.922	
-117	0.799	0.010		1.005	0.986	0.985	0.813	0.815	0.813	0.986	
-118	0.862	0.010		1.068	1.049	1.048	0.876	0.878	0.876	1.049	
-119	0.924	0.010		1.130	1.110	1.109	0.938	0.940	0.938	1.110	
-120	0.987	0.010		1.193	1.174	1.173	1.001	1.003	1.001	1.174	
-121	1.049	0.010		1.255	1.236	1.235	1.063	1.065	1.063	1.236	
-122	1.112	0.010		1.318	1.299	1.298	1.126	1.128	1.126	1.299	
-123	1.174	0.012		1.380	1.363	1.362	1.190	1.192	1.190	1.363	
-124	1.237	0.012		1.443	1.426	1.425	1.253	1.255	1.253	1.426	
-125	1.299	0.012		1.505	1.489	1.488	1.316	1.318	1.316	1.489	
Tolerance			±0.004		+.002 -.000	+.000 -.002	+.000 -.002	+.002 -.000	+.000 -.002	+.002 -.000	+.010 -.000
-202	0.234	0.005	0.139	0.512	0.478	0.476	0.242	0.244	0.242	0.478	0.175
-203	0.296	0.005		0.574	0.541	0.539	0.304	0.306	0.304	0.541	
-204	0.359	0.005		0.637	0.605	0.603	0.367	0.369	0.367	0.605	
-205	0.421	0.005		0.699	0.668	0.666	0.429	0.431	0.429	0.668	
-206	0.484	0.005		0.762	0.732	0.730	0.492	0.494	0.492	0.732	
-207	0.546	0.007		0.824	0.795	0.793	0.556	0.558	0.556	0.795	
-208	0.609	0.009		0.887	0.859	0.857	0.621	0.623	0.621	0.859	
-209	0.671	0.009		0.949	0.922	0.920	0.683	0.685	0.683	0.922	
-210	0.734	0.010		1.012	0.986	0.984	0.747	0.749	0.747	0.986	
-211	0.796	0.010		1.074	1.049	1.047	0.810	0.812	0.810	1.049	
-212	0.859	0.010		1.137	1.112	1.110	0.873	0.875	0.873	1.112	
-213	0.921	0.010		1.199	1.175	1.173	0.935	0.937	0.935	1.175	
-214	0.984	0.010		1.262	1.238	1.236	0.998	1.000	0.998	1.238	
-215	1.046	0.010		1.324	1.299	1.297	1.060	1.062	1.060	1.299	
-216	1.109	0.012		1.387	1.365	1.363	1.125	1.127	1.125	1.365	

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Dynamic Radial Seal Gland Dimensions

AS-568* Number	O-Ring Dimensions ID	± Tol.	W	(OD)	A Cylinder Bore Dia.	B Piston Dia.	C Piston Gland Dia.	D Rod Bore Dia.	E Rod Dia.	F Rod Gland Dia.	G Gland Width
Tolerance			±0.004		+.002 -.000	+.000 -.002	+.000 -.002	+.002	+.000 -.002	+.002 -.000	+.010 -.000
-217	1.171	0.012	0.139	1.449	1.427	1.425	1.187	1.189	1.187	1.427	
-218	1.234	0.012		1.512	1.489	1.487	1.250	1.252	1.250	1.489	
-219	1.296	0.012		1.574	1.552	1.550	1.313	1.315	1.313	1.552	
-220	1.359	0.012		1.637	1.616	1.614	1.376	1.378	1.376	1.616	
-221	1.421	0.012		1.699	1.678	1.676	1.438	1.440	1.438	1.678	
-222	1.484	0.015		1.762	1.744	1.742	1.504	1.506	1.504	1.744	
-223	1.609	0.015		1.887	1.868	1.866	1.629	1.631	1.629	1.868	
-224	1.734	0.015		2.012	1.994	1.992	1.754	1.756	1.754	1.994	
-225	1.859	0.018		2.137	2.122	2.120	1.883	1.885	1.883	2.122	
Tolerance			±0.005		+.002 -.000	+.000 -.002	+.000 -.002	+.002 -.000	+.000 -.002	+.002 -.000	+.010 -.000
-309	0.412	0.005	0.210	0.832	0.789	0.786	0.420	0.423	0.420	0.789	0.250
-310	0.475	0.005		0.895	0.853	0.850	0.483	0.486	0.483	0.853	
-311	0.537	0.007		0.957	0.916	0.913	0.547	0.550	0.547	0.916	
-312	0.600	0.009		1.020	0.981	0.978	0.612	0.615	0.612	0.981	
-313	0.662	0.009		1.082	1.044	1.041	0.674	0.677	0.674	1.044	
-314	0.725	0.010		1.145	1.108	1.105	0.738	0.741	0.738	1.108	
-315	0.787	0.010		1.207	1.170	1.167	0.801	0.804	0.801	1.170	
-316	0.850	0.010		1.270	1.234	1.231	0.864	0.867	0.864	1.234	
-317	0.912	0.010		1.332	1.295	1.292	0.926	0.929	0.926	1.295	
-318	0.975	0.010		1.395	1.359	1.356	0.989	0.992	0.989	1.359	
-319	1.037	0.010		1.457	1.420	1.417	1.051	1.054	1.051	1.420	
-320	1.100	0.012		1.520	1.485	1.482	1.116	1.119	1.116	1.485	
-321	1.162	0.012		1.582	1.548	1.545	1.178	1.181	1.178	1.548	
-322	1.225	0.012		1.645	1.610	1.607	1.241	1.244	1.241	1.610	
-323	1.287	0.012		1.707	1.673	1.670	1.304	1.307	1.304	1.673	
-324	1.350	0.012		1.770	1.737	1.734	1.367	1.370	1.367	1.737	
-325	1.475	0.015		1.895	1.865	1.862	1.495	1.498	1.495	1.865	
-326	1.600	0.015		2.020	1.990	1.987	1.620	1.623	1.620	1.990	
-327	1.725	0.015		2.145	2.114	2.111	1.745	1.748	1.745	2.114	
-328	1.850	0.015		2.270	2.240	2.237	1.871	1.874	1.871	2.240	

