

# SCMS™ Mixer Seal

Short Canister Mixer Seal



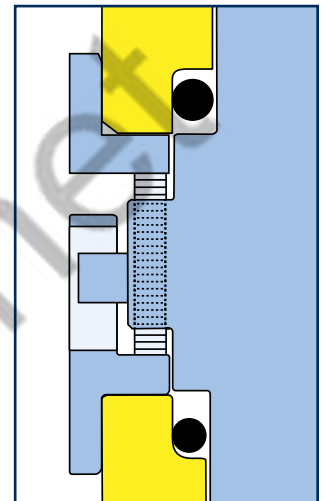
- Available for ATEX / IECEx applications
- For Top and Side Entry Mixer Applications
- Available as dual or single configuration

# SCMS™ Short Canister Mixer Seal

Designed specifically for Mixer, Agitator and Reactor applications.

Available from 30mm to 220mm (1.250" to 8.625")

- Double and Single Seal for both modern and mature mixer designs
- Suitable for both top or side entry applications
- Reduced height - ideal in situations where space is limited
- Dual Balanced Design - maintains containment through a range of process fluctuations
- Fail safe protection - Independent seal face loading using unique common multi-spring design (Patent Pending)
- Accommodates up to 4mm of radial (T.I.R.) movement (size dependant)
- Self Adjusting Axial Movement Compensation - common multi-spring design maintains precise face loading to both sets of seal faces (Double Seal Only)
- Monolithic seal faces (Double Seal Only)
- Available with integral bearing
- Optional water cooled mounting flange to extend ATEX limits
- Engineered solutions available
- Certifications Available:
  - ATEX / IECEx Zone 0/20, 1/21 & 2/22
  - FDA Compliant materials



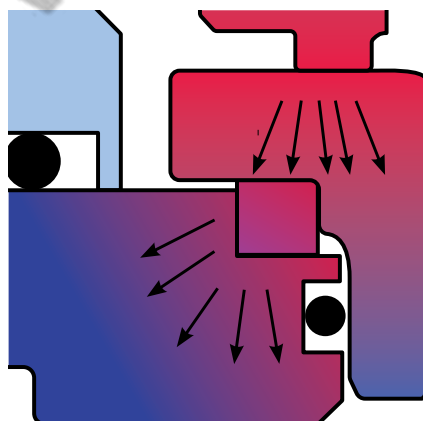
Independent seal face loading using common multi-spring design

## SCMS™ – Short Canister Mixer Seal Wet or dry contacting version

The SCMS™ Mixer seal is specifically designed for use on a broad range of mixers, agitators and reactor applications. It is suitable for side entry (flooded) or top entry (running in vapour) mounting. The modular SCMS™ design facilitates both wet and dry running versions.

## Optimized Face Technology

Finite Element Analysis has been used to optimize seal face performance resulting in stable dry running. In addition to this heat conductive wedges draw heat generated by the mechanical seal faces and dissipate out through the seal giving improved seal reliability.



