

# Cartex Dual seals



#### **Features**

- Dual seal
- Cartridge
- Balanced
- Independent of direction of rotation
- Double pressure balanced
- Integrated pumping device
- Variants available: for eccentric screw pumps (-Vario) and gas-lubricated version (-GSDN)

## Advantages

- Ideal seal for standardizations
- Universal applicable for packings conversions, retrofits or OEM
- No dimensional modification of the seal chamber (centrifugal pumps) necessary, small radial installation height
- No damage of the shaft by dynamically loaded O-Ring
- Extended service life
- No damage caused by dirt entered during assembly
- Straightforward and easy installation due to pre-assembled unit
- Individual adaptation to pump design possible
- Customer specific versions available

# **Operating range**

Shaft diameter: d1 = 25 ... 100 mm (1.000" ... 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: p1 = 25 bar (363 PSI) Sliding velocity: vg = 16 m/s (52 ft/s)

Sliding face material combination Q1Q1 or U2Q1 Pressure: p1 = 20 bar (290 PSI) Sliding velocity: vg = 10 m/s (33 ft/s)

Barrier fluid circulation system:  $p3_{max} = 25$  bar (363 PSI)  $\Delta p (p3 - p1)_{ideal} = 2 ... 3$  bar (29 ... 44 PSI), 7 bar (102 PSI) for barrier media with poor

Pump startup: Δp (p3 - p1)<sub>max</sub> = 25 bar (363 PSI) allowed

Recommended supply medium: max. ISO VG 5 Axial movement: ±1.0 mm, d1 ≥75 mm ±1.5 mm

# **Materials**

lubricating properties.

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)

# **Recommended applications**

- Petrochemical industry
- Chemical industry
- Pharmaceutical industry
- Power plant technology
- Pulp and paper industry
- Mining industry
- Food and beverage industry
- Sugar industry
  - Universally applicable
  - Centrifugal pumps
  - Eccentric screw pumps

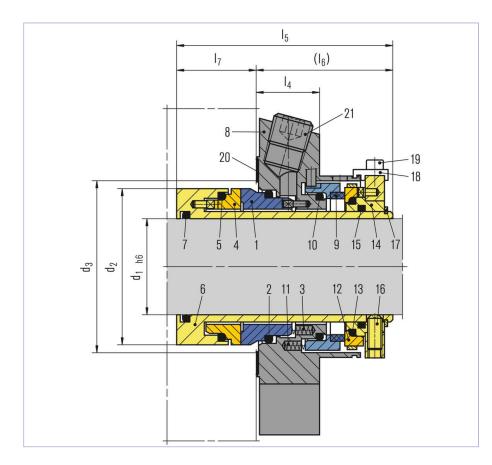
# **Recommended piping plans**

The EagleBurgmann QFT1000 buffer system and QFT2000 vessels are suitable for Cartex-DN in back-to-back arrangement. The EagleBurgmann TS1016 and TS2000 thermosiphon systems support double and back-to-back seal configurations.

Product links: EagleBurgmann QFT1000 EagleBurgmann QFT2000 EagleBurgmann TS1000 EagleBurgmann TS2000

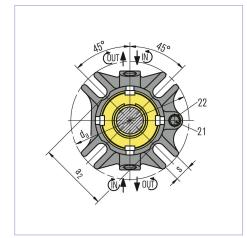
All technical specifications are based on extensive tests and our many years of experience. The diversity of possible applications, however, means that they can serve only as guide values. We must be notified of the exact conditions of application before we can provide any guarantee for a specific case. This is subject to change.

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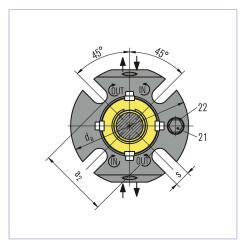


Item	Description
1	Seal face
2, 5, 7, 10, 13, 15	O-Ring
3	Spring
4	Seat
6	Shaft sleeve
8	Cover
9	Seal face
11	Spring
12	Seat
14	Drive collar
16	Set screw
17	Snap ring
18	Assembly fixture
19	Hex socket head screw
20	Gasket
21	Screw plug
22	Gasket

