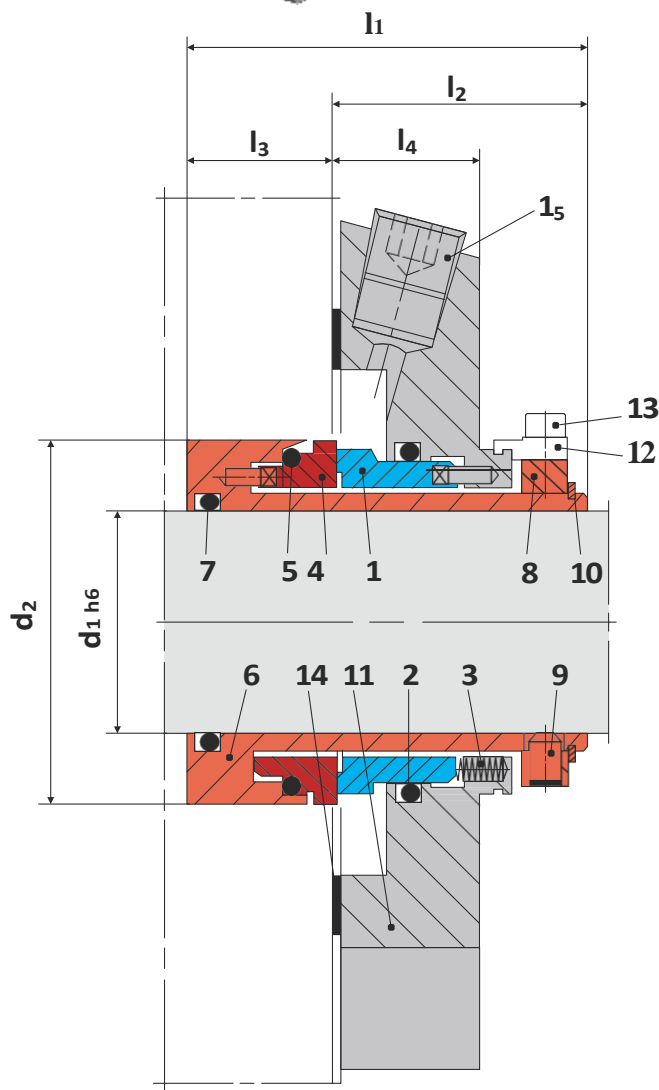
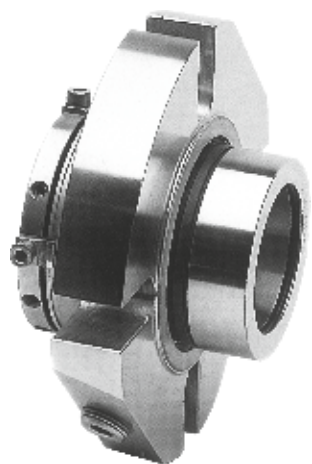


# CMS ANSI



Item	Description
1	Seal face
2, 5, 7	O-Ring
3	Spring
4	Seat
6	Shaft sleeve
8	Drive collar
9	Set screw

Item	Description
10	Snap ring
11	Cover
12	Assembly fixture (remove after installation)
13	Screw
14	Gasket
15	Screw plug
16	Lip seal (-QN), throttle ring (-TN)

## Description

Single seal  
 Available for standard and big bore (CMS-ASPN) seal chambers  
 Balanced  
 Cartridge  
 Independent of direction of rotation  
 Single seals with flush (-ASPN, -ABPN) and with quench combined with lip seal (-ASQN, -ABQN) or throttle ring (-STN, -ABTN)

## Technical Features

Ideal for use in ANSI process pumps  
 No damage of the shaft by dynamically loaded O-Ring  
 No dimensional modification of the seal chamber necessary, small radial installation height  
 Universal applicable for packings conversions, retrofits or original equipment

## Typical Industrial Applications

ANSI process pumps  
 Chemical industry  
 Food and beverage industry  
 Petrochemical industry  
 Pharmaceutical industry  
 Universally applicable  
 Water and waste water technology