Conductive wedges used to assist heat dissipation

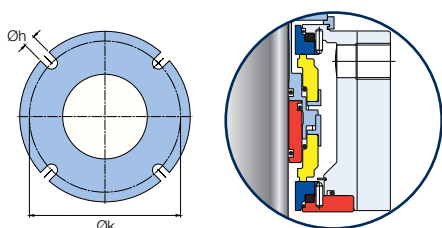


FEA Optimized seal face for stable dry running

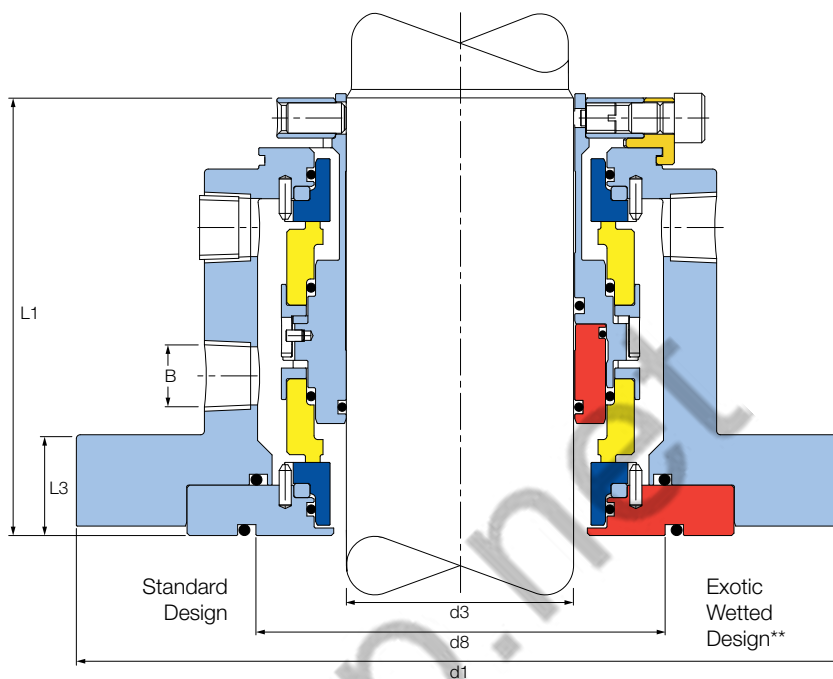
# SCMS-DW™ / SCMS-DD™

**SCMS-DW™** seal is a traditional wet seal arrangement intended for use with a API Plan 53 or 54 seal support system (double seal only)

**SCMS-DD™** is a dry running contacting configuration intended for use with a API Plan 74 seal support system (double seal only)



**Housing Style**  
30mm - 40mm  
(1.125" to 1.500")



**SCMS™ 50mm - 125mm (2.000" to 5.000")**

**Inboard Face Options:**

Resin Impregnated Carbon / SiC, SiC / SiC (SCMS-DW)  
Dry Running Carbon / SiC (SCMS-DD)

**Outboard Face Options:**

Resin Impregnated Carbon / SiC, (SCMS-DW)  
Dry Running Carbon / SiC (SCMS-DD)

**Elastomer Options:**

AES-ELAST, EPR, FFKM, FKM (Standard), TFE/P

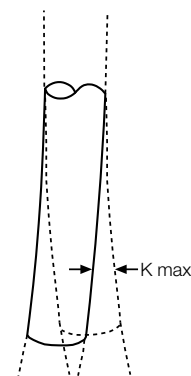
**Gasket Options:**

O Ring (standard), AF1, GFT

**Shaft Clamping:**

Clamp ring with set screws (standard)

d3	d1	Øk	Øh	L1	L3	d8	B	Max Bolt	K Max
30mm	125.5	106.5-116.5	12	102	87	63	3/8NPT	M10	2
40mm	135	116-125	12	102	87	70	3/8NPT	M10	2
50mm	189	162-173	17.5	117	26.5	95	3/8NPT	M16	3
60mm	202	171-186	17.5	117	26.5	105	3/8NPT	M16	3
70mm	225	191-209	17.5	136	26.5	120	1/2NPT	M16	3.5
80mm	235	203-219	17.5	136	26.5	130	1/2NPT	M16	3.5
90mm	250	221-231	22	136	26.5	143	1/2NPT	M20	3.5
100mm	265	231-245	22	136	26.5	152	1/2NPT	M20	3.5
125mm	291	256-271	22	136	28	177	1/2NPT	M20	3.5
140mm	315	277-295	22	145	30	197	1/2NPT	M20	3.5
160mm	366	327	23 x 8	172	32	245	1/2NPT	M20	4
180mm	379	340	23 x 8	172	32	257	1/2NPT	M20	4
200mm	398	359	23 x 12	172	32	270	1/2NPT	M20	4
220mm	418	378	23 x 12	172	32	295	1/2NPT	M20	4
1.250"	4.94	4.193-4.587	0.472	4.020	3.420	2.500	3/8NPT	3/8"	0.080
1.500"	5.320	4.570-4.937	0.472	4.020	3.420	2.750	3/8NPT	3/8"	0.080
2.000"	7.440	6.183-6.380	0.690	4.600	1.040	3.740	3/8NPT	5/8"	0.120
2.375"	7.950	6.730-7.310	0.690	4.600	1.040	4.130	3/8NPT	5/8"	0.120
2.500"	8.370	7.187-7.750	0.690	4.600	1.040	4.300	3/8NPT	5/8"	0.120
2.750"	8.860	7.520-8.250	0.690	5.350	1.040	4.720	1/2NPT	5/8"	0.138
3.125"	9.250	8.000-8.630	0.690	5.350	1.040	5.120	1/2NPT	5/8"	0.138
3.500"	9.840	8.700-9.000	0.870	5.350	1.040	5.630	1/2NPT	3/4"	0.138
4.000"	10.430	9.090-9.688	0.870	5.350	1.040	5.980	1/2NPT	3/4"	0.138
5.000"	11.460	10.080-10.688	0.870	5.350	1.100	6.970	1/2NPT	3/4"	0.138
5.500"	12.400	10.900-11.630	0.870	5.700	1.180	7.750	1/2NPT	3/4"	0.138
6.250"	14.400	12.880	0.900	6.770	1.250	9.650	1/2NPT	3/4"	0.157
7.000"	14.900	13.380	0.900	6.770	1.250	10.120	1/2NPT	3/4"	0.157
7.875"	15.700	14.130	0.900	6.770	1.250	10.630	1/2NPT	3/4"	0.157
8.625"	16.400	14.880	0.900	6.770	1.250	11.600	1/2NPT	3/4"	0.157



