

RELY ON EXCELLENCE

## Cartex ANSI Single seals

Mechanical Seals | Mechanical seals for pumps | Standard cartridge seals



### Features

- Single seal
- Available for standard (Cartex-ASPN) and big bore (Cartex-ABPN) seal chambers
- Cartridge
- Balanced
- Independent of direction of rotation
- Single seals with flush (-ASPN, -ABPN) and with quench combined with lip seal (-ASQN, -ABQN) or throttle ring (-ASTN, -ABTN)

### Advantages

- Ideal for use in ANSI process pumps
- Universal applicable for packings conversions, retrofits or original equipment
- Seal for standardizations
- No dimensional modification of the seal chamber necessary, small radial installation height
- No damage of the shaft by dynamically loaded O-Ring
- Extended service life
- Installation faults are avoided, cost-effective
- No damage caused by dirt entered during assembly
- Straightforward and easy installation due to pre-assembled unit (reduced down-times)

### Operating range

Cartex-ASPN, - ABPN, -ASTN, -ABTN, -ASQN, -ABQN

Shaft diameter:  $d_1 = 1.000'' \dots 3.750''$

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:  $p_1 = 25 \text{ bar} (363 \text{ PSI})$

Sliding velocity:  $v_g = 16 \text{ m/s} (52 \text{ ft/s})$

Sliding face material combination Q1Q1 or U2Q1

Pressure:  $p_1 = 12 \text{ bar} (174 \text{ PSI})$

Sliding velocity:  $v_g = 10 \text{ m/s} (33 \text{ ft/s})$

Axial movement:

$\pm 1.0 \text{ mm}, d_1 \geq 75 \text{ mm} \pm 1.5 \text{ mm}$

### 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)

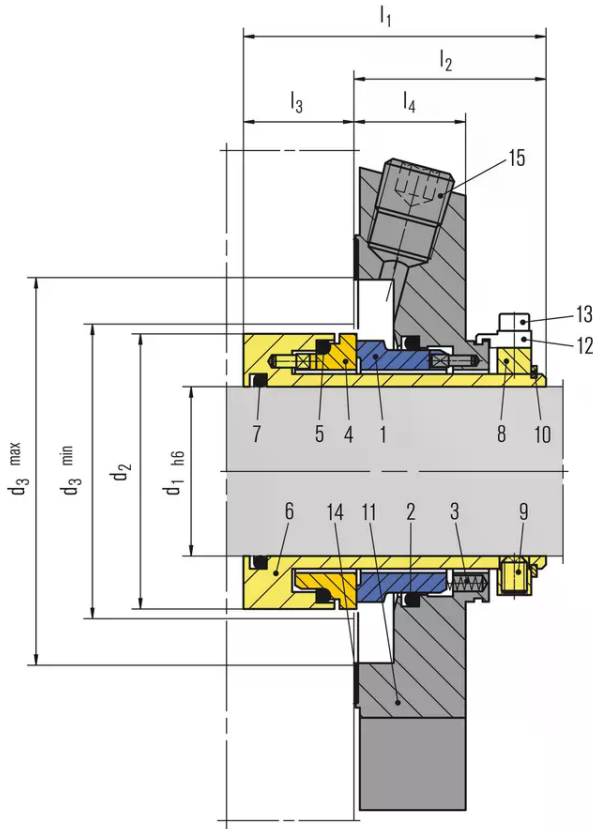
### Standards and approvals

- ANSI

### Recommended applications

- Universally applicable
- Process industry
- Petrochemical industry
- Chemical industry
- Pharmaceutical industry
- Power plant technology
- Pulp and paper industry
- Water and waste water technology
- Mining industry
- Food and beverage industry
- CCUS
- Power generation
- ANSI process pumps

