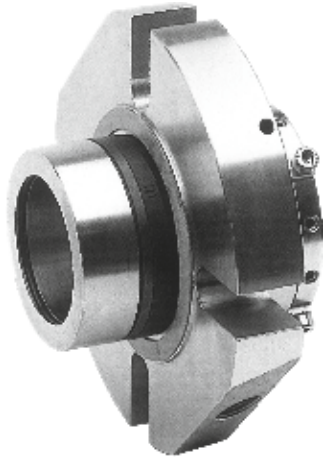


# CMS DUAL

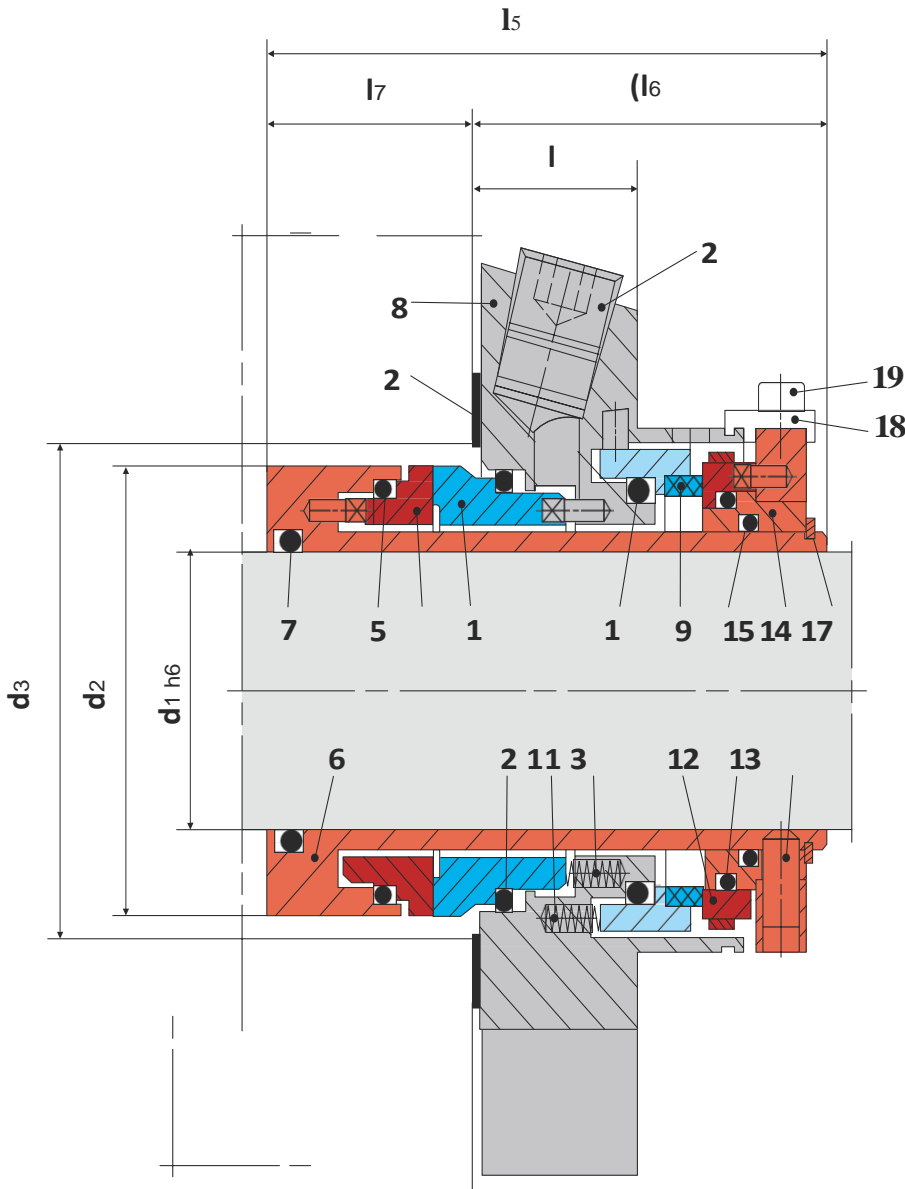


## Description

Balanced  
 Cartridge  
 Double pressurebalanced Dual seal  
 Independent of direction of rotation  
 Integrated pumping device  
 Variants available: for eccentric screw pumps