\* Large size SCMS™, Sizes 160mm - 220mm (6.250 - 8.625") are designed to order and are not inventoried. Contact AESSEAL® technical department for information and availability.

\*\* Exotic Alloy options designed to order and are not inventoried. Contact AESSEAL® technical department for information and availability.

Other sizes available. Contact your nearest AESSEAL® office for availability.

# SCMS-DWB / DDB™

The SCMS-DWB™ / DDB™ uses the modular components of the SCMS-DW™ / DD™

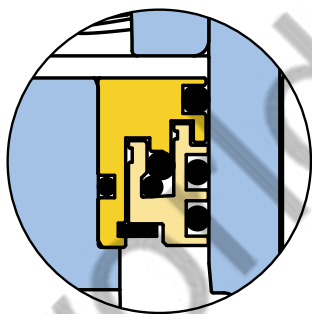
The seal is designed in accordance with DIN 28 138.

**SCMS-DWB™** Double seal Wet  
(liquid barrier) and integral load carrying Bearing

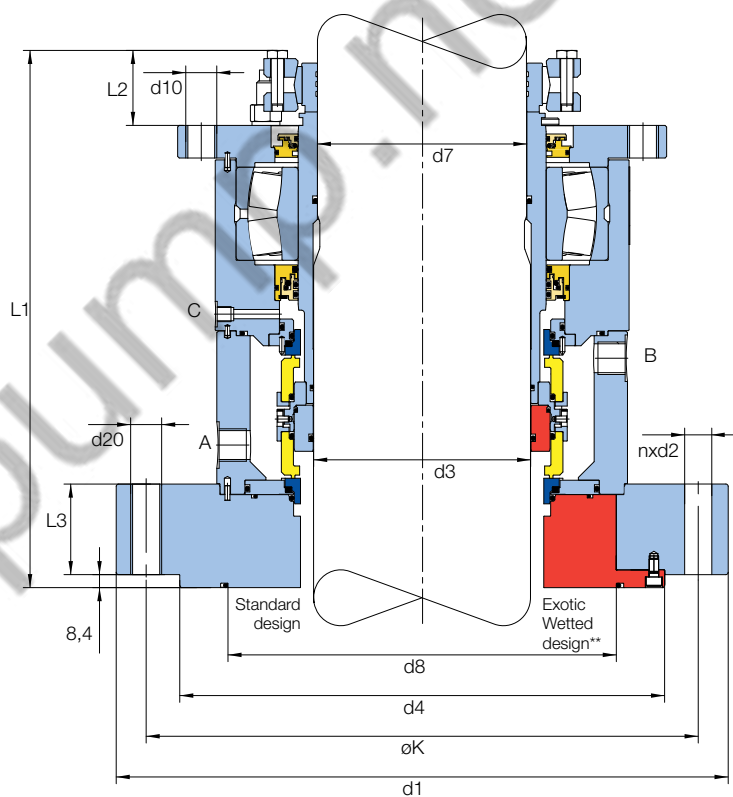
**SCMS-DDB™** Double seal Dry  
(contacting - gas barrier) and integral load carrying Bearing

The seal is offered with the following features:

- Top entry seal design
- Designed for mixers, agitators and reactors
- Double balanced inboard seal faces
- Cartridge seal with integral load carrying bearing to DIN 28 138 parts 1 & 2
- No shaft fretting
- Modular design
- Uses LabTecta® technology



