



■ STANDARD DIN/ANSI SINGLE CARTRIDGE SEALS

PATENTED

CarLife® 99™ / 99QD™

ECONOMICAL AND GENERAL-PURPOSE DESIGNS FOR INDUSTRIAL APPLICATIONS

Product Description

With 99 as a symbolism of longevity in Mandarin, CarLife 99, an abbreviation for Cartridge Life 99, is characterized by its long and trouble-free working life.

Among the CarLife family seals, CarLife 99 is the most popular one, offering significant savings in owning costs, and has been serving our vast customers worldwide ever since it hit the market. Created with simple yet sound construction, CarLife 99 is highly reliable and has been widely used in a variety of industrial sectors, particularly for chemical and water resource process applications.

In addition to similar construction and assembly procedure, the CarLife family has interchangeable 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.

- CarLife 99 : Standard configuration
- CarLife 99QD : Standard configuration with quench and drain ports

Applications

- Specially designed for large-scale vertical pumps with large amounts of radial or axial runout.
- Ability to tolerate short intermittent dry-running in batch charging and discharging equipment.
- Suitable for a wide range of rotating equipment, such as water pumps, chemical process pumps, vertical pumps, centrifugal pumps and eccentric screw pumps.
- Ideal for seawater pumps and wastewater treatment pumps for handling dirty and abrasive media containing solids.
- Widely used in the alcohol (e.g. methanol and ethanol), bio-diesel and corn processing industries.



Operating Capabilities

Temperature	-40 ~ 230°C (-40 ~ 446 °F)
Pressure	Up to 300 psig (21 kg/cm²G)
Surface Speed	Up to 5000 fpm (25 m/s)

Recommended Piping Plans

Plan	Process Side								Atmospheric Side			
	11	12	13	21	22	31	32	41	51	61	62	65
CarLife 99	●	●	●	●	●	●	●	●				
CarLife 99QD	●	●	●	●	●	●	●	●	●	●	●	●

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 seal 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.
- Applicable models: Eccentric screw pumps (for specific glands), such as NM(S) by Netzschi, AE by Allweiler, Moyno 2000 CC by Robbins & Myers, E-Range by Mono.

Auxiliaries and Components (Options)

- WCHE heat exchanger
- Throat bushing (process side)



More Information for You

Applications

- Capable of handling processes involving acids, alkalis, corrosive fluids and vacuum pressure.
- 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.

Material Selection

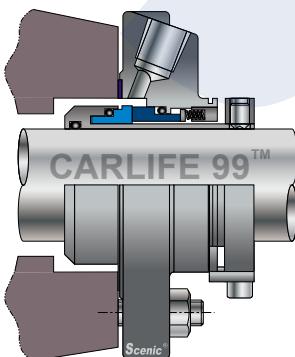
Seal Components	Standard Materials	Other Material Options
Stationary Ring	Carbon Graphite	Silicon Carbide Tungsten Carbide
Rotary Ring	Silicon Carbide	Tungsten Carbide
Metal Parts	316 Stainless Steel	304 Stainless Steel 316L Stainless Steel 316Ti Stainless Steel Duplex Stainless Alloy C-276 Titanium Monel®
Elastomeric O-rings	FKM	Aflas NBR EPDM TV FFKM (Sceniraz™ / Chemraz® / Kalrez®)
Gland Gasket	Glass-Filled PTFE	Non-Asbestos O-Ring (Elastomeric O-rings)
Springs	316 Stainless Steel	Alloy C-276 Inconel®
Throttle Bushing (Atmospheric side) for CarLife 99Q	Carbon Graphite	Carbon Fiber filled PTFE Rulon®
Throat Bushing (Process side) (Option)	Carbon Graphite	Rulon® MAT®

Specific Features

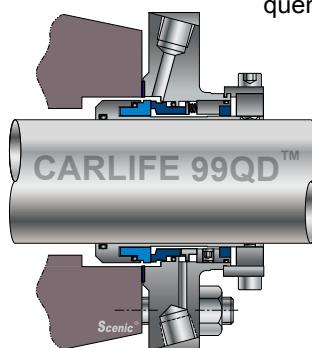
- The patented cartridge design features innovative drop-proof springs, thereby speeding installation and maintenance.
- Lightweight and balanced construction for optimal performance.
- Self-aligning compensates for shaft runout up to ± 0.8 mm, increasing operational reliability.
- Stationary and divorced from the process media, the springs have prolonged service life.
- Our jumbo coil springs have better wear resistance than many other brands.
- All applied O-rings are micro-polished to ensure smooth and anti-stick surfaces.
- Monolithic sealing faces with precise dimensions and excellent resistance to wear.
- The CarLife family shares the major parts.

