

CTX Single Seals

Standard Cartridge Seals

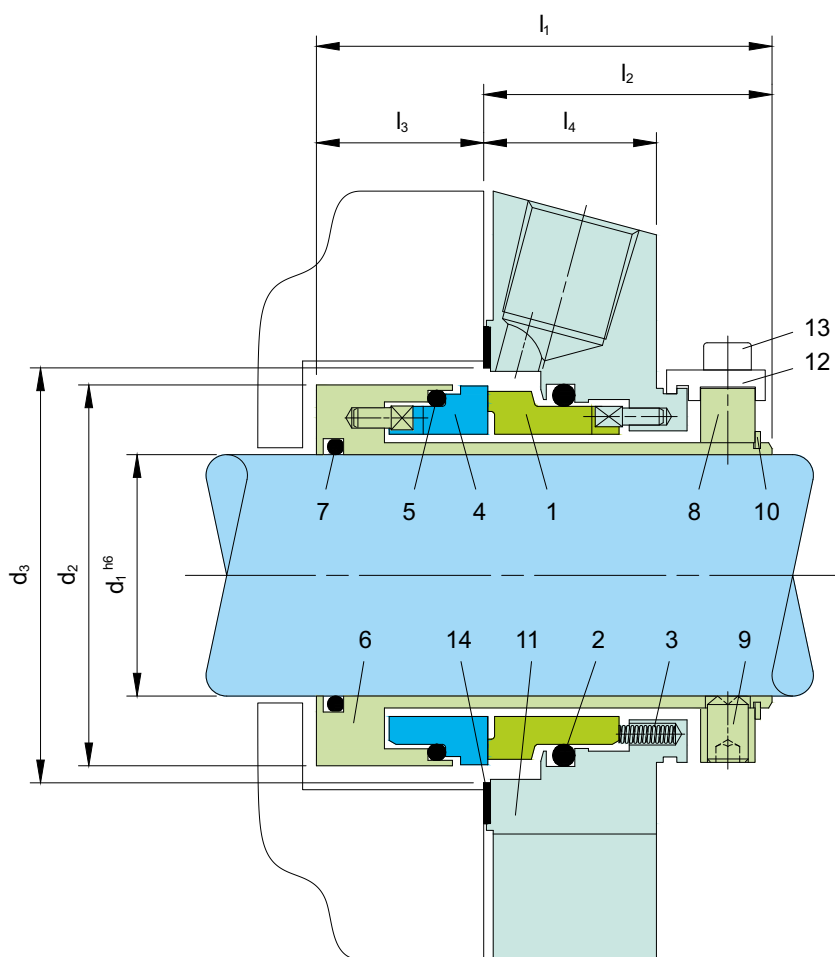


Product Description

1. Single seal configuration
2. Balanced design
3. Independent of direction of rotation
4. Cartridge construction

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	O-ring
3	Spring
4	Seat
6	Shaft sleeve
8	Drive collar
9	Set screw

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

CTX-SN, -SNO, -QN, -TN	
Sizes	d ₁ = Upto 1.000" (Upto 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 ₁ = 25 bar (363 PSI)
Speed	16 m/s (52 ft/s)

Sliding face material combination Q1Q1 or U2Q1

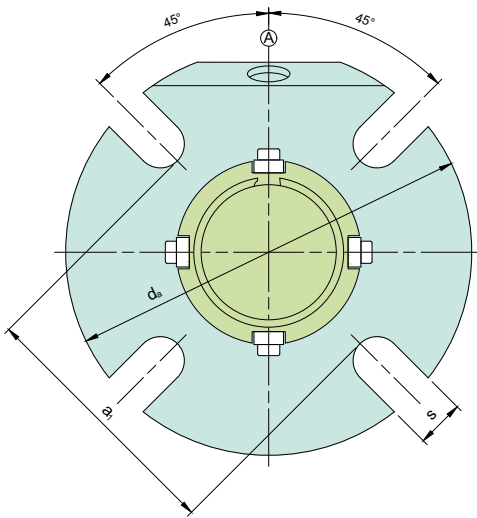
Pressure	p ₁ = 12 bar (175 PSI)
Speed	10 m/s (33 ft/s)

Permissible axial movement:

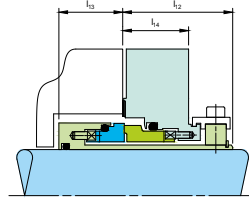
d₁ < 2.935" = ± 0.039", d₁ ≥ 2.935" ± 0.059

Item	Description
10	Snap ring
11	Cover
12	Assembly fixture
13	HSH Cap Screw
14	Gasket
16	Lip seal (-QN), throttle ring (-TN)

Installation, Details, Options

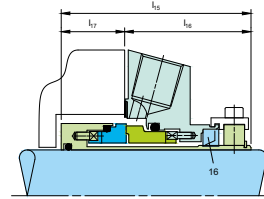


Design Variations



CTX-SNO

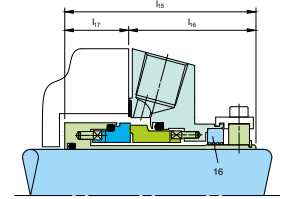
Single seal without connections, for dead-end operation.