## Standards

ANSI

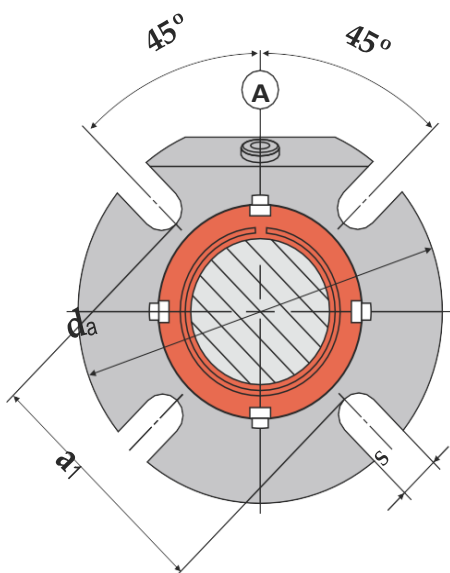
## Materials

Seal face: Silicon carbide (Q1), Carbon graphite resin impregnated (B), Tungsten carbide (U2)  
 Seat: Silicon carbide (Q1)  
 Secondary seals: FKM (V), EPDM (E), FFKM (K), Perfluorocarbon rubber/PTFE (U1)  
 Springs: Hastelloy® C-4 (M)  
 Metal parts: CrNiMo steel (G), CrNiMo cast steel (G)

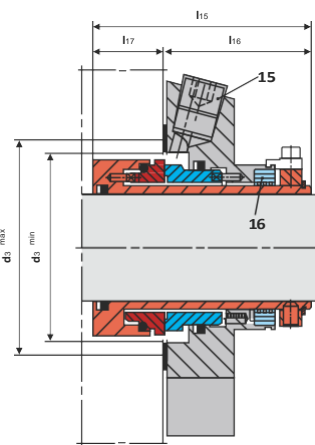
## Performance Capabilities

CMS-SN, -SNO, -QN, -TN  
 Sizes: Upto 100 mm (Upto 4.000")  
 Other sizes on request  
 Temperature:  $t = -40\text{ }^{\circ}\text{C} \dots 220\text{ }^{\circ}\text{C}$  ( $-40\text{ }^{\circ}\text{F} \dots 428\text{ }^{\circ}\text{F}$ )  
 (Check O-Ring resistance) Sliding face material combination BQ1 Pressure:  $p_1 = 25\text{ bar}$  (363 PSI) Speed = 16 m/s (52 ft/s)  
 Sliding face material combination Q1Q1 or U2Q1 Pressure:  $p_1 = 12\text{ bar}$  (175 PSI) Speed = 10 m/s (33 ft/s)  
 Permissible axial movement:  $\pm 1.0\text{ mm}$ ,  $d_1 < 75\text{ mm} \pm 1.5\text{ mm}$

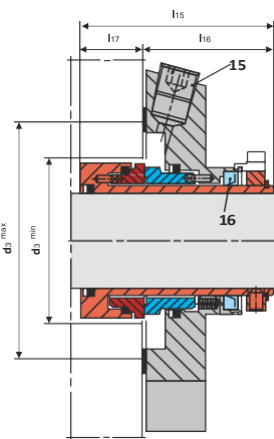
Installation, Details, Options



Design Variations



**CMS-ASTN and -ABTN**  
 Single seal for operation with unpressurized quench for standard (S) and big bore (B) seal chambers. Same as CMS-ASPEN and -ABPN but with throttle ring (item 16). The cover has auxiliary connections for flushing and quench. Throttle ring: PTFE carbon graphite reinforced (T12).



**CMS-ASQN and -ABQN**  
 Single seal for operation with unpressurized quench for standard (S) and big bore (B) seal chambers. Same as CMS-ASPEN and -ABPN version but with lip seal (item 16) at the atmospheric side. The cover has auxiliary connections for flushing and quench. Lip seal: NBR (P), PTFE carbon reinforced (T3)

Dimensional Data

BIG BORE : Dimensions in inch

d <sub>1</sub>	d <sub>2</sub>	d <sub>3min</sub>	d <sub>3 max</sub>	l <sub>1</sub>	l <sub>2</sub>	l <sub>3</sub>	l <sub>4</sub>	l <sub>15</sub>	l <sub>16</sub>	l <sub>17</sub>	a <sub>1</sub>	d <sub>a</sub>	s	Connection
1.000	-	-	-	2.638	1.669	0.969	1.000	2.937	1.909	1.028	3.311	4.500	0.437	1/4 NPT
1.125	1.713	1.752	2.795	2.638	1.669	0.969	1.000	2.937	1.909	1.028	3.311	4.500	0.437	1/4 NPT
1.250	-	-	-	2.638	1.669	0.969	1.000	2.947	1.919	1.028	3.543	5.118	0.437	1/4NPT
1.375	1.960	2.000	3.189	2.638	1.669	0.969	1.000	2.947	1.919	1.028	3.543	5.118	0.437	1/4NPT
1.500	-	-	-	2.638	1.669	0.969	1.000	3.012	1.984	1.028	4.567	6.496	0.559	3/8 NPT
1.625	-	-	-	2.638	1.669	0.969	1.000	3.071	2.059	1.012	4.409	5.984	0.551	3/8 NPT
1.750	2.461	2.500	4.055	2.638	1.669	0.969	1.000	3.130	2.102	1.028	4.882	6.260	0.551	3/8 NPT
1.875	2.583	2.661	3.937	2.638	1.669	0.969	1.000	3.130	2.120	1.028	4.685	6.417	0.709	3/8 NPT
2.000	2.677	2.756	4.567	2.638	1.669	0.969	1.000	3.130	2.120	1.028	5.512	7.795	0.709	3/8 NPT
2.125	2.834	2.913	4.528	2.638	1.669	0.969	1.000	3.130	2.120	1.028	5.354	6.890	0.709	3/8 NPT
2.250	2.960	3.093	4.409	2.638	1.669	0.969	1.000	3.130	2.120	1.028	5.354	6.890	0.709	3/8 NPT
2.500	3.212	3.299	5.276	2.638	1.669	0.969	1.000	3.130	2.120	1.028	5.512	7.480	0.630	3/8 NPT
2.625	3.338	3.170	5.118	2.638	1.669	0.969	1.000	3.130	2.120	1.028	5.906	8.228	0.650	3/8 NPT
2.750	3.660	3.740	5.236	2.638	1.669	0.969	1.000	3.130	2.120	1.028	5.906	8.228	0.650	3/8 NPT
3.000	3.937	4.016	5.512	3.307	2.276	1.031	1.276	3.858	2.516	1.343	5.906	8.228	0.650	3/8 NPT
3.250	-	-	-	-	-	-	-	-	-	-	-	-	-	-