Uses LabTecta® Bearing Protection



d3	d7	d1	nxd2	d4	d8	k	L1	L2	L3	L4	d10	d20	A,B	C
40	38	175	4*18	110	92	145	218.7	31.7	15	7.8	M8	M16	3/8" BSP	1/8" BSP
50	48	240	8*18	176	136	210	234.4	28.5	33	8.4	M10	M16	3/8" BSP	1/8" BSP
60	58	240	8*18	176	140	210	235.4	28.5	39	8.4	M10	M16	3/8" BSP	1/8" BSP
80	78	275	8*22	204	155	240	256	44	20	8.4	M10	M20	1/2" BSP	1/8" BSP
100	98	304.5	12*22	234	187	270	277.6	43.5	20	8.4	M10	M20	1/2" BSP	1/8" BSP
125	120	329.7	8*22	260	213	295	312.4	40.5	48	8.4	M10	M20	1/2" BSP	1/8" BSP
140	135	394.7	12*22	312.8	251	350	338.2	48.4	58	8.4	M12	M20	1/2" BSP	1/8" BSP
160	150	394.7	12*22	312.8	250	350	351.4	44	50	8.4	M12	M20	1/2" BSP	1/8" BSP
180	170	445	12*22	364	285	400	360	52.5	41.6	8.4	M12	M20	1/2" BSP	1/8" BSP
200	190	445	12*22	364	263	400	349	51.5	39.5	8.5	M12	M20	1/2" BSP	1/8" BSP
220	210	505	16*23	422	287	460	349	51.5	29.3	7.7	M12	M20	1/2" BSP	1/8" BSP

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# SCMS-DWBG / DDBG™



The SCMS-DWBG™ / DDBG™ uses the modular components of the SCMS-DWB™ / DDB™

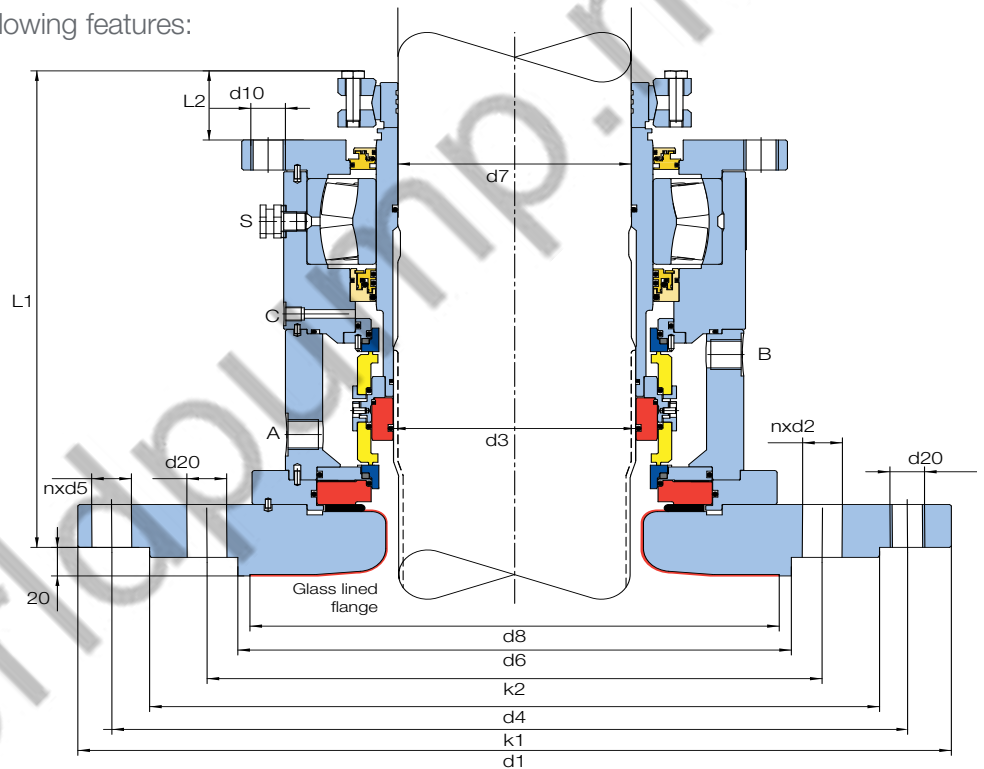
The seal is designed in accordance with DIN 28 138.