## Technical Features

Cost-effective  
 Easy installation due to pre-assembled unit (reduced down-times)  
 Extended service life  
 Ideal seal for standardizations  
 No damage of the shaft by dynamically loaded O-Ring  
 Universal applicable for packings conversions, retrofits or OEM



Item	Description
1	Seal face
2, 5, 7, 10, 13, 15	O-Ring
3	Spring
4	Seat
6	Shaft sleeve
8	Cover
9	Seal face
11	Spring
12	Seat
14	Drive collar
16	Set screw
17	Snap ring
18	Assembly fixture
19	Hex socket head screw
20	Gasket
21	Screw plug

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

**Typical Industrial Applications**

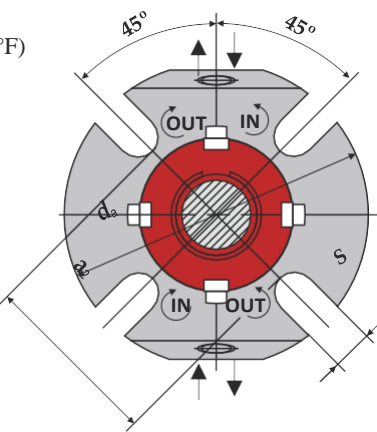
- Chemical industry
- Food and beverage industry
- Petrochemical industry
- Pharmaceutical industry
- Universally applicable
- Water and waste water technology
- Centrifugal pumps
- Eccentric screw pumps

**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), Per fluorocarbon rubber/PTFE (U1)
- Springs: Hastelloy® C-4 (M)
- Metal parts: CrNiMo steel (G), CrNiMo cast steel (G)

**Performance Capabilities**

Sizes: d1 = Up to 100 mm (Up to 4.000") other sizes on request  
 Temperature: t= -40 °C ... 220 °C (-40 °F ... 428 °F)  
 (Check O-Ring resistance) Sliding face material combination BQ1 Pressure: p=25 bar (363 PSI) Speed =16 m/s (52 ft/s) Sliding face material combination Q1Q1 or U2Q1 Pressure: p1= 20 bar (290 PSI) Speed =10 m/s (33 ft/s)  
 Barrier fluid circulation system: p3max = 25 bar (363 PSI)  
 $\Delta p (p3 - p1)$  ideal = 2 ... 3 bar (29 ... 44 PSI), 7 bar (102 PSI) for barrier media with poor lubricating properties)  
 Pump startup:  $\Delta p (p3 - p1)$  max = 25 bar (363 PSI) allowed Recommended supply medium: max. ISO VG 5 Permissible axial movement:  $\pm 1.0$  mm, d1  $\geq 75$  mm  $\pm 1.5$  mm



