



STANDARD DIN/ANSI DUAL CARTRIDGE SEALS

PATENTED

CarLife[®] 299[™]



The Most Versatile yet Affordable Seal in its Class

Product Description

In a back-to-back arrangement, the CarLife 299 cartridge seal continues to impress customers with its competitive price, field proven reliability, and large runout capability beyond industrial requirements, and has already been widely used for a broad range of applications across various industries.

As a paradigm in the design of the CarLife family, the CarLife 299 features part interchangeability between inboard and outboard seals. Moreover, besides similar construction and assembly procedure, the family shares major parts. More shared parts mean simpler maintenance process and inventory management. As a result, our CarLife customers are able to stock fewer inventory parts and pay much lower maintenance and inventory holding costs. And the more CarLife products they use, the more benefits they can gain from their cost-effective CarLife seals.

Applications

- Ability to tolerate short intermittent dry running in batch charging and discharging equipment.
- Prevent hazardous emissions of acidic, caustic, corrosive, volatile and toxic media.
- Withstand dry running involved with frequent starts and stops.
- Suitable for a wide range of rotating equipment, such as chemical process pumps, vertical pumps, centrifugal pumps, vacuum pumps and eccentric screw pumps.
- Widely used in the alcohol (e.g. methanol and ethanol), bio-diesel and corn processing industries.
- Suited for a variety of industrial applications, including refining, petrochemical, chemical, food and beverage, pharmaceutical, pipeline transportation, power generation, steel, semiconductor, electronics, biotechnology, water resource, and wastewater treatment.

Operating Parameters

Temperature	Plans 52/53 -20 ~70°C (-4 ~158 °F) Plan 54 -20 ~180°C (-4 ~356 °F)
Pressure	Up to 300 psig (21 kg/cm ² G)
Surface Speed	Up to 5000 fpm (25m/s)

Recommended Piping Plans

Between Seals 52/53/54

※ Custom designs are available to combine various compatible plans.

Design Standards

- Designed in accordance with international standards, including ANSI B73.1M, GB/T6556, EN12756, JIS, ISO 3069, and DIN 24960, with compatible and exchangeable dimensions.
- Compliant with DIN/ANSI standards for enlarged bore and tapered bore sealing chambers.
- Custom designs are available to cover the specific needs of customers.
- Applicable models: Specific equipment, such as Mk III Group by Durco, 3196 STX by Goulds, ALB #1 by Sulzer.

Auxiliaries and Components (Options)

- SP-3GL : 3-gallon external barrier/buffer fluid reservoir



More Information for You

Specific Features

- The patented cartridge design features innovative drop-proof springs, thereby speeding installation and maintenance.
- Our jumbo coil springs have better wear resistance than many other brands.
- Balanced design for both pressure directions, promoting a higher level of sealing stability.
- Flexible piping plans with a barrier/buffer fluid pressurized or unpressurized, depending on the application.
- Robust construction with large runout capability.
- Self-aligning compensates for shaft runout up to ± 0.8 mm, increasing operational reliability.
- Micro-polished outer surfaces of O-rings for anti-stick mounting.
- Natural circulation heat exchanging design delivers bidirectional cooling flows at high flow rates, greatly extending MTBF (Mean Time Between Failures) because of less heat.
- Monolithic sealing faces with precise dimensions and excellent resistance to wear.
- Low emissions design effectively contains VOC emissions.
- Interchangeable inboard and outboard sealing faces.
- Maximum interchangeability of parts among the CarLife family.

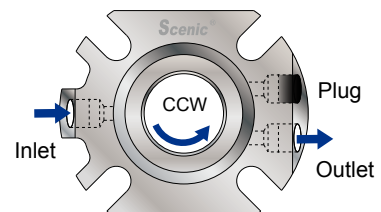
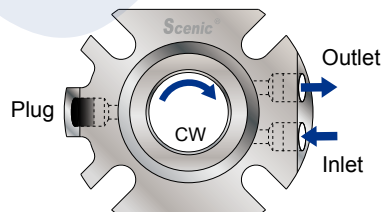
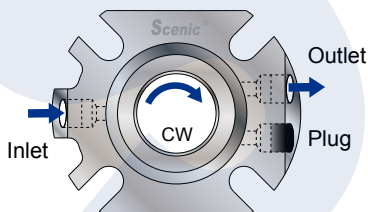