**SCMS-DWBG™** Double seal Wet (liquid barrier) and integral load carrying Bearing and Glass lined flange

**SCMS-DDBG™** Double seal Dry (contacting - gas barrier) and integral load carrying Bearing and Glass lined flange

The seal is offered with the following features:

- Top entry seal design
- Designed for mixers, agitators and reactors
- Double balanced inboard seal faces
- Cartridge seal with integral load carrying bearing to DIN 28 138 parts 1 & 2
- No shaft fretting
- Modular design
- Glass Lined Flange
- Uses LabTecta® technology



d3	d7	d1	nxd2	d4	nxd5	d6	d8	k1	k2	L1	L2	L3	d10	d20	A,B	C	S
40	38	175	4*18	110	/	102	102	145	145	223.9	31.7	15	M8	M16	3/8" BSP	1/8" BSP	1/8" BSP
50	48	240	8*18	176	/	138	138	210	210	241	28.5	33	M10	M16	3/8" BSP	1/8" BSP	1/8" BSP
60	58	275	8*22	204	/	188	188	240	240	242.8	28.5	39	M10	M20	3/8" BSP	1/8" BSP	1/8" BSP
80	78	305	8*22	234	/	212	212	270	270	289	44	20	M10	M20	1/2" BSP	1/8" BSP	1/8" BSP
100	98	395	12*23	313	/	268	268	350	350	310	43.5	20	M10	M20	1/2" BSP	1/8" BSP	1/8" BSP
125	120	505	4*23	422	12*23	320	306	460	350	318	40.5	48	M10	M20	1/2" BSP	1/8" BSP	1/8" BSP
140	135	505	4*23	422	12*23	320	306	460	350	333.5	48.4	58	M12	M20	1/2" BSP	1/8" BSP	1/8" BSP
160	150	505	4*23	422	12*23	320	306	460	350	356.8	45.3	50	M12	M20	1/2" BSP	1/8" BSP	1/8" BSP

# SCMS-SW™

SCMS-SW™ Single seal Wet

**Face Options:**

Resin Impregnated Carbon / SiC, SiC / SiC

**Elastomer Options:**

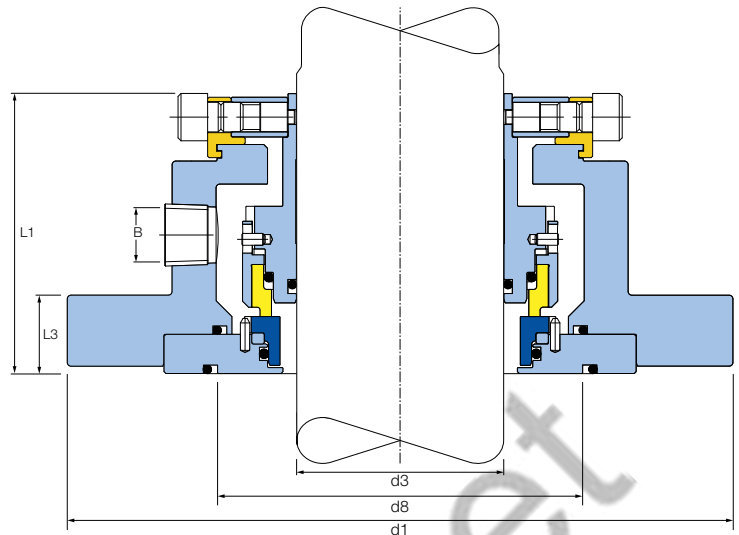
AES-ELAST, EPR, FFKM, FKM (Standard), TFE/P

**Gasket Options:**

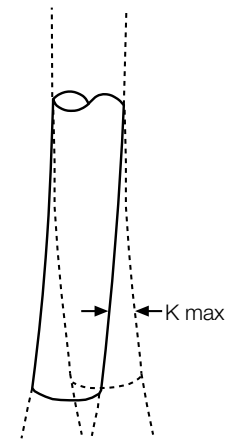
O Ring (standard), AF1, GFT

**Shaft Clamping:**

Clamp ring with set screws (standard)