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Dynamic Radial Seal Gland Dimensions

AS-568* Number	O-Ring Dimensions ID	± Tol.	W	(OD)	A Cylinder Bore Dia.	B Piston Dia.	C Piston Gland Dia.	D Rod Bore Dia.	E Rod Dia.	F Rod Gland Dia.	G Gland Width
Tolerance			±0.005		+.002 -.000	+.000 -.002	+.000 -.002	+.002 -.000	+.000 -.002	+.002 -.000	+.010
-329	1.975	0.018	0.210	2.395	2.369	2.366	1.999	2.002	1.999	2.369	
-330	2.100	0.018		2.520	2.493	2.490	2.124	2.127	2.124	2.493	
-331	2.225	0.018		2.645	2.618	2.615	2.249	2.252	2.249	2.618	
-332	2.350	0.018		2.770	2.745	2.742	2.375	2.378	2.375	2.745	
-333	2.475	0.020		2.895	2.871	2.868	2.502	2.505	2.502	2.871	
-334	2.600	0.020		3.020	2.997	2.994	2.627	2.630	2.627	2.997	
-335	2.725	0.020		3.145	3.121	3.118	2.752	2.755	2.752	3.121	
-336	2.850	0.020		3.270	3.247	3.244	2.878	2.881	2.878	3.247	
-337	2.975	0.024		3.395	3.376	3.373	3.007	3.010	3.007	3.376	
-338	3.100	0.024		3.520	3.502	3.499	3.132	3.135	3.132	3.502	
-339	3.225	0.024		3.645	3.626	3.623	3.257	3.260	3.257	3.626	
-340	3.350	0.024		3.770	3.752	3.749	3.383	3.386	3.383	3.752	
-341	3.475	0.024		3.895	3.877	3.874	3.508	3.511	3.508	3.877	
-342	3.600	0.028		4.020	4.007	4.004	3.637	3.640	3.637	4.007	
-343	3.725	0.028		4.145	4.133	4.130	3.763	3.766	3.763	4.133	
-344	3.850	0.028		4.270	4.257	4.254	3.888	3.891	3.888	4.257	
-345	3.975	0.028		4.395	4.382	4.379	4.013	4.016	4.013	4.382	
-346	4.100	0.028		4.520	4.507	4.504	4.138	4.141	4.138	4.507	
-347	4.225	0.030		4.645	4.635	4.632	4.266	4.269	4.266	4.635	
-348	4.350	0.030		4.770	4.760	4.757	4.391	4.394	4.391	4.760	
-349	4.475	0.030		4.895	4.885	4.882	4.516	4.519	4.516	4.885	
Tolerance			±0.006		+.003 -.000	+.000 -.003	+.000 -.003	+.003 -.000	+.000 -.003	+.004 -.000	+.010 -.000
-425	4.475	0.033	0.275	5.025	5.009	5.005	4.520	4.523	4.520	5.008	0.320
-426	4.600	0.033		5.150	5.134	5.130	4.645	4.648	4.645	5.133	
-427	4.725	0.033		5.275	5.260	5.256	4.771	4.774	4.771	5.259	
-428	4.850	0.033		5.400	5.385	5.381	4.896	4.899	4.896	5.384	
-429	4.975	0.037		5.525	5.514	5.510	5.025	5.028	5.025	5.513	
-430	5.100	0.037		5.650	5.639	5.635	5.150	5.153	5.150	5.638	
-431	5.225	0.037		5.775	5.765	5.761	5.276	5.279	5.276	5.764	
-432	5.350	0.037		5.900	5.890	5.886	5.401	5.404	5.401	5.889	

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GALLAGHER Fluid Seals, Inc.