Standard Materials

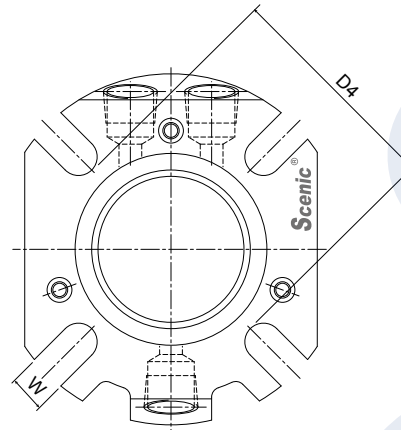
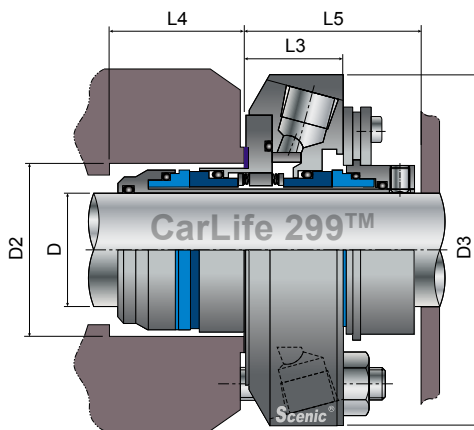
Seal Components	Standard Materials	Other Material Options
Stationary Rings	Carbon Graphite	Silicon Carbide Tungsten Carbide
Rotary Rings	Silicon Carbide	Tungsten Carbide
Metal Parts	316 Stainless Steel	304 Stainless Steel 316L Stainless Steel 316Ti Stainless Steel Duplex Stainless Alloy C-276 Titanium Monel®
Elastomeric O-rings	FKM	AFLAS NBR EPDM TV FFKM (Sceniraz™ / Chemraz® / Kalrez®)
Gland Gasket	Glass-Filled PTFE	Non-Asbestos Spiral-Wound
Springs	316 Stainless Steel	Alloy C-276 Inconel®

Guide to Piping Installation

Note: Viewed from the pump's drive end



Assembly Dimensions



※ Listed are frequently used sizes. For custom sizes, please contact Scenic for details.

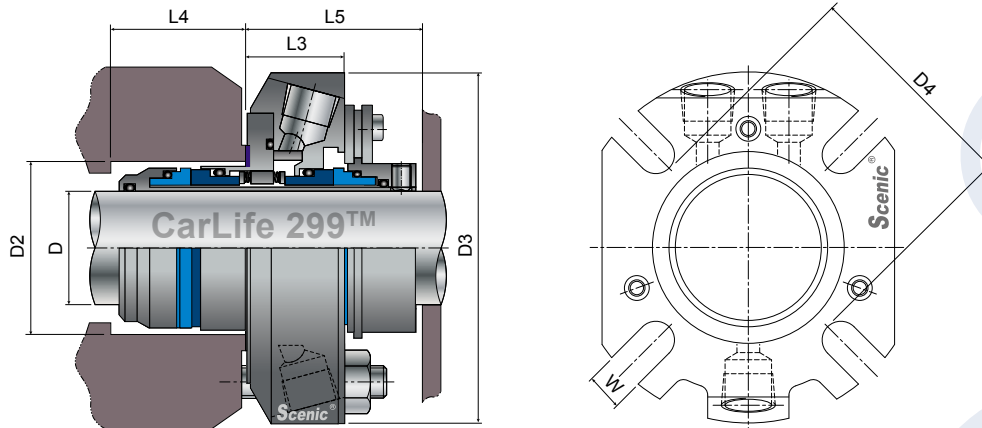
CarLife® 299™ - Metric standard sizes in mm