CTX-TN

Single seal for operation with unpressurized quench. Same as CTX-SN but with throttle ring (item 16). The cover has auxiliary connections for flushing and quench.

Throttle ring: PTFE carbon-graphite reinforced (T12).



CTX-QN

Single seal for operation with unpressurized quench. Same as "-SN" version but with outboard lip seal (item 16). The cover has auxiliary connections for flushing and quench.

Lip seal: NBR (P), FKM (V), PTFE carbon reinforced (T3).

Dimensional Data

Dimensions in inch

d ₁	d ₂	d _{3min.}	d _{3max.}	l ₁	l ₂	l ₃	l ₄	l ₁₂	l ₁₃	l ₁₄	l ₁₅	l ₁₆	l ₁₇	a ₁	d _a	s	Connection
1.000	1.693	1.750	2.000	2.640	1.669	0.969	1.000	1.378	1.260	0.689	3.130	2.102	1.028	2.440	4.134	0.520	1/4 NPT
1.125	1.811	1.875	2.050	2.640	1.669	0.969	1.000	1.378	1.260	0.689	3.130	2.102	1.028	2.440	4.134	0.520	1/4 NPT
1.250	1.969	2.008	2.244	2.640	1.669	0.969	1.000	1.378	1.260	0.689	3.130	2.102	1.028	2.640	4.252	0.520	1/4 NPT
1.375	2.086	2.125	2.420	2.640	1.669	0.969	1.000	1.378	1.260	0.689	3.130	2.102	1.028	2.750	4.449	0.520	1/4 NPT
1.500	2.200	2.250	2.625	2.640	1.669	0.969	1.000	1.378	1.260	0.689	3.130	2.102	1.028	2.950	4.842	0.520	3/8 NPT
1.625	2.340	2.375	2.700	2.640	1.669	0.969	1.000	1.378	1.260	0.689	3.130	2.102	1.028	3.030	4.842	0.599	3/8 NPT
1.750	2.460	2.500	2.812	2.640	1.669	0.969	1.000	1.378	1.260	0.689	3.130	2.102	1.028	3.190	5.433	0.599	3/8 NPT
1.875	2.582	2.625	2.940	2.640	1.669	0.969	1.000	1.378	1.260	0.689	3.130	2.102	1.028	3.307	5.433	0.599	3/8 NPT
2.000	2.677	2.750	3.190	2.640	1.669	0.969	1.000	1.378	1.260	0.689	3.130	2.102	1.028	3.430	5.827	0.599	3/8 NPT
2.125	2.834	2.875	3.437	2.640	1.669	0.969	1.000	1.378	1.260	0.689	3.130	2.102	1.028	3.543	5.827	0.709	3/8 NPT
2.250	2.960	3.000	3.560	2.640	1.669	0.969	1.000	1.378	1.260	0.689	3.130	2.102	1.028	3.940	6.181	0.709	3/8 NPT
2.375	3.070	3.125	3.590	2.640	1.669	0.969	1.000	1.378	1.260	0.689	3.130	2.102	1.028	4.020	6.181	0.709	3/8 NPT
2.500	3.212	3.250	3.800	2.640	1.669	0.969	1.000	1.378	1.260	0.689	3.130	2.102	1.028	4.170	6.417	0.709	3/8 NPT
2.625	3.338	3.375	3.937	2.640	1.669	0.969	1.000	1.378	1.260	0.689	3.130	2.102	1.028	4.290	6.417	0.709	3/8 NPT
2.750	3.660	3.750	4.250	2.640	1.669	0.969	1.000	1.378	1.260	0.689	3.130	2.102	1.028	4.650	7.008	0.709	3/8 NPT
2.875	3.937	4.000	4.646	3.307	2.260	1.047	1.000	1.815	1.492	0.866	-	-	-	5.079	7.480	0.709	3/8 NPT
3.000	3.937	4.000	4.646	3.307	2.260	1.047	1.000	1.815	1.492	0.866	3.858	2.516	1.343	5.039	7.480	0.709	3/8 NPT
3.125	4.190	4.125	4.764	3.307	2.260	1.047	1.000	1.815	1.492	0.866	3.858	2.516	1.343	5.315	7.677	0.709	3/8 NPT
3.250	4.189	4.250	4.882	3.307	2.260	1.047	1.000	1.815	1.492	0.866	-	-	-	5.315	7.677	0.709	3/8 NPT
3.375	4.311	4.375	5.039	3.307	2.260	1.047	1.000	1.815	1.492	0.866	-	-	-	5.472	7.795	0.866	3/8 NPT
3.500	4.437	4.500	5.157	3.307	2.260	1.047	1.000	1.815	1.492	0.866	-	-	-	5.591	7.795	0.866	3/8 NPT
3.625	4.563	4.625	5.315	3.307	2.260	1.047	1.000	1.815	1.492	0.866	-	-	-	5.709	8.071	0.866	3/8 NPT
3.750	4.689	4.750	5.433	3.307	2.260	1.047	1.000	1.815	1.492	0.866	3.858	2.516	1.343	5.827	8.189	0.866	3/8 NPT
4.000	4.937	5.000	5.669	3.307	2.260	1.047	1.000	1.815	1.492	0.866	-	-	-	6.063	8.583	0.866	3/8 NPT