Question? 800.822.4063

Dynamic Radial Seal Gland Dimensions

AS-568* Number	O-Ring Dimensions ID	± Tol.	W	(OD)	A Cylinder Bore Dia.	B Piston Dia.	C Piston Gland Dia.	D Rod Bore Dia.	E Rod Dia.	F Rod Gland Dia.	G Gland Width
Tolerance			±0.006		+.003 -.000	+.000 -.003	+.000 -.003	+.003 -.000	+.000 -.003	+.004 -.000	+.010 -.000
-433	5.475	0.037	0.275	6.025	6.015	6.011	5.526	5.529	5.526	6.014	
-434	5.600	0.037		6.150	6.140	6.136	5.651	5.654	5.651	6.139	
-435	5.725	0.037		6.275	6.266	6.262	5.777	5.780	5.777	6.265	
-436	5.850	0.037		6.400	6.391	6.387	5.902	5.905	5.902	6.390	
-437	5.975	0.037		6.525	6.516	6.512	6.027	6.030	6.027	6.515	
-438	6.225	0.040		6.775	6.770	6.766	6.281	6.284	6.281	6.769	
-439	6.475	0.040		7.025	7.020	7.016	6.531	6.534	6.531	7.019	
-440	6.725	0.040		7.275	7.271	7.267	6.782	6.785	6.782	7.270	
-441	6.975	0.040		7.525	7.521	7.517	7.032	7.035	7.032	7.520	
-442	7.225	0.045		7.775	7.777	7.773	7.288	7.291	7.288	7.776	
-443	7.475	0.045		8.025	8.027	8.023	7.538	7.541	7.538	8.026	
-444	7.725	0.045		8.275	8.278	8.274	7.789	7.792	7.789	8.277	
-445	7.975	0.045		8.525	8.528	8.524	8.039	8.042	8.039	8.527	
-446	8.475	0.055		9.025	9.039	9.035	8.550	8.553	8.550	9.038	
-447	8.975	0.055		9.525	9.540	9.536	9.051	9.054	9.051	9.539	
-448	9.475	0.055		10.025	10.041	10.037	9.552	9.555	9.552	10.040	
-449	9.975	0.055		10.525	10.542	10.538	10.053	10.056	10.053	10.541	
-450	10.475	0.060		11.025	11.048	11.044	10.559	10.562	10.559	11.047	
-451	10.975	0.060		11.525	11.549	11.545	11.060	11.063	11.060	11.548	
-452	11.475	0.060		12.025	12.050	12.046	11.561	11.564	11.561	12.049	
-453	11.975	0.060		12.525	12.551	12.547	12.062	12.065	12.062	12.550	
-454	12.475	0.060		13.025	13.052	13.048	12.563	12.566	12.563	13.051	
-455	12.975	0.060		13.525	13.553	13.549	13.064	13.067	13.064	13.552	
-456	13.475	0.070		4.025	14.064	14.060	13.575	13.578	13.575	14.063	
-457	13.975	0.070		14.525	14.565	14.561	14.076	14.079	14.076	14.564	
-458	14.475	0.070		15.025	15.066	15.062	14.577	14.580	14.577	15.065	
-459	14.975	0.070		15.525	15.567	15.563	15.078	15.081	15.078	15.566	
-460	15.475	0.070		16.025	16.068	16.064	15.579	15.582	15.579	16.067	

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Standard AS-568 Size O-Rings

AS-568 NO.	NOMINAL REFERENCE			ACTUAL DIMENSIONS	
	I.D.	O.D.	Width	I.D. Tol.	W. Tol.
-001	1/32	3/32	1/32	.029 ±.004	.040 ±.003
-001 1/2	1/16	1/8	1/32	.070 ±.004	.040 ±.003
-002	3/64	7/64	1/32	.042 ±.004	.050 ±.003
-003	1/16	3/16	1/16	.056 ±.004	.060 ±.003
-004	5/64	13/64	1/16	.070 ±.005	.070 ±.003
-005	3/32	7/32	1/16	.101 ±.005	.070 ±.003
-006	1/8	1/4	1/16	.114 ±.005	.070 ±.003
-007	5/32	9/32	1/16	.145 ±.005	.070 ±.003
-008	3/16	5/16	1/16	.176 ±.005	.070 ±.003
-009	7/32	11/32	1/16	.208 ±.005	.070 ±.003
-010	1/4	3/8	1/16	.239 ±.005	.070 ±.003
-011	5/16	7/16	1/16	.301 ±.005	.070 ±.003
-012	3/8	1/2	1/16	.364 ±.005	.070 ±.003
-013	7/16	9/16	1/16	.426 ±.005	.070 ±.003
-014	1/2	5/8	1/16	.489 ±.005	.070 ±.003
-015	9/16	11/16	1/16	.551 ±.007	.070 ±.003
-016	5/8	3/4	1/16	.614 ±.009	.070 ±.003
-017	11/16	13/16	1/16	.676 ±.009	.070 ±.003
-018	3/4	7/8	1/16	.739 ±.009	.070 ±.003
-019	13/16	15/16	1/16	.801 ±.009	.070 ±.003
-020	7/8	1	1/16	.864 ±.009	.070 ±.003
-021	15/16	1 1/16	1/16	.926 ±.009	.070 ±.003
-022	1	1 1/8	1/16	.989 ±.010	.070 ±.003
-023	1 1/16	1 3/16	1/16	1.051 ±.010	.070 ±.003
-024	1 1/8	1 1/4	1/16	1.114 ±.010	.070 ±.003
-025	1 3/16	1 5/16	1/16	1.176 ±.011	.070 ±.003
-026	1 1/4	1 3/8	1/16	1.239 ±.011	.070 ±.003
-027	1 5/16	1 7/16	1/16	1.301 ±.011	.070 ±.003
-028	1 3/8	1 1/2	1/16	1.364 ±.013	.070 ±.003
-029	1 1/2	1 5/8	1/16	1.489 ±.013	.070 ±.003
-030	1 5/8	1 3/4	1/16	1.614 ±.013	.070 ±.003
-031	1 3/4	1 7/8	1/16	1.739 ±.015	.070 ±.003
-032	1 7/8	2	1/16	1.864 ±.015	.070 ±.003
-033	2	2 1/8	1/16	1.989 ±.018	.070 ±.003
-034	2 1/8	2 1/4	1/16	2.114 ±.018	.070 ±.003
-035	2 1/4	2 3/8	1/16	2.239 ±.018	.070 ±.003
-036	2 3/8	2 1/2	1/16	2.364 ±.018	.070 ±.003
-037	2 1/2	2 5/8	1/16	2.489 ±.018	.070 ±.003
-038	2 5/8	2 3/4	1/16	2.614 ±.020	.070 ±.003
-039	2 3/4	2 7/8	1/16	2.739 ±.020	.070 ±.003
-040	2 7/8	3	1/16	2.864 ±.020	.070 ±.003
-041	3	3 1/8	1/16	2.989 ±.024	.070 ±.003
-042	3 1/4	3 3/8	1/16	3.239 ±.024	.070 ±.003
-043	3 1/2	3 5/8	1/16	3.489 ±.024	.070 ±.003
-044	3 3/4	3 7/8	1/16	3.739 ±.027	.070 ±.003
-045	4	4 1/8	1/16	3.989 ±.027	.070 ±.003
-046	4 1/4	4 3/8	1/16	4.239 ±.030	.070 ±.003
-047	4 1/2	4 5/8	1/16	4.489 ±.030	.070 ±.003
-048	4 3/4	4 7/8	1/16	4.739 ±.030	.070 ±.003
-049	5	5 1/8	1/16	4.989 ±.037	.070 ±.003
-050	5 1/4	5 3/8	1/16	5.239 ±.037	.070 ±.003
-102	1/16	1/4	1/32	.049 ±.005	.103 ±.003
-103	3/32	5/32	1/32	.081 ±.005	.103 ±.003
-104	1/8	5/16	1/32	.112 ±.005	.103 ±.003
-105	5/32	11/32	1/32	.143 ±.005	.103 ±.003
-106	3/16	3/8	1/32	.174 ±.005	.103 ±.003
-107	7/32	13/32	1/32	.206 ±.005	.103 ±.003
-108	1/4	7/16	1/32	.237 ±.005	.103 ±.003
-109	5/16	1/2	1/32	.299 ±.005	.103 ±.003
-110	3/8	9/16	1/32	.362 ±.005	.103 ±.003
-111	1/16	5/8	1/32	.424 ±.005	.103 ±.003
-112	1/2	17/16	1/32	.487 ±.005	.103 ±.003
-113	9/16	3/4	1/32	.549 ±.005	.103 ±.003
-114	5/8	19/16	1/32	.612 ±.009	.103 ±.003