Model Variants

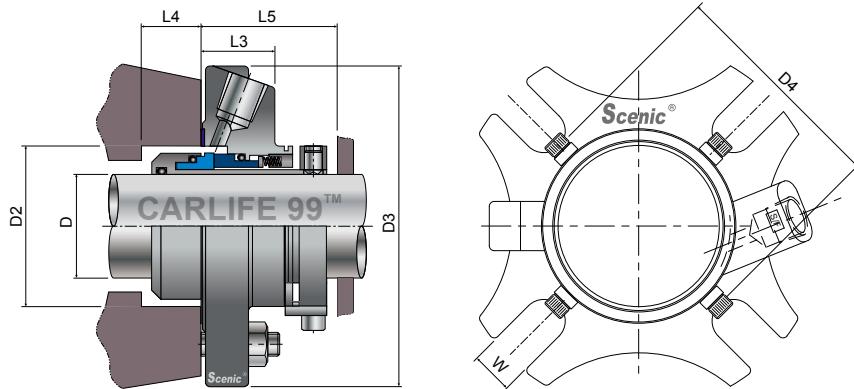
- **CarLife 99™** – Standard Design



- **CarLife 99QD™** – Standard configuration with quench and drain ports



Assembly Dimensions



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

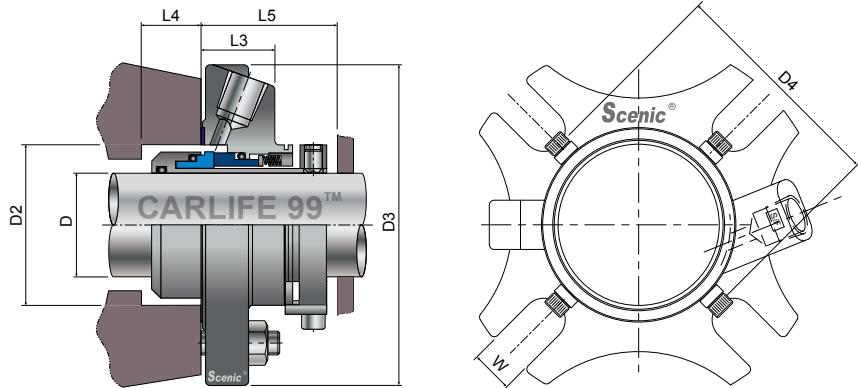
CarLife® 99™ - Metric standard sizes in mm

Seal Code	Shaft D	D2		D3	L3	L4 MIN.	L5 MIN.	D4	W
		MIN.	MAX.						
99-0025	25	42.0	48.0	95.0	24.9	19.6	44.5	55.5	11.5
99-0028	28	45.0	51.0	98.0	24.9	19.6	44.5	61.0	11.5
99-0030	30	46.0	54.0	98.0	24.9	19.6	44.5	61.0	11.5
99-0032	32	48.0	54.0	108.0	24.9	19.6	44.5	64.0	11.0
99-0035	35	51.0	58.0	108.0	24.9	19.6	44.5	69.0	11.0
99-0038	38	58.0	63.0	120.0	24.9	22.0	44.5	74.7	14.0
99-0040	40	60.0	66.0	120.0	24.9	22.0	44.5	74.7	14.0
99-0043	42	64.0	70.0	120.0	24.9	22.5	44.5	77.0	14.3
99-0045	45	64.0	70.0	127.0	24.9	22.5	44.5	81.2	14.3
99-0048	48	67.0	73.0	139.7	24.9	22.5	44.5	84.0	14.0
99-0050	50	70.0	77.0	130.0	24.9	22.5	44.5	87.0	15.0
99-0053	53	73.0	80.0	150.0	24.9	22.5	47.5	91.6	17.5
99-0055	55	75.0	82.0	150.0	28.2	22.5	51.0	91.6	17.5
99-0060	60	83.0	89.0	162.0	30.8	22.5	53.8	99.0	17.5
99-0065	65	90.0	95.0	178.0	30.8	22.5	53.8	106.5	17.5
99-0070	70	95.0	102.0	178.0	30.8	30.0	53.8	118.0	17.5
99-0075	75	102.0	110.0	190.0	30.8	30.0	53.8	122.0	17.5
99-0080	80	109.0	115.0	204.0	30.8	30.0	53.8	130.0	17.5
99-0085	85	114.0	122.0	210.0	30.8	30.0	53.8	138.0	17.5
99-0090	90	120.0	127.0	219.0	30.8	30.0	53.8	147.0	17.5
99-0095	95	124.0	132.0	222.0	30.8	30.0	53.8	142.0	18.0