Seal Code	Shaft D	D2		D3	L3	L4 MIN.	L5 MIN.	D4	W
		MIN.	MAX.						
299-0032	32.0	49.0	54.0	108.0	29.0	43.5	54.0	65.5	11.0
299-0035	35.0	50.8	58.0	108.0	29.0	43.5	54.0	69.0	11.5
299-0038	38.0	57.2	72.1	120.0	29.8	45.0	56.5	76.0	15.0
299-0045	45.0	63.5	69.9	127.0	29.8	46.0	56.5	82.5	14.3
299-0048	48.0	66.7	73.0	127.0	29.8	46.0	56.5	84.2	14.3
299-0050	50.0	70.0	76.2	130.0	29.0	48.3	55.0	88.4	14.3
299-0055	55.0	75.0	80.0	155.0	29.0	48.3	55.0	94.0	18.0
299-0060	60.0	82.6	90.0	162.0	33.3	49.3	65.0	104.0	18.0
299-0065	65.0	88.9	95.3	164.0	32.9	49.7	65.0	115.0	18.0
299-0070	70.0	95.3	102.0	178.0	34.8	57.2	67.5	115.0	18.0
299-0075	75.0	101.6	110.0	184.0	30.5	58.8	65.7	125.0	18.0
299-0080	80.0	109.0	115.0	204.0	30.5	58.8	65.7	130.0	18.0
299-0085	85.0	114.3	122.0	211.0	34.3	55.0	69.9	137.5	18.0
299-0090	90.0	117.5	127.0	215.9	34.3	55.0	69.9	144.8	18.0
299-0095	95.0	124.0	132.0	217.9	34.3	55.0	69.9	150.9	18.0

CarLife® 299™ - Imperial standard sizes in inches

Seal Code	Shaft D	D2		D3	L3	L4 MIN.	L5 MIN.	D4	W
		MIN.	MAX.						
299-1250	1.250	1.929	2.126	4.252	1.142	1.712	2.126	2.580	0.433
299-1375	1.375	2.000	2.283	4.252	1.142	1.712	2.126	2.717	0.453
299-1500	1.500	2.250	2.840	4.724	1.173	1.772	2.224	2.992	0.591
299-1750	1.750	2.500	2.750	5.000	1.173	1.811	2.224	3.248	0.563
299-1875	1.875	2.625	2.875	5.000	1.173	1.811	2.224	3.315	0.563
299-2000	2.000	2.756	3.000	5.120	1.142	1.901	2.165	3.480	0.563
299-2125	2.125	2.875	3.230	5.906	1.142	1.901	2.165	3.701	0.709
299-2250	2.250	3.000	3.250	6.260	1.256	1.772	2.520	3.820	0.709
299-2375	2.375	3.250	3.543	6.378	1.311	1.941	2.559	4.094	0.709
299-2500	2.500	3.375	3.625	6.457	1.335	1.957	2.559	4.409	0.709
299-2625	2.625	3.500	3.750	6.457	1.295	1.957	2.559	4.528	0.709
299-2750	2.750	3.750	4.016	7.008	1.370	2.252	2.657	4.528	0.689
299-2875	2.875	3.875	4.187	7.008	1.370	2.252	2.657	4.724	0.689
299-3000	3.000	4.000	4.331	7.244	1.200	2.315	2.587	4.921	0.709
299-3125	3.125	4.291	4.528	8.031	1.200	2.315	2.587	5.118	0.709
299-3250	3.250	4.375	4.687	7.870	1.350	2.315	2.587	5.630	0.709
299-3375	3.375	4.500	4.803	8.307	1.350	2.165	2.750	5.413	0.709
299-3500	3.500	4.625	5.000	8.500	1.350	2.165	2.750	5.700	0.709
299-3750	3.750	4.882	5.197	8.580	1.350	2.165	2.750	5.940	0.709
299-3875	3.875	5.000	5.312	8.858	1.350	2.165	2.750	6.102	0.709

Assembly Dimensions



※ Listed are frequently used sizes. For custom sizes, please contact Scenic for details.

CarLife® 299™ - Imperial enlarged bore / tapered bore sizes in inches

Seal Code	Shaft D	D2		D3	L3	L4 MIN.	L5 MIN.	D4	W
		MIN.	MAX.						
299-1375	1.375	2.875	3.023	5.236	1.461	1.712	2.126	3.543	0.551
299-1750	1.750	3.500	3.925	6.457	1.634	1.811	2.224	4.252	0.689
299-1875	1.875	3.625	3.734	6.457	1.634	1.811	2.224	4.252	0.689
299-2125	2.125	3.875	4.250	7.087	1.693	1.901	2.165	4.803	0.709
299-2500	2.500	4.500	4.920	7.756	1.870	1.957	2.559	5.394	0.709
299-2625	2.625	4.500	4.920	7.756	1.811	1.987	2.559	5.394	0.709
299-2750	2.750	4.500	4.920	7.756	1.811	2.252	2.657	5.394	0.709

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