*More O-ring sizes available

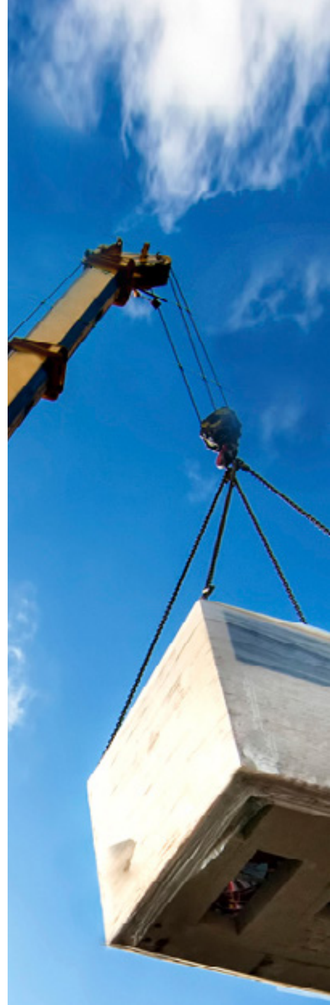
GALLAGHER Fluid Seals, Inc.

Question? 800.822.4063

Standard AS-568 Size O-Rings

AS-568 NO.	NOMINAL REFERENCE			ACTUAL DIMENSIONS	
	I.D.	O.D.	Width	I.D. Tol.	W. Tol.
-115	11/16	7/8	3/32	.674 ±.009	.103 ±.003
-116	3/4	15/16	3/32	.737 ±.009	.103 ±.003
-117	13/16	1	3/32	.799 ±.010	.103 ±.003
-118	7/8	1 1/16	3/32	.862 ±.010	.103 ±.003
-119	15/16	1 1/8	3/32	.924 ±.010	.103 ±.003
-120	1	1 3/16	3/32	.987 ±.010	.103 ±.003
-121	1 1/16	1 1/4	3/32	1.049 ±.010	.103 ±.003
-122	1 1/8	1 5/16	3/32	1.112 ±.010	.103 ±.003
-123	1 3/16	1 3/8	3/32	1.174 ±.012	.103 ±.003
-124	1 1/4	1 7/16	3/32	1.237 ±.012	.103 ±.003
-125	1 5/16	1 1/2	3/32	1.299 ±.012	.103 ±.003
-126	1 3/8	1 9/16	3/32	1.362 ±.012	.103 ±.003
-127	1 7/16	1 5/8	3/32	1.424 ±.012	.103 ±.003
-128	1 1/2	1 11/16	3/32	1.487 ±.012	.103 ±.003
-129	1 9/16	1 3/4	3/32	1.549 ±.012	.103 ±.003
-130	1 5/8	1 13/16	3/32	1.612 ±.015	.103 ±.003
-131	1 11/16	1 7/8	3/32	1.674 ±.015	.103 ±.003
-132	1 3/4	1 15/16	3/32	1.737 ±.015	.103 ±.003
-133	1 13/16	2	3/32	1.799 ±.015	.103 ±.003
-134	1 7/8	2 1/16	3/32	1.862 ±.015	.103 ±.003
-135	1 15/16	2 1/8	3/32	1.925 ±.017	.103 ±.003
-136	2	2 3/16	3/32	1.987 ±.017	.103 ±.003
-137	2 1/16	2 1/4	3/32	2.050 ±.017	.103 ±.003
-138	2 1/8	2 5/16	3/32	2.112 ±.017	.103 ±.003
-139	2 3/16	2 3/8	3/32	2.175 ±.017	.103 ±.003
-140	2 1/4	2 7/16	3/32	2.237 ±.017	.103 ±.003
-141	2 5/16	2 1/2	3/32	2.300 ±.020	.103 ±.003
-142	2 3/8	2 9/16	3/32	2.362 ±.020	.103 ±.003
-143	2 7/16	2 5/8	3/32	2.425 ±.020	.103 ±.003
-144	2 1/2	2 11/16	3/32	2.487 ±.020	.103 ±.003
-145	2 9/16	2 3/4	3/32	2.550 ±.020	.103 ±.003
-146	2 5/8	2 13/16	3/32	2.612 ±.022	.103 ±.003
-147	2 11/16	2 7/8	3/32	2.675 ±.022	.103 ±.003
-148	2 3/4	2 15/16	3/32	2.737 ±.022	.103 ±.003
-149	2 15/16	3	3/32	2.800 ±.022	.103 ±.003
-150	2 7/8	3 1/16	3/32	2.862 ±.022	.103 ±.003
-151	3	3 3/16	3/32	2.987 ±.024	.103 ±.003
-152	3 1/4	3 7/16	3/32	3.237 ±.024	.103 ±.003
-153	3 1/2	3 11/16	3/32	3.487 ±.024	.103 ±.003
-154	3 3/4	3 15/16	3/32	3.737 ±.028	.103 ±.003
-155	4	4 3/16	3/32	3.987 ±.028	.103 ±.003
-156	4 1/4	4 7/16	3/32	4.237 ±.030	.103 ±.003
-157	4 1/2	4 11/16	3/32	4.487 ±.030	.103 ±.003
-158	4 3/4	4 15/16	3/32	4.737 ±.030	.103 ±.003
-159	5	5 3/16	3/32	4.987 ±.035	.103 ±.003
-160	5 1/4	5 7/16	3/32	5.237 ±.035	.103 ±.003
-161	5 1/2	5 11/16	3/32	5.487 ±.035	.103 ±.003
-162	5 3/4	5 15/16	3/32	5.737 ±.035	.103 ±.003
-163	6	6 3/16	3/32	5.987 ±.035	.103 ±.003
-164	6 1/4	6 7/16	3/32	6.237 ±.040	.103 ±.003
-165	6 1/2	6 11/16	3/32	6.487 ±.040	.103 ±.003
-166	6 3/4	6 15/16	3/32	6.737 ±.040	.103 ±.003
-167	7	7 3/16	3/32	6.987 ±.040	.103 ±.003
-168	7 1/4	7 7/16	3/32	7.237 ±.045	.103 ±.003
-169	7 1/2	7 11/16	3/32	7.487 ±.045	.103 ±.003
-170	7 3/4	7 15/16	3/32	7.737 ±.045	.103 ±.003
-171	8	8 3/16	3/32	7.987 ±.045	.103 ±.003
-172	8 1/4	8 7/16	3/32	8.237 ±.050	.103 ±.003
-173	8 1/2	8 11/16	3/32	8.487 ±.050	.103 ±.003
-174	8 3/4	8 15/16	3/32	8.737 ±.050	.103 ±.003
-175	9	9 3/16	3/32	8.987 ±.050	.103 ±.003
-176	9 1/4	9 7/16	3/32	9.237 ±.055	.103 ±.003
-177	9 1/2	9 11/16	3/32	9.487 ±.055	.103 ±.003
-178	9 3/4	9 15/16	3/32	9.737 ±.055	.103 ±.003

