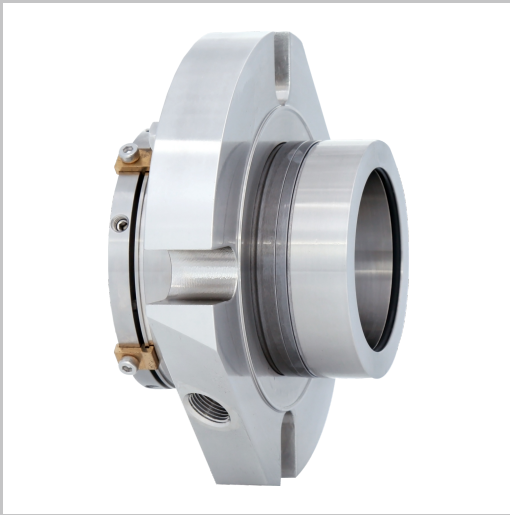


CTX Dual Seals

Standard Cartridge Seals

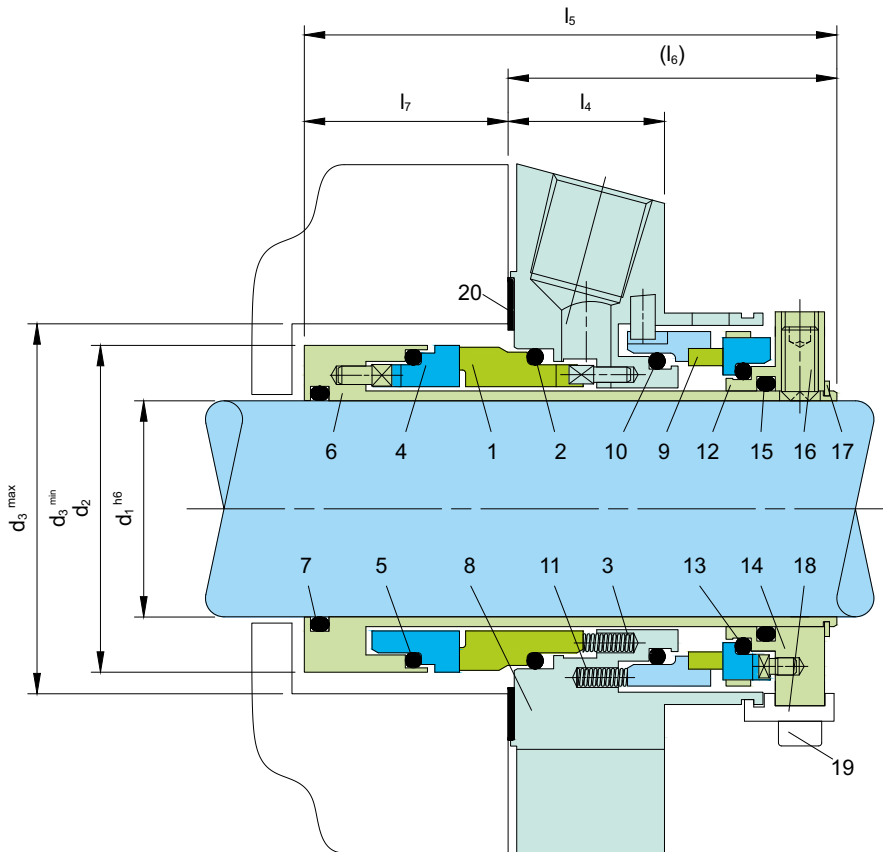


Product Description

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



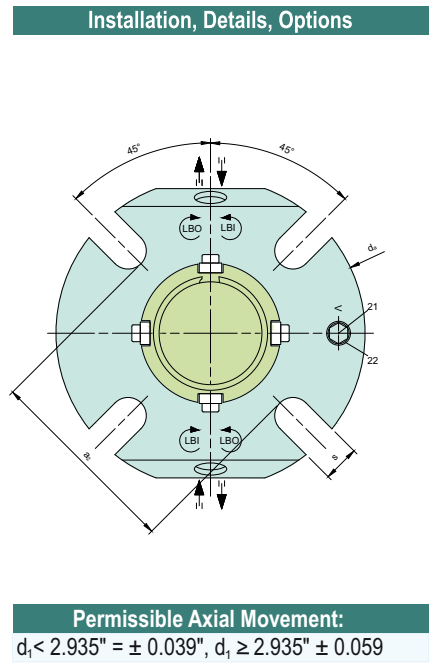
Note: The item numbers as depicted above are based on our technical experience and knowledge and are placed in the chronological order of their assembly procedure.

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	
ISO process pumps	Hydrocarbons
Acids	Lubricating liquid
Aqueous solutions	Marine
Caustics	Petrochemical
Chemicals	Pharmaceutical
Crystallizing fluids	Solvents
Fertiliser	Water & waste water
Food & beverage	

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 100mm (Upto 4.0") Other sizes on request
Temperature	$t = -40^{\circ}\text{C}..+220^{\circ}\text{C}(-40^{\circ}\text{F}..+428^{\circ}\text{F})$ (Check O-ring resistance)
Sliding face material combination BQ1	
Pressure	$p_1 = 25$ bar (363 PSI)
Speed	16 m/s (52 ft/s)
Sliding face material combination Q1Q1 or U2Q1	
Pressure	$p_1 = 20$ bar (290 PSI)
Speed	10 m/s (33 ft/s)
Barrier fluid circulation system:	
$p_{3\text{max}}$	25 bar (363 PSI)
$\Delta p (p_3 - p_1)_{\text{ideal}}$	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 bar (363 PSI) allowed
Recommended supply medium	max. ISO VG 5



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	Connection	
1.000	1.693	1.732	2.008	1.000	3.406	2.102	1.303	2.440	4.134	0.520	1/4 NPT	
1.125	1.811	1.875	2.050	1.000	3.406	2.102	1.303	2.402	4.134	0.520	1/4 NPT	
1.250	1.961	2.008	2.244	1.000	3.406	2.102	1.303	2.760	4.330	0.520	1/4 NPT	
