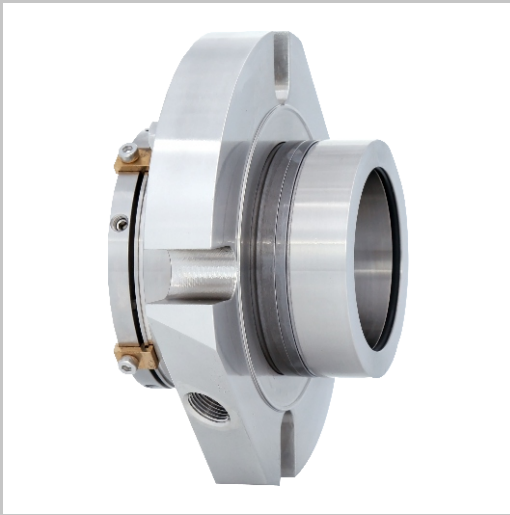


CTX Dual Seals

Standard Cartridge Seals

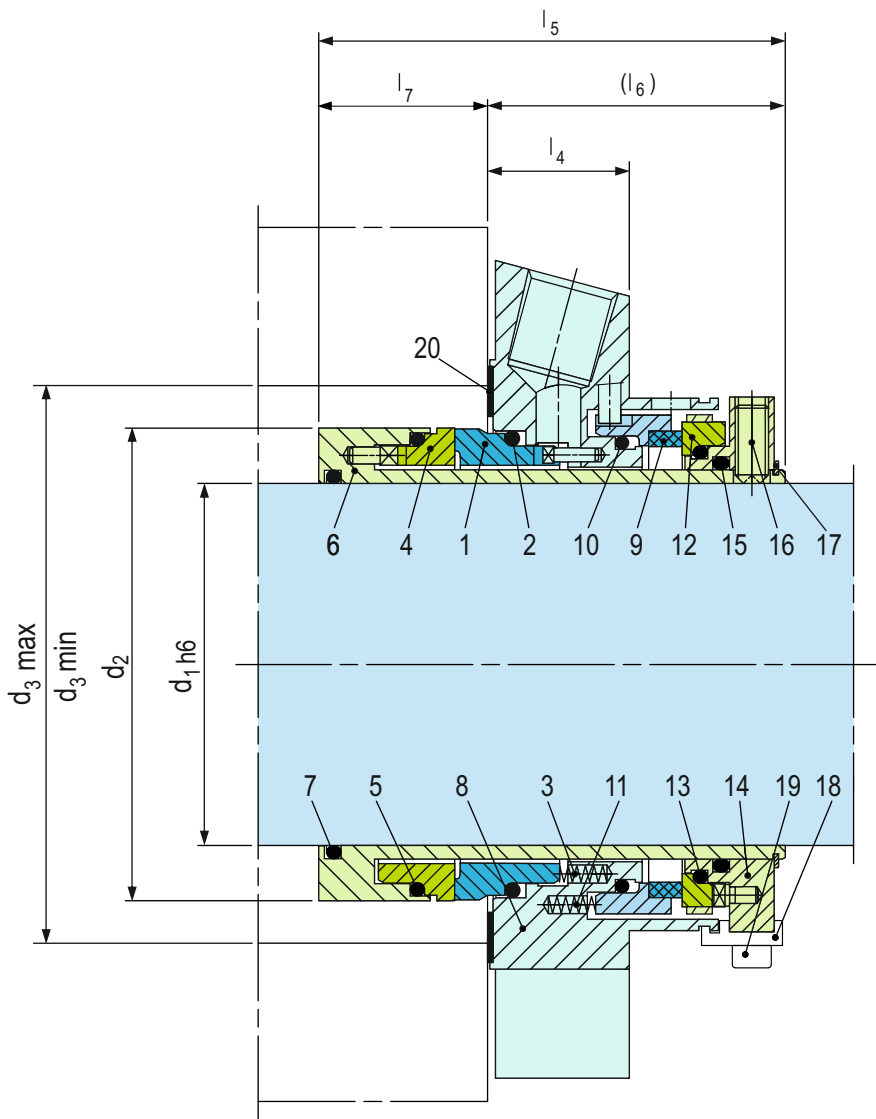


Product Description

1. Dual seal configuration
2. Balanced design
3. Independent of direction of rotation
4. Cartridge construction
5. Double pressure balanced
6. Designed with integrated pumping device for increased efficiency in circulation
7. Special design available for eccentric screw pumps

Technical Features

1. Ideal for use in process pump standardization
2. O-ring is dynamically loaded to prevent shaft damage.
3. Dimensional modification of the stuffing box chamber is not required due to short radial installation height
4. Ideal to convert and retrofit pumps with packings and large volume OEM production
5. Cartridge unit factory assembled for easy installation, which reduces down-time
6. Rugged design for long operating life



Note: The item numbers as depicted above are based on our technical experience and knowledge and are placed in the chronological order of their assembly procedure.

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	HSH Cap Screw
20	Gasket
21	Screw plug
22	Gasket

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

Performance Capabilities

Sizes: d_1 = Upto 100 mm (Upto 4.000")
 Other sizes on request
 Temperature: $t = -40\text{ °C} \dots +220\text{ °C}$
 ($-40\text{ °F} \dots +428\text{ °F}$)
 (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: $p_1 = 20\text{ bar}$ (290 PSI)
 Speed = 10 m/s (33 ft/s)
 Barrier fluid circulation system:

$p_{3\text{max}} = 25\text{ bar}$ (363 PSI)

$\Delta p (p_3 - p_1)$ ideal = 2 ... 3 bar (29 ... 44 PSI),
 7 bar (102 PSI) for barrier media with poor lubricating properties)

Pump startup:

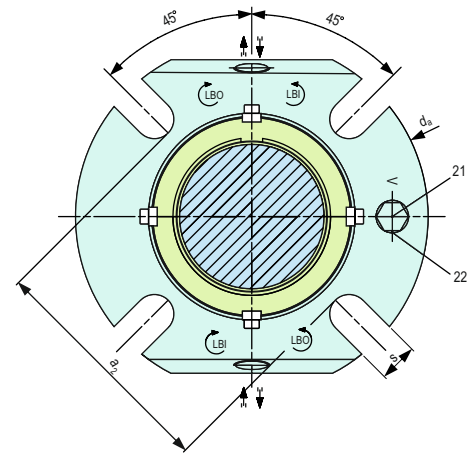
$\Delta p (p_3 - p_1)_{\text{max}} = 25\text{ bar}$ (363 PSI) allowed

Recommended supply medium: max. ISO VG 5

Permissible axial movement: $\pm 1.0\text{ mm}$,

$d_1 \geq 75\text{ mm} \pm 1.5\text{ mm}$

Installation, Details, Options



Dimensional Data

Dimensions in inch

d_1	d_2	$d_3\text{ min.}$	$d_3\text{ max.}$	l_4	l_5	l_6	l_7	a_2	d_a	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_1	d_2	$d_3\text{ min.}$	$d_3\text{ max.}$	l_4	l_5	l_6	l_7	a_2	d_a	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	61	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	108	13.2
33	49.8	51.0	57.0	25.4	86.5	53.4	33.1	70	108	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	61.0	62.0	69.5	25.4	86.5	53.4	33.1	80	133	14.2
43	61.0	62.0	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.