*More O-ring sizes available



Standard AS-568 Size O-Rings

AS-568 NO.	NOMINAL REFERENCE			ACTUAL DIMENSIONS	
	I.D.	O.D.	Width	I.D. Tol.	W. Tol.
-201	3/16	7/16	1/8	.171 ±.005	.139 ±.004
-202	1/4	1/2	1/8	.234 ±.005	.139 ±.004
-203	5/16	9/16	1/8	.296 ±.005	.139 ±.004
-204	3/8	5/8	1/8	.359 ±.005	.139 ±.004
-205	7/16	11/16	1/8	.421 ±.005	.139 ±.004
-206	1/2	3/4	1/8	.484 ±.005	.139 ±.004
-207	9/16	13/16	1/8	.546 ±.007	.139 ±.004
-208	5/8	7/8	1/8	.609 ±.009	.139 ±.004
-209	11/16	15/16	1/8	.671 ±.009	.139 ±.004
-210	3/4	1	1/8	.734 ±.010	.139 ±.004
-211	13/16	1 1/16	1/8	.796 ±.010	.139 ±.004
-212	7/8	1 1/8	1/8	.859 ±.010	.139 ±.004
-213	15/16	1 1/16	1/8	.921 ±.010	.139 ±.004
-214	1	1 1/4	1/8	.984 ±.010	.139 ±.004
-215	1 1/16	1 3/16	1/8	1.046 ±.010	.139 ±.004
-216	1 1/8	1 3/8	1/8	1.109 ±.012	.139 ±.004
-217	1 3/16	1 7/16	1/8	1.171 ±.012	.139 ±.004
-218	1 1/4	1 1/2	1/8	1.234 ±.012	.139 ±.004
-219	1 5/16	1 9/16	1/8	1.296 ±.012	.139 ±.004
-220	1 3/8	1 5/8	1/8	1.359 ±.012	.139 ±.004
-221	1 7/16	1 11/16	1/8	1.421 ±.012	.139 ±.004
-222	1 1/2	1 3/4	1/8	1.484 ±.015	.139 ±.004
-223	1 5/8	1 7/8	1/8	1.609 ±.015	.139 ±.004
-224	1 3/4	2	1/8	1.734 ±.015	.139 ±.004
-225	1 7/8	2 1/8	1/8	1.859 ±.018	.139 ±.004
-226	2	2 1/4	1/8	1.984 ±.018	.139 ±.004
-227	2 1/8	2 3/8	1/8	2.109 ±.018	.139 ±.004
-228	2 1/4	2 1/2	1/8	2.234 ±.020	.139 ±.004
-229	2 3/8	2 5/8	1/8	2.359 ±.020	.139 ±.004
-230	2 1/2	2 3/4	1/8	2.484 ±.020	.139 ±.004
-231	2 5/8	2 7/8	1/8	2.609 ±.020	.139 ±.004
-232	2 3/4	3	1/8	2.734 ±.024	.139 ±.004
-233	2 7/8	3 1/8	1/8	2.859 ±.024	.139 ±.004
-234	3	3 1/4	1/8	2.984 ±.024	.139 ±.004
-235	3 1/8	3 3/8	1/8	3.109 ±.024	.139 ±.004
-236	3 1/4	3 1/2	1/8	3.234 ±.024	.139 ±.004
-237	3 3/8	3 5/8	1/8	3.359 ±.024	.139 ±.004
-238	3 1/2	3 3/4	1/8	3.484 ±.024	.139 ±.004
-239	3 5/8	3 7/8	1/8	3.609 ±.028	.139 ±.004
-240	3 3/4	4	1/8	3.734 ±.028	.139 ±.004
-241	3 7/8	4 1/8	1/8	3.859 ±.028	.139 ±.004
-242	4	4 1/4	1/8	3.984 ±.028	.139 ±.004
-243	4 1/8	4 3/8	1/8	4.109 ±.028	.139 ±.004
-244	4 1/4	4 1/2	1/8	4.234 ±.030	.139 ±.004
-245	4 3/8	4 5/8	1/8	4.359 ±.030	.139 ±.004
-246	4 1/2	4 3/4	1/8	4.484 ±.030	.139 ±.004
-247	4 5/8	4 7/8	1/8	4.609 ±.030	.139 ±.004
-248	4 3/4	5	1/8	4.734 ±.030	.139 ±.004
-249	4 7/8	5 1/8	1/8	4.859 ±.030	.139 ±.004
-250	5	5 1/4	1/8	4.984 ±.035	.139 ±.004
-251	5 1/8	5 3/8	1/8	5.109 ±.035	.139 ±.004
-252	5 1/4	5 1/2	1/8	5.234 ±.035	.139 ±.004
-253	5 3/8	5 5/8	1/8	5.359 ±.035	.139 ±.004
-254	5 1/2	5 3/4	1/8	5.484 ±.035	.139 ±.004
-255	5 5/8	5 7/8	1/8	5.609 ±.035	.139 ±.004
-256	5 3/4	6	1/8	5.734 ±.035	.139 ±.004
-257	5 7/8	6 1/8	1/8	5.859 ±.035	.139 ±.004
-258	6	6 1/4	1/8	5.984 ±.035	.139 ±.004
-259	6 1/4	6 1/2	1/8	6.234 ±.040	.139 ±.004
-260	6 1/2	6 3/4	1/8	6.484 ±.040	.139 ±.004
-261	6 3/4	7	1/8	6.734 ±.040	.139 ±.004
-262	7	7 1/4	1/8	6.984 ±.040	.139 ±.004
-263	7 1/4	7 1/2	1/8	7.234 ±.045	.139 ±.004
-264	7 1/2	7 3/4	1/8	7.484 ±.045	.139 ±.004