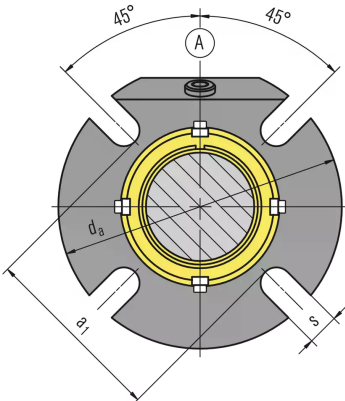
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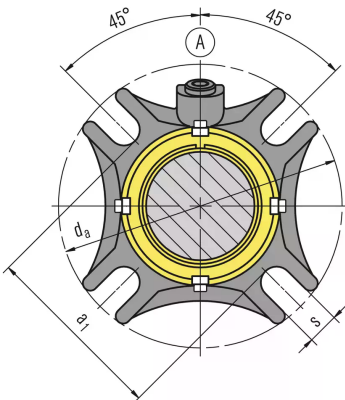
Item	Description
1	Seal face
2, 5, 7	O-Ring
3	Spring
4	Seat
6	Shaft sleeve
8	Drive collar
9	Set screw
10	Snap ring
11	Cover
12	Assembly fixture (remove after intallation)
13	Screw
14	Gasket
15	Screw plug
16	Lip seal (-QN), throttle ring (-TN)

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## Installation, details, options



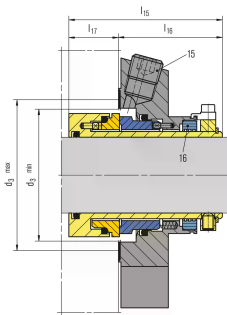
**Seal cover**  
Machined version



**Seal cover**  
Cast version

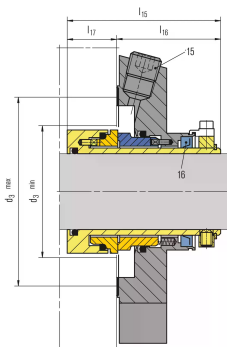
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## Product variants



### Cartex-ASTN and -ABTN

Single seal for standard (S) and big bore (B) seal chambers. Same as Cartex-ASPN and -ABPN but with throttle ring (item 16) The cover has auxiliary connections for flushing and quench. Throttle ring: PTFE carbon-graphite reinforced (T12).



### Cartex-ASQN and -ABQN

Single seal for operation with unpressurized quench for standard (S) and big bore (B) seal chambers. Same as Cartex-ASPN and -ABPN version but with lip seal (item 16) at the atmospheric side. The cover has auxiliary connections for flushing and quench. Lip seal: NBR (P), PTFE carbon reinforced (T3)

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### Dimensions

d <sub>1</sub>	d <sub>2</sub>	d <sub>3</sub> min	d <sub>3</sub> max	l <sub>1</sub>	l <sub>2</sub>	l <sub>3</sub>	l <sub>4</sub>	l <sub>15</sub>	l <sub>16</sub>	l <sub>17</sub>	a <sub>1</sub>	d <sub>a</sub>	s	Connection
1.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1125	1713	1752	2795	2638	1669	0.969	1000	2937	1909	1028	3311	4500	0.437	1/4 NPT
1250	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1375	1960	2000	3189	2638	1669	0.969	1000	2947	1919	1028	3543	5118	0.437	1/4 NPT
1.500	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1.625	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1.750	2.461	2.500	4.055	2.638	1.669	0.969	1.000	3.012	1.984	1.028	4.567	6.496	0.559	3/8 NPT
1.875	2.583	2.661	3.937	2.638	1.669	0.969	1.000	3.071	2.059	1.012	4.409	5.984	0.551	3/8 NPT
2.000	2.677	2.756	4.567	2.638	1.929	0.709	1.260	3.130	2.102	1.028	4.882	6.260	0.551	3/8 NPT
2.125	2.834	2.913	4.528	2.638	1.669	0.969	1.000	3.012	1.984	1.028	5.276	6.890	0.709	3/8 NPT
2.250	2.960	3.093	4.409	2.638	1.945	0.693	1.276	3.130	2.120	1.028	4.685	6.417	0.709	3/8 NPT
2.500	3.212	3.299	5.276	2.638	1.919	0.719	1.250	3.130	2.120	1.028	5.512	7.795	0.709	3/8 NPT
2.625	3.338	3.417	5.118	2.638	1.919	0.719	1.250	3.130	2.120	1.028	5.354	6.890	0.709	3/8 NPT
2.750	3.660	3.740	5.236	2.638	1.945	0.693	1.276	3.130	2.120	1.028	5.512	7.480	0.630	3/8 NPT
3.000	3.937	4.016	5.512	3.307	2.276	1.031	1.276	3.858	2.516	1.343	5.906	8.228	0.650	3/8 NPT
3.250	-	-	-	-	-	-	-	-	-	-	-	-	-	-