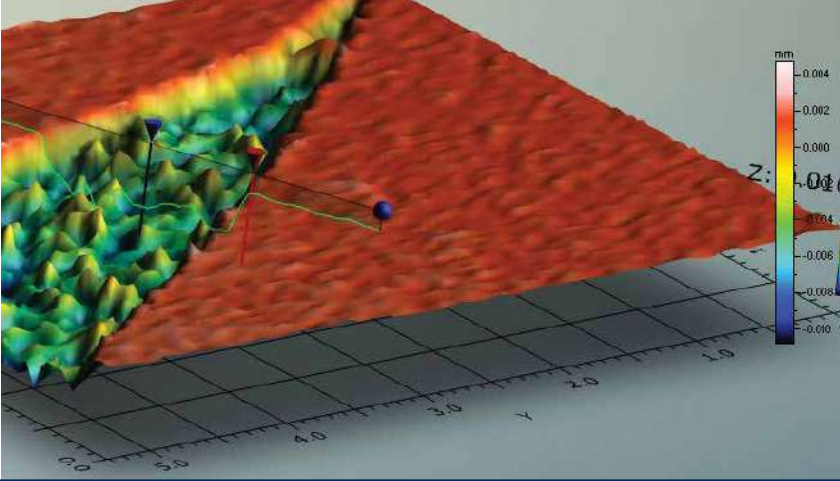
d3	d1	Øk	Øh	L1	L3	d8	B	Max Bolt	K Max
30mm	129	110-119	12	82	66.3	63	3/8NPT	M10	2
40mm	135	116-125	12	82	66.3	70	3/8NPT	M10	2
50mm	189	162-173	17.5	90	26.5	95	3/8NPT	M16	3
60mm	202	171-186	17.5	90	26.5	105	3/8NPT	M16	3
70mm	225	191-209	17.5	95	26.5	120	3/8NPT	M16	3.5
80mm	235	203-219	17.5	95	26.5	130	3/8NPT	M16	3.5
90mm	250	221-231	22	95	26.5	143	3/8NPT	M20	3.5
100mm	265	231-245	22	95	26.5	152	3/8NPT	M20	3.5
125mm	291	256-271	22	95	28	177	3/8NPT	M20	3.5
140mm	315	277-295	22	111	30	197	3/8NPT	M20	3.5
160mm	366	327	23	172	32	245	1/2NPT	M20	4
180mm	379	340	23	172	32	257	1/2NPT	M20	4
200mm	398	359	23	172	32	270	1/2NPT	M20	4
220mm	418	378	23	172	32	295	1/2NPT	M20	4
1.250"	5.080	4.330-4.700	0.472	3.230	2.618	2.500	3/8NPT	3/8"	0.080
1.500"	5.320	4.570-4.937	0.472	3.230	2.618	2.750	3/8NPT	3/8"	0.080
2.000"	7.440	6.183-6.380	0.690	3.540	1.040	3.740	3/8NPT	5/8"	0.120
2.375"	7.950	6.730-7.310	0.690	3.540	1.040	4.130	3/8NPT	5/8"	0.120
2.500"	8.370	7.187-7.750	0.690	3.540	1.040	4.300	3/8NPT	5/8"	0.120
2.750"	8.860	7.520-8.250	0.690	3.540	1.040	4.720	3/8NPT	5/8"	0.138
3.125"	9.250	8.000-8.630	0.690	3.540	1.040	5.120	3/8NPT	5/8"	0.138
3.500"	9.840	8.700-9.000	0.870	3.540	1.040	5.630	3/8NPT	3/4"	0.138
4.000"	10.430	9.090-9.688	0.870	3.540	1.040	5.980	3/8NPT	3/4"	0.138
5.000"	11.460	10.080-10.688	0.870	3.540	1.100	6.970	3/8NPT	3/4"	0.138
5.500"	12.400	10.900-11.630	0.870	4.370	1.180	7.750	3/8NPT	3/4"	0.138
6.250"	14.400	12.880	0.900	6.770	1.250	9.650	1/2NPT	3/4"	0.157
7.000"	14.900	13.380	0.900	6.770	1.250	10.120	1/2NPT	3/4"	0.157
7.875"	15.700	14.130	0.900	6.770	1.250	10.630	1/2NPT	3/4"	0.157
8.625"	16.400	14.880	0.900	6.770	1.250	11.600	1/2NPT	3/4"	0.157



Other sizes available. Contact your nearest AESSEAL® office for availability.

Seals are designed to order and are not inventoried. Contact AESSEAL® technical department for information and availability.

Our purpose is to give our customers such exceptional service that they need never consider alternative sources of supply.