*More O-ring sizes available

GALLAGHER Fluid Seals, Inc.

Question? 800.822.4063

Standard AS-568 Size O-Rings

AS-568 NO.	NOMINAL REFERENCE			ACTUAL DIMENSIONS	
	I.D.	O.D.	Width	I.D. Tol.	W. Tol.
-265	7 3/4	8	1/8	7.734 ±.045	.139 ±.004
-266	8	8 1/4	1/8	7.984 ±.045	.139 ±.004
-267	8 1/4	8 1/2	1/8	8.234 ±.050	.139 ±.004
-268	8 1/2	8 3/4	1/8	8.484 ±.050	.139 ±.004
-269	8 3/4	9	1/8	8.734 ±.050	.139 ±.004
-270	9	9 1/4	1/8	8.984 ±.050	.139 ±.004
-271	9 1/4	9 1/2	1/8	9.234 ±.055	.139 ±.004
-272	9 1/2	9 3/4	1/8	9.484 ±.055	.139 ±.004
-273	9 3/4	10	1/8	9.734 ±.055	.139 ±.004
-274	10	10 1/4	1/8	9.984 ±.055	.139 ±.004
-275	10 1/2	10 3/4	1/8	10.484 ±.055	.139 ±.004
-276	11	11 1/4	1/8	10.984 ±.065	.139 ±.004
-277	11 1/2	11 3/4	1/8	11.484 ±.065	.139 ±.004
-278	12	12 1/4	1/8	11.984 ±.065	.139 ±.004
-279	13	13 1/4	1/8	12.984 ±.065	.139 ±.004
-280	14	14 1/4	1/8	13.984 ±.065	.139 ±.004
-281	15	15 1/4	1/8	14.984 ±.065	.139 ±.004
-282	16	16 1/4	1/8	15.955 ±.075	.139 ±.004
-283	17	17 1/4	1/8	16.955 ±.080	.139 ±.004
-284	18	18 1/4	1/8	17.955 ±.085	.139 ±.004
-309	7/16	13/16	3/16	.412 ±.005	.210 ±.005
-310	1/2	7/8	3/16	.475 ±.005	.210 ±.005
-311	9/16	15/16	3/16	.537 ±.007	.210 ±.005
-312	3/8	1	3/16	.600 ±.009	.210 ±.005
-313	11/16	1 1/16	3/16	.662 ±.009	.210 ±.005
-314	3/4	1 1/8	3/16	.725 ±.010	.210 ±.005
-315	13/16	1 3/16	3/16	.787 ±.010	.210 ±.005
-316	7/8	1 1/4	3/16	.850 ±.050	.210 ±.005
-317	15/16	1 5/16	3/16	.912 ±.010	.210 ±.005
-318	1	1 3/8	3/16	.975 ±.010	.210 ±.005
-319	1 1/16	1 7/16	3/16	1.037 ±.010	.210 ±.005
-320	1 1/8	1 1/2	3/16	1.100 ±.012	.210 ±.005
-321	1 3/16	1 9/16	3/16	1.162 ±.012	.210 ±.005
-322	1 1/4	1 5/8	3/16	1.225 ±.012	.210 ±.005
-323	1 5/16	1 11/16	3/16	1.287 ±.012	.210 ±.005
-324	1 3/8	1 3/4	3/16	1.350 ±.012	.210 ±.005
-325	1 1/2	1 7/8	3/16	1.475 ±.015	.210 ±.005
-326	1 5/8	2	3/16	1.600 ±.015	.210 ±.005
-327	1 3/4	2 1/8	3/16	1.725 ±.015	.210 ±.005
-328	1 7/8	2 1/4	3/16	1.850 ±.015	.210 ±.005
-329	2	2 3/8	3/16	1.975 ±.018	.210 ±.005
-330	2 1/8	2 1/2	3/16	2.100 ±.018	.210 ±.005
-331	2 1/4	2 5/8	3/16	2.225 ±.018	.210 ±.005
-332	2 3/8	2 3/4	3/16	2.350 ±.018	.210 ±.005
-333	2 1/2	2 7/8	3/16	2.475 ±.020	.210 ±.005
-334	2 5/8	3	3/16	2.600 ±.020	.210 ±.005
-335	2 3/4	3 1/8	3/16	2.725 ±.020	.210 ±.005
-336	2 7/8	3 1/4	3/16	2.850 ±.020	.210 ±.005
-337	3	3 3/8	3/16	2.975 ±.024	.210 ±.005
-338	3 1/8	3 1/2	3/16	3.100 ±.024	.210 ±.005
-339	3 1/4	3 5/8	3/16	3.225 ±.024	.210 ±.005
-340	3 3/8	3 3/4	3/16	3.350 ±.024	.210 ±.005
-341	3 1/2	3 7/8	3/16	3.475 ±.024	.210 ±.005
-342	3 5/8	4	3/16	3.600 ±.028	.210 ±.005
-343	3 3/4	4 1/8	3/16	3.725 ±.028	.210 ±.005
-344	3 7/8	4 1/4	3/16	3.850 ±.028	.210 ±.005
-345	4	4 3/8	3/16	3.975 ±.028	.210 ±.005
-346	4 1/8	4 1/2	3/16	4.100 ±.028	.210 ±.005
-347	4 1/4	4 5/8	3/16	4.225 ±.030	.210 ±.005
-348	4 3/8	4 3/4	3/16	4.350 ±.030	.210 ±.005
-349	4 1/2	4 7/8	3/16	4.475 ±.030	.210 ±.005