\*\*BIG BORE\*\* - Dimensions in inch

d <sub>1</sub>	d <sub>2</sub>	d-3 min~	d-3 max~	l <sub>1</sub>	l <sub>2</sub>	l <sub>3</sub>	l <sub>4</sub>	l <sub>15</sub>	l <sub>16</sub>	l <sub>17</sub>	a <sub>1</sub>	d <sub>a</sub>	s	Connection
1.000	1.693	1.732	2.205	2.638	1.669	0.969	1.000	2.937	1.909	1.028	2.756	3.937	0.433	1/4 NPT
1.125	1.713	1.752	2.205	2.638	1.669	0.969	1.000	2.937	1.909	1.028	2.440	4.134	0.437	1/4 NPT
1.250	1.969	2.008	2.402	2.638	1.669	0.969	1.000	3.130	2.102	1.028	2.638	4.252	0.433	1/4 NPT
1.375	1.961	2.000	2.402	2.638	1.669	0.969	1.000	2.947	1.919	1.028	2.760	4.213	0.437	1/4 NPT
1.500	2.200	2.244	2.717	2.638	1.669	0.969	1.000	3.130	2.102	1.028	2.950	4.488	0.551	3/8 NPT
1.625	2.340	2.421	2.795	2.638	1.669	0.969	1.000	3.130	2.102	1.028	3.030	4.921	0.551	3/8 NPT
1.750	2.461	2.500	2.953	2.638	1.669	0.969	1.000	3.012	1.984	1.028	3.228	5.118	0.559	3/8 NPT
1.875	2.583	2.661	3.070	2.638	1.669	0.969	1.000	3.071	2.043	1.028	3.190	5.118	0.551	3/8 NPT
2.000	2.677	2.756	3.189	2.638	1.669	0.969	1.000	3.130	2.102	1.028	3.430	5.472	0.630	3/8 NPT
2.125	2.834	2.913	3.583	2.638	1.669	0.969	1.000	3.012	1.984	1.028	3.820	5.512	0.650	3/8 NPT
2.250	2.960	3.039	3.583	2.638	1.669	0.969	1.000	3.130	2.102	1.028	3.858	5.866	0.650	3/8 NPT
2.375	3.070	3.125	3.590	2.638	1.669	0.969	1.000	-	-	-	4.020	6.181	0.709	3/8 NPT
2.500	3.212	3.291	3.937	2.638	1.669	0.969	1.122	3.130	2.102	1.028	4.528	6.693	0.709	3/8 NPT
2.625	3.338	3.417	4.016	2.638	1.669	0.969	1.250	3.130	2.102	1.028	4.528	6.378	0.630	3/8 NPT
2.750	3.660	3.740	4.370	2.638	1.929	0.709	1.260	3.130	2.102	1.028	4.646	7.441	0.709	3/8 NPT
3.000	3.937	4.016	4.724	3.307	2.260	1.047	1.260	3.858	2.516	1.343	5.000	7.835	0.709	3/8 NPT
3.250	4.189	4.268	4.921	3.307	2.260	1.047	1.260	3.858	2.516	1.343	5.315	7.830	0.709	3/8 NPT
3.750	4.689	4.750	5.433	3.307	2.260	1.047	1.000	-	-	-	5.827	8.189	0.866	3/8 NPT

\*\*STANDARD BORE\*\* - Dimensions in inch