Dimensions in millimeter

d ₁	d ₂	d _{3min.}	d _{3max.}	l ₁	l ₂	l ₃	l ₄	l ₁₂	l ₁₃	l ₁₄	l ₁₅	l ₁₆	l ₁₇	a ₁	d _a	s	Connection
25	43.0	44.0	51.5	67	42.4	24.6	25.4	35.0	32.0	17.5	79.5	53.4	26.1	62	105	14	1/4 NPT
28	46.0	47.0	52.0	67	42.4	24.6	25.4	35.0	32.0	17.5	79.5	53.4	26.1	62	105	13.2	1/4 NPT
30	48.0	49.0	56.0	67	42.4	24.6	25.4	35.0	32.0	17.5	79.5	53.4	26.1	65	105	13.2	1/4 NPT
32	50.0	51.0	57.0	67	42.4	24.6	25.4	35.0	32.0	17.5	79.5	53.4	26.1	67	108	13.2	1/4 NPT
33	50.0	51.0	57.0	67	42.4	24.6	25.4	35.0	32.0	17.5	79.5	53.4	26.1	67	108	13.2	1/4 NPT
35	53.0	54.0	61.5	67	42.4	24.6	25.4	35.0	32.0	17.5	79.5	53.4	26.1	70	113	13.2	1/4 NPT
38	56.0	57.0	66.0	67	42.4	24.6	25.4	35.0	32.0	17.5	79.5	53.4	26.1	75	123	13.2	3/8 NPT
40	58.0	59.0	68.0	67	42.4	24.6	25.4	35.0	32.0	17.5	79.5	53.4	26.1	75	123	14.2	3/8 NPT
42	60.5	61.5	69.5	67	42.4	24.6	25.4	35.0	32.0	17.5	79.5	53.4	26.1	79	133	14.2	3/8 NPT
43	60.5	61.5	70.5	67	42.4	24.6	25.4	35.0	32.0	17.5	79.5	53.4	26.1	79	133	14.2	3/8 NPT
45	62.5	64.0	73.0	67	42.4	24.6	25.4	35.0	32.0	17.5	79.5	53.4	26.1	81	138	14.2	3/8 NPT
48	65.6	67.0	75.0	67	42.4	24.6	25.4	35.0	32.0	17.5	79.5	53.4	26.1	84	138	14.2	3/8 NPT
50	68.0	69.0	78.0	67	42.4	24.6	25.4	35.0	32.0	17.5	79.5	53.4	26.1	87	148	14.2	3/8 NPT
53	72.0	73.0	87.0	67	42.4	24.6	25.4	35.0	32.0	17.5	79.5	53.4	26.1	97	148	18.0	3/8 NPT
55	73.0	74.0	83.0	67	42.4	24.6	25.4	35.0	32.0	17.5	79.5	53.4	26.1	90	148	18.0	3/8 NPT
60	78.0	79.0	91.0	67	42.4	24.6	25.4	35.0	32.0	17.5	79.5	53.4	26.1	102	157	18.0	3/8 NPT
65	83.1	84.5	98.5	67	42.4	24.6	25.4	35.0	32.0	17.5	79.5	53.4	26.1	109	163	18.0	3/8 NPT
70	93.0	95.0	108.0	67	42.4	24.6	25.4	35.0	32.0	17.5	79.5	53.4	26.1	118	178	18.0	3/8 NPT
75	100.0	101.6	118.0	84	57.4	26.6	25.4	46.1	37.9	22.0	98.0	63.9	34.1	129	190	18.0	3/8 NPT
80	106.4	108.0	124.0	84	57.4	26.6	25.4	46.1	37.9	22.0	98.0	63.9	34.1	135	195	18.0	3/8 NPT
85	109.5	111.1	128.0	84	57.4	26.6	25.4	46.1	37.9	22.0	98.0	63.9	34.1	139	198	22.0	3/8 NPT
90	115.9	117.5	135.0	84	57.4	26.6	25.4	46.1	37.9	22.0	98.0	63.9	34.1	145	205	22.0	3/8 NPT
95	119.1	120.7	138.0	84	57.4	26.6	25.4	46.1	37.9	22.0	98.0	63.9	34.1	148	208	22.0	3/8 NPT
100	125.4	127.0	144.0	84	57.4	26.6	25.4	46.1	37.9	22.0	98.0	63.9	34.1	154	218	22.0	3/8 NPT

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

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