For quotes, prototypes or questions call: 1.800.822.4063

*More O-ring sizes available

Standard AS-568 Size O-Rings

AS-568 NO.	NOMINAL REFERENCE			ACTUAL DIMENSIONS	
	I.D.	O.D.	Width	I.D. Tol.	W. Tol.
-350	4 5/8	5	3/16	4.600 ±.030	.210 ±.005
-351	4 3/4	5 1/8	3/16	4.725 ±.030	.210 ±.005
-352	4 7/8	5 1/4	3/16	4.850 ±.030	.210 ±.005
-353	5	5 3/8	3/16	4.975 ±.037	.210 ±.005
-354	5 1/8	5 1/2	3/16	5.100 ±.037	.210 ±.005
-355	5 1/4	5 5/8	3/16	5.225 ±.037	.210 ±.005
-356	5 3/8	5 3/4	3/16	5.350 ±.037	.210 ±.005
-357	5 1/2	5 7/8	3/16	5.475 ±.037	.210 ±.005
-358	5 5/8	6	3/16	5.600 ±.037	.210 ±.005
-359	5 3/4	6 1/8	3/16	5.725 ±.037	.210 ±.005
-360	5 7/8	6 1/4	3/16	5.850 ±.037	.210 ±.005
-361	6	6 3/8	3/16	5.975 ±.037	.210 ±.005
-362	6 1/4	6 5/8	3/16	6.225 ±.040	.210 ±.005
-363	6 1/2	6 7/8	3/16	6.475 ±.040	.210 ±.005
-364	6 3/4	7 1/8	3/16	6.725 ±.040	.210 ±.005
-365	7	7 3/8	3/16	6.975 ±.040	.210 ±.005
-366	7 1/4	7 5/8	3/16	7.225 ±.045	.210 ±.005
-367	7 1/2	7 7/8	3/16	7.475 ±.045	.210 ±.005
-368	7 3/4	8 1/8	3/16	7.725 ±.045	.210 ±.005
-369	8	8 3/8	3/16	7.975 ±.045	.210 ±.005
-370	8 1/4	8 5/8	3/16	8.225 ±.050	.210 ±.005
-371	8 1/2	8 7/8	3/16	8.475 ±.050	.210 ±.005
-372	8 3/4	9 1/8	3/16	8.725 ±.050	.210 ±.005
-373	9	9 3/8	3/16	8.975 ±.050	.210 ±.005
-374	9 1/4	9 5/8	3/16	9.225 ±.055	.210 ±.005
-375	9 1/2	9 7/8	3/16	9.475 ±.055	.210 ±.005
-376	9 3/4	10 1/8	3/16	9.725 ±.055	.210 ±.005
-377	10	10 3/8	3/16	9.975 ±.055	.210 ±.005
-378	10 1/2	10 7/8	3/16	10.475 ±.060	.210 ±.005
-379	11	11 3/8	3/16	10.975 ±.060	.210 ±.005
-380	11 1/2	11 7/8	3/16	11.475 ±.065	.210 ±.005
-381	12	12 3/8	3/16	11.975 ±.065	.210 ±.005
-382	13	13 3/8	3/16	12.975 ±.065	.210 ±.005
-383	14	14 3/8	3/16	13.975 ±.070	.210 ±.005
-384	15	15 3/8	3/16	14.975 ±.070	.210 ±.005
-385	16	16 3/8	3/16	15.955 ±.075	.210 ±.005
-386	17	17 3/8	3/16	16.955 ±.080	.210 ±.005
-387	18	18 3/8	3/16	17.955 ±.085	.210 ±.005
-388	19	19 3/8	3/16	18.955 ±.090	.210 ±.005
-389	20	20 3/8	3/16	19.955 ±.095	.210 ±.005
-390	21	21 3/8	3/16	20.955 ±.095	.210 ±.005
-391	22	22 3/8	3/16	21.955 ±.100	.210 ±.005
-392	23	23 3/8	3/16	22.940 ±.105	.210 ±.005
-393	24	24 3/8	3/16	23.940 ±.110	.210 ±.005
-394	25	25 3/8	3/16	24.940 ±.115	.210 ±.005
-395	26	26 3/8	3/16	25.940 ±.120	.210 ±.005
-425	4 1/2	5	1/4	4.475 ±.033	.275 ±.006
-426	4 5/8	5 1/8	1/4	4.600 ±.033	.275 ±.006
-427	4 3/4	5 1/4	1/4	4.725 ±.033	.275 ±.006
-428	4 7/8	5 3/8	1/4	4.850 ±.033	.275 ±.006
-429	5	5 1/2	1/4	4.975 ±.037	.275 ±.006
-430	5 1/8	5 5/8	1/4	5.100 ±.037	.275 ±.006
-431	5 1/4	5 3/4	1/4	5.225 ±.037	.275 ±.006
-432	5 3/8	5 7/8	1/4	5.350 ±.037	.275 ±.006
-433	5 1/2	6	1/4	5.475 ±.037	.275 ±.006
-434	5 5/8	6 1/8	1/4	5.600 ±.037	.275 ±.006
-435	5 3/4	6 1/4	1/4	5.725 ±.037	.275 ±.006
-436	5 7/8	6 3/8	1/4	5.850 ±.037	.275 ±.006
-437	6	6 1/2	1/4	5.975 ±.037	.275 ±.006
-438	6 1/4	6 3/4	1/4	6.225 ±.040	.275 ±.006
-439	6 1/2	7	1/4	6.475 ±.040	.275 ±.006