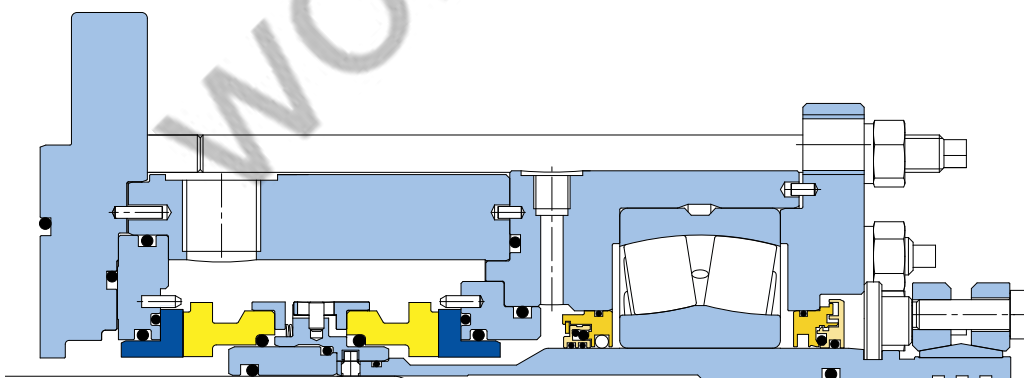
Inspection using 3D multi-sensor analysis

## SCMS-DG™ / DGG™ (Dry Gas Lift Mixer Seal)

**Advanced Face Technology** — At the heart of any gas seal is the interface between the rotating and stationary sealing elements. AESSEAL® utilizes state-of-the-art laser scanning inspection technology to ensure consistent groove geometry.

The SCMS-DG™ / DGG™ (Dry Gas Lift Mixer Seal) is a cartridge double back-to-back pusher seal with integral load carrying bearing. It is derived from the SCMS-DDB™ mechanical seal. The SCMS-DG™ / DGG™ is a gas lubricated, non-contacting, inboard and outboard design, running on a supplied barrier gas at a pressure greater than the sealed process pressure.

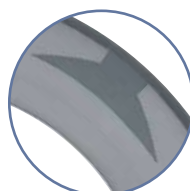
The seal is designed in accordance with DIN 28 138.



**SCMS-DG™ Dry Gas Seal Full Non Contacting, Steel Flange**

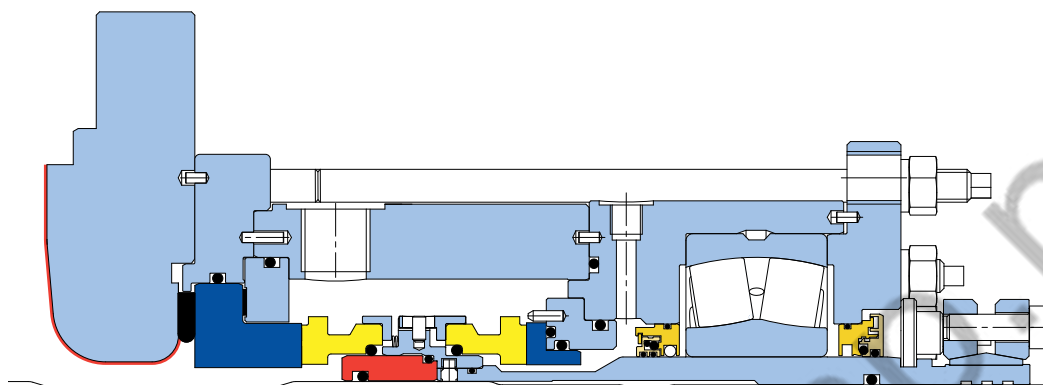
For Dimensional information of the SCMS-DG™ / DGG Refer to the tables per SCMS-DWB / DDB™ & SCMS-DWBG / DDBG™

The SCMS-DG™ / DGG™ comes as standard with Bi Directional face technology ensuring ease of installation and reliable operation.



**Bi-directional**

The non-contacting nature of the SCMS-DG™ / DGG™ (Dry Gas Lift Mixer Seal) ensures long life, low power consumption and reduced capital cost for support systems. Also, non-contacting inboard and outboard seal faces ensure 100% product purity with no process contamination, as well as eliminating contact and creating a wear free environment.