CarLife® 99™ - Imperial standard sizes in inches

Seal Code	Shaft D	D2		D3	L3	L4 MIN.	L5 MIN.	D4	W
		MIN.	MAX.						
99-1000	1.000	1.625	1.875	3.740	0.980	0.772	1.750	2.185	0.453
99-1125	1.125	1.750	2.000	3.858	0.980	0.772	1.750	2.402	0.453
99-1250	1.250	1.875	2.125	4.252	0.980	0.772	1.750	2.520	0.433
99-1375	1.375	2.000	2.250	4.252	0.980	0.772	1.750	2.717	0.433
99-1500	1.500	2.250	2.500	4.724	0.980	0.866	1.750	2.941	0.551
99-1625	1.625	2.375	2.625	4.724	0.980	0.866	1.750	3.031	0.563
99-1750	1.750	2.500	2.750	5.000	0.980	0.886	1.750	3.197	0.563
99-1875	1.875	2.625	2.875	5.500	0.980	0.886	1.750	3.307	0.551
99-2000	2.000	2.750	3.000	5.118	0.980	0.886	1.750	3.425	0.591
99-2125	2.125	2.875	3.125	5.906	0.980	0.886	1.870	3.606	0.689
99-2250	2.250	3.000	3.250	6.260	1.118	0.886	2.000	3.740	0.689
99-2375	2.375	3.250	3.500	6.378	1.213	0.886	2.118	3.898	0.689
99-2500	2.500	3.375	3.625	6.457	1.213	0.925	2.118	4.016	0.689
99-2625	2.625	3.500	3.750	7.008	1.213	0.886	2.118	4.193	0.689
99-2750	2.750	3.750	4.062	7.008	1.213	1.180	2.118	4.646	0.689
99-2875	2.875	3.875	4.187	7.228	1.213	1.180	2.118	4.646	0.689
99-3000	3.000	4.000	4.312	7.480	1.213	1.180	2.118	4.803	0.689
99-3125	3.125	4.250	4.562	8.031	1.213	1.180	2.118	5.118	0.689
99-3250	3.250	4.375	4.687	7.992	1.213	1.180	2.118	5.291	0.689
99-3375	3.375	4.500	4.812	8.268	1.213	1.180	2.118	5.433	0.689
99-3500	3.500	4.625	4.937	8.504	1.213	1.180	2.118	5.669	0.709
99-3625	3.625	4.750	5.062	8.622	1.213	1.180	2.118	5.787	0.689
99-3750	3.750	4.875	5.187	8.740	1.213	1.180	2.118	5.591	0.709
99-3875	3.875	5.000	5.312	8.858	1.213	1.180	2.118	5.752	0.709

Assembly Dimensions



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

CarLife® 99™ - Enlarged bore / Tapered bore sizes in inches

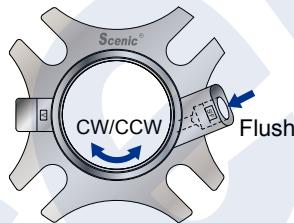
Seal Code	Shaft D	D2		D3	L3	L4 MIN.	L5 MIN.	D4	W
		MIN.	MAX.						
99B-1375	1.375	2.875	3.023	5.236	1.039	0.770	1.750	3.500	0.563
99B-1750	1.750	3.500	3.925	6.457	1.059	0.885	1.750	4.370	0.551
99B-1875	1.875	3.625	3.734	6.457	1.063	0.885	1.750	4.370	0.551
99B-2125	2.125	3.875	4.250	7.244	0.980	0.885	1.870	4.843	0.709
99B-2500	2.500	4.750	4.875	7.874	1.004	0.925	2.125	5.394	0.709
99B-2625	2.625	4.625	4.740	7.874	1.028	0.885	2.125	5.295	0.709
99B-2750	2.750	4.750	4.875	7.874	1.193	1.180	2.125	5.295	0.709

Guide to Piping Installation

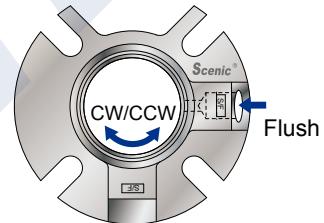
Note: Viewed from the pump's drive end



For vertical pumps only



For general applications



※ This gland is compatible with 99-3375 and 99-3875 models

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SCENIC PRECISE ELEMENT INC. No.5, Sin-Jhan Rd., Chian-Jhen District, Kaohsiung City 80672, Taiwan

Tel : (886-7) 811-1359 Fax : (886-7) 822-1033

Email : service@scenic-seals.com | scenic@scenic-seals.com