*More O-ring sizes available

Standard AS-568 Size O-Rings

AS-568 NO.	NOMINAL REFERENCE			ACTUAL DIMENSIONS	
	I.D.	O.D.	Width	I.D. Tol.	W. Tol.
-440	6 3/4	7 1/4	1/4	6.725 ±.040	.275 ±.006
-441	7	7 1/2	1/4	6.975 ±.040	.275 ±.006
-442	7 1/4	7 3/4	1/4	7.225 ±.045	.275 ±.006
-443	7 1/2	8	1/4	7.475 ±.045	.275 ±.006
-444	7 3/4	8 1/4	1/4	7.725 ±.045	.275 ±.006
-445	8	8 1/2	1/4	7.975 ±.045	.275 ±.006
-446	8 1/2	9	1/4	8.475 ±.055	.275 ±.006
-447	9	9 1/2	1/4	8.975 ±.055	.275 ±.006
-448	9 1/2	10	1/4	9.475 ±.055	.275 ±.006
-449	10	10 1/2	1/4	9.975 ±.055	.275 ±.006
-450	10 1/2	11	1/4	10.475 ±.060	.275 ±.006
-451	11	11 1/2	1/4	10.975 ±.060	.275 ±.006
-452	11 1/2	12	1/4	11.475 ±.060	.275 ±.006
-453	12	12 1/2	1/4	11.975 ±.060	.275 ±.006
-454	12 1/2	13	1/4	12.475 ±.060	.275 ±.006
-455	13	13 1/2	1/4	12.975 ±.060	.275 ±.006
-456	13 1/2	14	1/4	13.475 ±.070	.275 ±.006
-457	14	14 1/2	1/4	13.975 ±.070	.275 ±.006
-458	14 1/2	15	1/4	14.475 ±.070	.275 ±.006
-459	15	15 1/2	1/4	14.975 ±.070	.275 ±.006
-460	15 1/2	16	1/4	15.475 ±.070	.275 ±.006
-461	16	16 1/2	1/4	15.955 ±.075	.275 ±.006
-462	16 1/2	17	1/4	16.455 ±.075	.275 ±.006
-463	17	17 1/2	1/4	16.955 ±.080	.275 ±.006
-464	17 1/2	18	1/4	17.455 ±.085	.275 ±.006
-465	18	18 1/2	1/4	17.955 ±.085	.275 ±.006
-466	18 1/2	19	1/4	18.455 ±.085	.275 ±.006
-467	19	19 1/2	1/4	18.955 ±.090	.275 ±.006
-468	19 1/2	20	1/4	19.455 ±.090	.275 ±.006
-469	20	20 1/2	1/4	19.955 ±.090	.275 ±.006
-470	21	21 1/2	1/4	20.955 ±.090	.275 ±.006
-471	22	22 1/2	1/4	21.955 ±.100	.275 ±.006
-472	23	23 1/2	1/4	22.940 ±.105	.275 ±.006
-473	24	24 1/2	1/4	23.940 ±.110	.275 ±.006
-474	25	25 1/2	1/4	24.940 ±.115	.275 ±.006
-475	26	26 1/2	1/4	25.940 ±.120	.275 ±.006

For quotes, prototypes or questions call: 1.800.822.4063

*More O-ring sizes available