STANDARD BORE : Dimensions in inch

d <sub>1</sub>	d <sub>2</sub>	d <sub>3 min</sub>	d <sub>3 max</sub>	l <sub>1</sub>	l <sub>2</sub>	l <sub>3</sub>	l <sub>4</sub>	l <sub>15</sub>	l <sub>16</sub>	l <sub>17</sub>	a <sub>1</sub>	d <sub>a</sub>	s	Connection
1.000	1.693	1.732	2.205	2.638	1.669	0.969	1.000	2.937	1.909	1.028	2.756	3.937	0.433	1/4 NPT
1.125	1.713	1.752	2.205	2.638	1.669	0.969	1.000	2.937	1.909	1.028	2.440	4.134	0.437	1/4 NPT
1.250	1.969	2.008	2.402	2.638	1.669	0.969	1.000	3.130	2.102	1.028	2.638	4.252	0.433	1/4 NPT
1.375	1.961	2.000	2.402	2.638	1.669	0.969	1.000	2.947	1.919	1.028	2.760	4.213	0.437	1/4 NPT
1.500	2.200	2.244	2.717	2.638	1.669	0.969	1.000	3.130	2.102	1.028	2.950	4.488	0.551	3/8 NPT
1.625	2.340	2.421	2.795	2.638	1.669	0.969	1.000	3.130	2.102	1.028	3.030	4.921	0.551	3/8 NPT
1.750	2.461	2.500	2.953	2.638	1.669	0.969	1.000	3.012	1.984	1.028	3.228	5.118	0.559	3/8 NPT
1.875	2.583	2.661	3.070	2.638	1.669	0.969	1.000	3.071	2.043	1.028	3.190	5.118	0.551	3/8 NPT
2.000	2.677	2.756	3.189	2.638	1.669	0.969	1.000	3.130	2.102	1.028	3.430	5.472	0.630	3/8 NPT
2.125	2.834	2.913	3.583	2.638	1.669	0.969	1.000	3.012	1.984	1.028	3.820	5.512	0.650	3/8 NPT
2.250	2.960	3.039	3.583	2.638	1.669	0.969	1.000	3.130	2.102	1.028	3.858	5.866	0.650	3/8 NPT
2.375	3.070	3.125	3.590	2.638	1.669	0.969	1.000	-	-	-	4.020	6.181	0.709	3/8 NPT
2.500	3.212	3.291	3.937	2.638	1.669	0.969	1.122	3.130	2.102	1.028	4.528	6.693	0.709	3/8 NPT
2.625	3.338	3.417	4.016	2.638	1.669	0.969	1.250	3.130	2.102	1.028	4.528	6.378	0.630	3/8 NPT
2.750	3.660	3.740	4.370	2.638	1.929	0.709	1.260	3.130	2.102	1.028	4.646	7.441	0.709	3/8 NPT
3.000	3.937	4.016	4.724	3.307	2.260	1.047	1.260	3.858	2.516	1.343	5.000	7.835	0.709	3/8 NPT
3.250	4.189	4.268	4.921	3.307	2.260	1.047	1.260	3.858	2.516	1.343	5.315	7.830	0.709	3/8 NPT
3.750	4.689	4.750	5.433	3.307	2.260	1.047	1.000	-	-	-	5.827	8.189	0.866	3/8 NPT

Note: Additional technical & dimensional information will be provided on request.