1.375	2.087	2.216	2.421	1.000	3.406	2.102	1.303	2.840	4.449	0.520	1/4 NPT	
1.500	2.205	2.244	2.598	1.000	3.406	2.102	1.303	2.950	4.843	0.520	3/8 NPT	
1.625	2.343	2.375	2.700	1.000	3.406	2.102	1.303	3.090	4.842	0.559	3/8 NPT	
1.750	2.461	2.520	2.874	1.000	3.406	2.102	1.303	3.230	5.433	0.559	3/8 NPT	
1.875	2.582	2.638	2.953	1.000	3.406	2.102	1.303	3.350	5.433	0.559	3/8 NPT	
2.000	2.677	2.717	3.071	1.000	3.406	2.102	1.303	3.425	5.827	0.559	3/8 NPT	
2.125	2.835	2.874	3.425	1.000	3.406	2.102	1.303	3.819	5.827	0.709	3/8 NPT	
2.250	2.961	3.000	3.560	1.000	3.406	2.102	1.303	3.940	6.181	0.709	3/8 NPT	
2.375	3.071	3.125	3.583	1.000	3.406	2.102	1.303	4.020	6.181	0.709	3/8 NPT	
2.500	3.213	3.300	3.800	1.000	3.406	2.102	1.303	4.180	6.417	0.709	3/8 NPT	
2.625	3.339	3.374	3.937	1.000	3.406	2.102	1.303	4.303	6.417	0.709	3/8 NPT	
2.750	3.661	3.740	4.252	1.000	3.406	2.102	1.303	4.660	7.008	0.709	3/8 NPT	
2.875	3.937	4.000	4.646	1.000	4.252	2.516	1.736	5.079	7.480	0.709	3/8 NPT	
3.000	3.937	4.000	4.646	1.102	4.252	2.516	1.736	5.079	7.480	0.709	3/8 NPT	
3.125	4.189	4.252	4.882	1.102	4.252	2.516	1.736	5.315	7.677	0.709	3/8 NPT	
3.250	4.189	4.252	4.882	1.102	4.252	2.516	1.736	5.315	7.677	0.709	3/8 NPT	
3.375	4.311	4.375	5.039	1.102	4.252	2.516	1.736	5.472	7.795	0.866	3/8 NPT	
3.500	4.437	4.500	5.517	1.102	4.252	2.516	1.736	5.591	7.795	0.866	3/8 NPT	
3.625	4.563	4.625	5.315	1.102	4.252	2.516	1.736	5.709	8.071	0.866	3/8 NPT	
3.750	4.689	4.752	5.433	1.102	4.252	2.516	1.736	5.827	8.189	0.866	3/8 NPT	
4.000	4.937	5.000	5.669	1.102	4.252	2.516	1.736	6.063	8.583	0.866	3/8 NPT	

