Standard Cartridge Seals



Product Description

- 1. Dual seal configuration
- 2. Balanced design
- 3. Independent of direction of rotation
- 4. Cartridge construction
- Available for standard (CTX-ASDN) and big bore (CTX-ABDN) seal chambers
- 6. Double pressure balanced
- 7. Designed with integrated pumping device for increased efficiency in circulation

Technical Features

- 1. Ideal for use in ANSI process pumps
- 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
- Ideal to convert and retrofit pumps with packings and large volume OEM production
- Cartridge unit factory assembled for easy installation, which reduces downtime
- 6. Rugged design for long operating life

(I_6) I_4 20 2 6 10 9 15 16 17 12 $\mathbf{d}_{3}^{\text{min}}$ d, he 13 18 11 14 **40000000**00

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.

Typical Industrial Applications

ANSI process pumps
Acids
Aqueous solutions
Caustics
Chemicals
Crystallizing fluids
Fertiliser

Hydrocarbons
Lubricating liquid
Marine
Petrochemical
Pharmaceutical
Solvents
Fertileser

Hydrocarbons
Sarricating liquid
Marine
Petrochemical
Pharmaceutical
Solvents
Water & waste water

Food & beverage

Standards

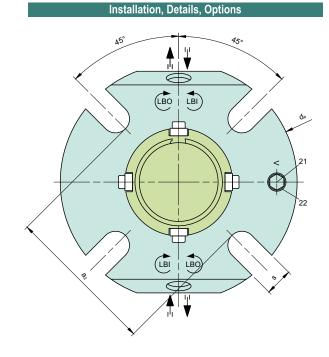
ANSI

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

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



Performance Capabilities							
Sizes	d, = 1.000" 3.750" Other sizes on request						
Temperature	t = -40°C+220°C (-40°F+428°F) (Check O-ring resistance)						
Sliding face materia	al combination BQ1						
Pressure	p ₁ = 25 bar (363 PSI)						
Speed	16 m/s (52 ft/s)						
Sliding face materi	al combination Q1Q1 or U2Q1						
Pressure	p ₁ = 20 bar (290 PSI)						
Speed	10 m/s (33 ft/s)						
Barrier fluid circulation	on system:						
P _{3max}	25 bar (363 PSI)						
Δp (p ₃ - p ₁) ideal	2 3 bar (29 44 PSI), 7 bar (102 PSI) for barrier media with poor lubricating properties						
Pump startup							
Δp (p ₃ - p ₁)	max = 25 bar (363 PSI) allowed						
Recommended supply medium	max. ISO VG 5						
Permissible Axial Movement:							



 $d_1 < 2.935" = \pm 0.039", d_1 \ge 2.935" \pm 0.059$

Dimensional Data

BIG BORE - Dimensions in inch											
d_1	d_2	d ₃ min.	d ₃ max.	l ₄	l ₅	I ₆	I ₇	a ₂	d_a	s	Connection
1.000	-	-	-	-	-	-	-	-	-	-	-
1.125	1.713	1.752	2.795	1.000	3.228	1.886	1.343	3.311	4.500	0.437	1/4 NPT
1.250	-	-	-	-	-	-	-	-	-	-	-
1.375	1.960	2.000	3.189	1.000	3.406	2.083	1.323	3.543	5.118	0.437	1/4 NPT
1.500	-	-	-	-	-	-	-	-	-	-	-
1.625	-	-	-	-	-	-	-	-	-	-	-
1.750	2.461	2.500	4.055	1.000	3.406	2.083	1.323	4.567	6.496	0.559	3/8 NPT
1.875	2.583	2.661	3.937	1.000	3.406	2.083	1.323	4.409	5.984	0.551	3/8 NPT
2.000	2.677	2.756	4.567	1.260	3.406	2.102	1.303	4.882	6.260	0.551	3/8 NPT
2.125	2.834	2.913	4.528	1.000	3.406	2.102	1.303	5.276	6.890	0.709	3/8 NPT
2.250	2.960	3.093	4.409	1.276	3.406	2.102	1.303	4.685	6.417	0.709	3/8 NPT
2.500	3.212	3.299	5.276	1.250	3.406	2.102	1.303	5.512	7.795	0.709	3/8 NPT
2.625	3.338	3.170	5.118	1.250	3.406	2.102	1.303	5.354	6.890	0.709	3/8 NPT
2.750	3.660	3.740	5.236	1.276	3.406	2.102	1.303	5.512	7.480	0.630	3/8 NPT
3.000	3.937	4.016	5.512	1.276	3.406	2.516	1.303	5.906	8.228	0.650	3/8 NPT
3.250	-	-	-	-	-	-	-	-	-	-	-

STANDARD BORE - Dimensions in inch

d ₁	d_2	d ₃ min.	d ₃ max.	I ₄	l ₅	I ₆	I ₇	a ₂	d _a	s	Connection
1.000	1.693	1.732	2.205	1.000	3.406	2.102	1.303	2.441	3.937	0.433	1/4 NPT
1.125	1.713	1.752	2.205	1.000	3.228	3.228	1.343	2.441	4.134	0.437	1/4 NPT
1.250	1.969	2.008	2.402	1.000	3.406	2.102	1.303	2.756	4.252	0.433	1/4 NPT
1.375	1.961	2.000	2.402	1.000	3.406	2.102	1.303	2.756	4.213	0.437	1/4 NPT
1.500	2.200	2.244	2.717	1.000	3.406	2.102	1.303	2.953	4.488	0.551	3/8 NPT
1.625	2.340	2.421	2.795	1.000	3.406	2.102	1.303	3.091	4.921	0.551	3/8 NPT
1.750	2.461	2.500	2.953	1.000	3.406	2.102	1.303	3.228	5.118	0.559	3/8 NPT
1.875	2.583	2.661	3.070	1.000	3.406	2.102	1.303	3.307	5.118	0.551	3/8 NPT
2.000	2.677	2.756	3.189	1.000	3.406	2.102	1.303	3.425	5.472	0.630	3/8 NPT
2.125	2.834	2.913	3.583	1.000	3.406	2.102	1.303	3.819	5.512	0.650	3/8 NPT
2.250	2.960	3.039	3.583	1.000	3.406	2.102	1.303	3.858	5.866	0.650	3/8 NPT
2.375	3.070	3.125	3.590	1.000	-	-	-	-	6.181	0.709	3/8 NPT
2.500	3.212	3.291	3.937	1.122	3.406	2.102	1.303	4.528	6.693	0.709	3/8 NPT
2.625	3.338	3.417	4.016	1.250	3.406	2.102	1.303	4.528	6.378	0.630	3/8 NPT
2.750	3.660	3.740	4.370	1.260	3.406	2.102	1.303	4.646	7.441	0.709	3/8 NPT
3.000	3.937	4.016	4.724	1.260	4.252	2.516	1.736	5.000	7.835	0.709	3/8 NPT
3.250	4.189	4.268	4.921	1.260	4.252	2.516	1.736	5.315	7.830	0.709	3/8 NPT
3.750	4.689	4.750	5.433	1.000	-	-	-	-	8.189	0.866	3/8 NPT

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