**SCMS-DGG™ Dry Gas Seal Full Non Contacting, Glass Lined Flange**

For Dimensional information of the SCMS-DG™ / DGG Refer to the tables per SCMS-DWB / DDB™ & SCMS-DWBG / DDBG™

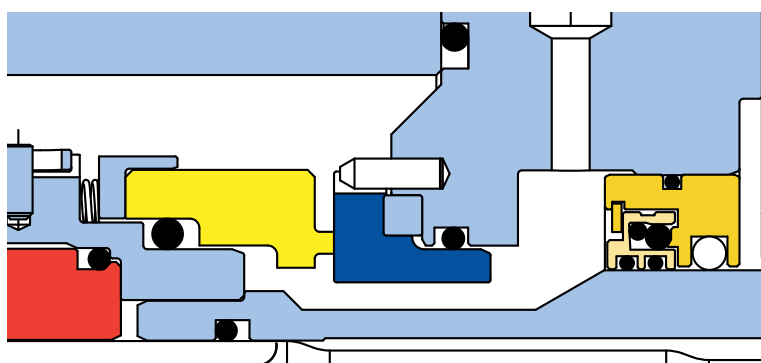
The SCMS-DG™ / DGG™ is intended to be used in conjunction with API Plan 74 seal support system.

- Inboard Face Options:** SiC / GSiC (Gas Lift)  
**Outboard Face Options:** GSiC / SiC (Gas Lift)  
 Dry Running Carbon / SiC (Contacting Outboard)

The SCMS-DG™ / DGG™ is also available with contacting outboard faces as utilised on the SCMS-DDB™.

**SCMS-DGO™**  
 Dry Gas Seal Non Contacting inboard, Contacting Outboard, Steel Flange

**SCMS-DGOG™**  
 Dry Gas Seal Non Contacting inboard Contacting Outboard, Glass Lined Flange





# SCMS™ — Seal Support Systems



AESSEAL® high performance barrier fluid systems help to increase plant uptime even further by enhancing the environment in which mechanical seals operate.

Many of these barrier fluid systems are patented, which means that the technology is exclusive to AESSEAL®. A small selection of these is shown below, for more information please visit [www.aesseal.com/systems](http://www.aesseal.com/systems)



## Easyclean™ — Pressure Systems Can be Offered for SW or SP Systems

- **API Plan 53A** — Provides clean pressurised barrier pressure to cool and lubricate the mechanical seal
- **Customer effective solution** — Simple patented design solving critical issues in applications requiring higher standards of cleanliness
- **Fully accessible** — Quick release clamp allows vessel to be opened for cleaning and inspection
- **304 Stainless Steel construction** — Ideal in Pharmaceutical and Food & Beverage industries



## AES-15™ — API Plan 53A Seal Support System

- **316 SS vessel construction** — Robust vessel suitable for a range of challenging environments
- **Vessels are designed and manufactured in accordance with ASME VIII Div.1 and PED 2014/68/EU** — Suitable for a wide range of arduous environments. Design rating 30 bar @ 100°C / 435 psi @ 212°F
- **Enhanced modular design** — Available in threaded as standard or flanged construction
- **Cooling coil as standard** — Additional cooling available for high heat applications



## PP/01™ — High Performance Circulation System

- **API Plan 54 forced circulation system** — Maximizes barrier fluid heat dump potential
- **Enhanced modular design to be used on a range of high end applications** — The PUMPPAC™ can be installed in a variety of zoned environments by interchanging the instrumentation options
- **Capable of supplying split flows and a range of pressures for two or more mechanical seals** — Barrier fluid cooling of two or more mechanical seals can be accurately controlled



## API Plan 74 — Gas Panel System

- **Coalescing filter** — Ensures that a clean gas supply is feeding the seal
- **Components are enclosed in a secure cabinet (this does not apply to the stainless steel versions)** — Protects the components from the industrial environment
- **Non-return valve** — Prevents product contamination of the gas panel during upset conditions
- **Dual flow indicators** — Allows primary flow indication and secondary alarm condition





ENVIRONMENTAL TECHNOLOGY

To experience the exceptional, please contact your local representative. Discover full details on our website:

[www.aesseal.com](http://www.aesseal.com)

This brochure is fully recyclable. When laminated, a sustainable, biodegradable and recyclable lamination is used.

For further information and safe operating limits contact our technical specialists at the locations below.



Use double mechanical seals with hazardous products.

Always take safety precautions:

- Guard your equipment
- Wear protective clothing



**WARNING**

AESSEAL plc is certified to ISO 9001, ISO 14001, ISO/IEC 20000, ISO/IEC 27001, ISO/TS 29001, ISO 37001, ISO 45001 & ISO 50001

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[www.aesseal.com](http://www.aesseal.com)



AESSEAL plc is Net Zero for Manufacturing in the UK



INVESTOR  
IN PEOPLE

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[www.aesseal.com](http://www.aesseal.com)

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