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	Connection	
25	43.0	44.0	51.5	25.4	86.5	53.4	33.1	62	105	13.2	1/4 NPT	
28	46.0	47.0	52.0	25.4	86.5	53.4	33.1	61	105	13.2	1/4 NPT	
30	48.0	49.0	56.0	25.4	86.5	53.4	33.1	67	105	13.2	1/4 NPT	
32	49.8	51.0	57.0	25.4	86.5	53.4	33.1	70	108	13.2	1/4 NPT	
33	49.8	51.0	57.0	25.4	86.5	53.4	33.1	70	108	13.2	1/4 NPT	
35	53.0	54.0	61.5	25.4	86.5	53.4	33.1	72	113	13.2	1/4 NPT	
38	56.0	57.0	66.0	25.4	86.5	53.4	33.1	75	123	13.2	3/8 NPT	
40	58.0	59.0	68.0	25.4	86.5	53.4	33.1	77	123	14.2	3/8 NPT	
42	60.5	62.0	69.5	25.4	86.5	53.4	33.1	80	133	14.2	3/8 NPT	
43	61.0	62.0	70.5	25.4	86.5	53.4	33.1	80	133	14.2	3/8 NPT	
45	62.5	64.0	73.0	25.4	86.5	53.4	33.1	82	138	14.2	3/8 NPT	
48	65.6	67.0	75.0	25.4	86.5	53.4	33.1	85	138	16.0	3/8 NPT	
50	68.0	69.0	78.0	25.4	86.5	53.4	33.1	87	148	16.0	3/8 NPT	
53	72.0	73.0	87.0	25.4	86.5	53.4	33.1	97	148	18.0	3/8 NPT	
55	73.0	75.0	83.0	25.4	86.5	53.4	33.1	92	148	18.0	3/8 NPT	
60	78.0	79.0	91.0	25.4	86.5	53.4	33.1	102	157	18.0	3/8 NPT	
65	84.8	85.7	98.5	25.4	86.5	53.4	33.1	109.3	163	18.0	3/8 NPT	
70	93.0	95.0	108.0	25.4	86.5	53.4	33.1	118	178	18.0	3/8 NPT	
75	100.0	101.6	118.0	28.0	108.0	63.9	44.1	129	190	18.0	3/8 NPT	
80	106.4	108.0	124.0	28.0	108.0	63.9	44.1	135	195	18.0	3/8 NPT	
85	109.5	111.1	128.0	28.0	108.0	63.9	44.1	139	198	22.0	3/8 NPT	
90	115.9	117.5	135.0	28.0	108.0	63.9	44.1	145	205	22.0	3/8 NPT	
95	119.1	120.7	138.0	28.0	108.0	63.9	44.1	148	208	22.0	3/8 NPT	
100	125.4	127.0	144.0	28.0	108.0	63.9	44.1	154	218	22.0	3/8 NPT	

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

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