**Dimensional Data**

**Dimensions in inch**

d <sub>1</sub>	d <sub>2</sub>	d <sub>3</sub> min.	d <sub>3</sub> max.	l <sub>4</sub>	l <sub>5</sub>	l <sub>6</sub>	l <sub>7</sub>	a <sub>2</sub>	d <sub>a</sub>	s
1.000	1.693	1.732	2.008	1.000	3.400	2.102	1.303	2.440	4.134	0.520
1.125	1.811	1.875	2.050	1.000	3.400	2.102	1.303	2.402	4.134	0.520
1.250	1.961	2.008	2.244	1.000	3.400	2.102	1.303	2.760	4.330	0.520
1.375	2.087	2.216	2.421	1.000	3.400	2.102	1.303	2.840	4.449	0.520
1.500	2.205	2.244	2.598	1.000	3.400	2.102	1.303	2.950	4.843	0.520
1.625	2.343	2.375	2.700	1.000	3.400	2.102	1.303	3.090	4.842	0.559
1.750	2.461	2.520	2.874	1.000	3.400	2.102	1.303	3.230	5.433	0.559
1.875	2.582	2.638	2.953	1.000	3.400	2.102	1.303	3.350	5.433	0.559
2.000	2.677	2.717	3.071	1.000	3.400	2.102	1.303	3.430	5.827	0.559
2.125	2.835	2.874	3.425	1.000	3.400	2.102	1.303	3.819	5.827	0.709
2.250	2.961	3.000	3.560	1.000	3.400	2.102	1.303	3.940	6.181	0.709
2.375	3.071	3.125	3.583	1.000	3.400	2.102	1.303	4.020	6.181	0.709
2.500	3.213	3.300	3.800	1.000	3.400	2.102	1.303	4.180	6.417	0.709
2.625	3.339	3.374	3.937	1.000	3.400	2.102	1.303	4.303	6.417	0.709
2.750	3.661	3.740	4.252	1.000	3.400	2.102	1.303	4.660	7.008	0.709
2.875	3.937	4.000	4.646	1.000	4.250	2.516	1.736	5.079	7.480	0.709
3.000	3.937	4.000	4.646	1.102	4.250	2.516	1.736	5.079	7.480	0.709
3.125	4.189	4.252	4.882	1.102	4.250	2.516	1.736	5.315	7.677	0.709
3.250	4.189	4.252	4.882	1.102	4.250	2.516	1.736	5.315	7.677	0.709
3.375	4.311	4.375	5.039	1.102	4.250	2.516	1.736	5.472	7.795	0.866
3.500	4.437	4.500	5.517	1.102	4.250	2.516	1.736	5.591	7.795	0.866
3.625	4.563	4.625	5.315	1.102	4.250	2.516	1.736	5.709	8.071	0.866
3.750	4.689	4.752	5.433	1.102	4.250	2.516	1.736	5.827	8.189	0.866
4.000	4.937	5.000	5.669	1.102	4.250	2.516	1.736	6.063	8.583	0.866

**Dimensions in millimeter**

d <sub>1</sub>	d <sub>2</sub>	d <sub>3</sub> min.	d <sub>3</sub> max.	l <sub>4</sub>	l <sub>5</sub>	l <sub>6</sub>	l <sub>7</sub>	a <sub>2</sub>	d <sub>a</sub>	s
25	43.0	44.0	51.5	25.4	86.5	53.4	33.1	62	105	13.2
28	46.0	47.0	52.0	25.4	86.5	53.4	33.1	62	105	13.2
30	48.0	49.0	56.0	25.4	86.5	53.4	33.1	67	105	13.2
32	49.8	51.0	57.0	25.4	86.5	53.4	33.1	70	110	13.2
33	49.8	51.0	57.0	25.4	86.5	53.4	33.1	70	110	13.2
35	53.0	54.0	61.5	25.4	86.5	53.4	33.1	72	113	13.2
38	56.0	57.0	66.0	25.4	86.5	53.4	33.1	75	123	13.2
40	58.0	59.0	68.0	25.4	86.5	53.4	33.1	77	123	14.2
42	60.5	61.5	69.5	25.4	86.5	53.4	33.1	80	133	14.2
43	60.5	61.5	70.5	25.4	86.5	53.4	33.1	80	133	14.2
45	62.5	64.0	73.0	25.4	86.5	53.4	33.1	82	138	14.2
48	65.6	67.0	75.0	25.4	86.5	53.4	33.1	85	138	14.2
50	68.0	69.0	78.0	25.4	86.5	53.4	33.1	87	148	14.2
53	72.0	73.0	87.0	25.4	86.5	53.4	33.1	97	148	18.0
55	73.0	74.0	83.0	25.4	86.5	53.4	33.1	92	148	18.0
60	78.0	79.0	91.0	25.4	86.5	53.4	33.1	102	157	18.0
65	84.8	85.7	98.5	25.4	86.5	53.4	33.1	109	163	18.0
70	93.0	95.0	108.0	25.4	86.5	53.4	33.1	118	178	18.0
75	100.0	101.6	118.0	28.0	108.0	63.9	44.1	129	190	18.0
80	106.4	108.0	124.0	28.0	108.0	63.9	44.1	135	195	18.0
85	109.5	111.1	128.0	28.0	108.0	63.9	44.1	139	198	22.0
90	115.9	117.5	135.0	28.0	108.0	63.9	44.1	145	205	22.0
95	119.1	120.7	138.0	28.0	108.0	63.9	44.1	148	208	22.0
100	125.4	127.0	144.0	28.0	108.0	63.9	44.1	154	218	22.0

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