## Installation, details, options



Seal cover Cast version



Seal cover Machined version

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#### **Dimensions**

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 2.402 4.134 0.520   1.375 2.087 2.126 2.421 1.000 3.400 2.102 1.303 2.760 4.330 0.520   1.500 2.205 2.244 2.598 1.000 3.400 2.102 1.303 2.840 4.449 0.520   1.605 2.343 2.375 2.700 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 3.430 5.827 0.569   2.000	d <sub>1</sub>	d <sub>2</sub> d	3 min.	d <sub>3</sub> max.	I <sub>4</sub>	I5	I <sub>6</sub>	l <sub>7</sub>	a <sub>2</sub>	da	S
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 2.126 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   1.625 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 3.430 5.827 0.559   2.000 2.677 2.717 3.071 1.000 3.400 2.102 1.303 3.430 5.827 0.709   2.125	1.000	1.693	1.732	2.008	1.000	3.400	2.102	1.303	2.440	4.134	0.520
1.375 2.087 2.126 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 0.556   1.750 2.461 2.520 2.874 1.000 3.400 2.102 1.303 3.230 5.433 0.556   1.875 2.582 2.638 2.953 1.000 3.400 2.102 1.303 3.350 5.433 0.556   2.000 2.677 2.717 3.071 1.000 3.400 2.102 1.303 3.430 5.827 0.556   2.125 2.835 2.874 3.425 1.000 3.400 2.102 1.303 3.430 5.827 0.706   2.125 2.835 2.874 3.425 1.000 3.400 2.102 1.303 3.940 6.181 0.706   2.250	1.125	1.811	1.875	2.050	1.000	3.400	2.102	1.303	2.402	4.134	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 0.556   1.750 2.461 2.520 2.874 1.000 3.400 2.102 1.303 3.230 5.433 0.556   1.875 2.582 2.638 2.953 1.000 3.400 2.102 1.303 3.350 5.433 0.556   2.000 2.677 2.717 3.071 1.000 3.400 2.102 1.303 3.430 5.827 0.556   2.125 2.835 2.874 3.425 1.000 3.400 2.102 1.303 3.819 5.827 0.706   2.125 2.835 2.874 3.425 1.000 3.400 2.102 1.303 3.940 6.181 0.706   2.250 2.961 3.000 3.560 1.000 3.400 2.102 1.303 3.940 6.181 0.706 9.106 1.016	1.250	1.961	2.008	2.244	1.000	3.400	2.102	1.303	2.760	4.330	0.520
1.625 2.343 2.375 2.700 1.000 3.400 2.102 1.303 3.090 4.842 0.558   1.750 2.461 2.520 2.874 1.000 3.400 2.102 1.303 3.230 5.433 0.558   1.875 2.582 2.638 2.953 1.000 3.400 2.102 1.303 3.350 5.433 0.558   2.000 2.677 2.717 3.071 1.000 3.400 2.102 1.303 3.430 5.827 0.558   2.125 2.835 2.874 3.425 1.000 3.400 2.102 1.303 3.819 5.827 0.708   2.250 2.961 3.000 3.560 1.000 3.400 2.102 1.303 3.940 6.181 0.708	1.375	2.087	2.126	2.421	1.000	3.400	2.102	1.303	2.840	4.449	0.520
1.750 2.461 2.520 2.874 1.000 3.400 2.102 1.303 3.230 5.433 0.558   1.875 2.582 2.638 2.953 1.000 3.400 2.102 1.303 3.350 5.433 0.558   2.000 2.677 2.717 3.071 1.000 3.400 2.102 1.303 3.430 5.827 0.558   2.125 2.835 2.874 3.425 1.000 3.400 2.102 1.303 3.819 5.827 0.708   2.250 2.961 3.000 3.560 1.000 3.400 2.102 1.303 3.940 6.181 0.708	1.500	2.205	2.244	2.598	1.000	3.400	2.102	1.303	2.950	4.843	0.520
1.875 2.582 2.638 2.953 1.000 3.400 2.102 1.303 3.350 5.433 0.558   2.000 2.677 2.717 3.071 1.000 3.400 2.102 1.303 3.430 5.827 0.558   2.125 2.835 2.874 3.425 1.000 3.400 2.102 1.303 3.819 5.827 0.708   2.250 2.961 3.000 3.560 1.000 3.400 2.102 1.303 3.940 6.181 0.708	1.625	2.343	2.375	2.700	1.000	3.400	2.102	1.303	3.090	4.842	0.559
2.000   2.677   2.717   3.071   1.000   3.400   2.102   1.303   3.430   5.827   0.558     2.125   2.835   2.874   3.425   1.000   3.400   2.102   1.303   3.819   5.827   0.708     2.250   2.961   3.000   3.560   1.000   3.400   2.102   1.303   3.940   6.181   0.708	1.750	2.461	2.520	2.874	1.000	3.400	2.102	1.303	3.230	5.433	0.559
2.125 2.835 2.874 3.425 1.000 3.400 2.102 1.303 3.819 5.827 0.705   2.250 2.961 3.000 3.560 1.000 3.400 2.102 1.303 3.940 6.181 0.705	1.875	2.582	2.638	2.953	1.000	3.400	2.102	1.303	3.350	5.433	0.559
2.250 2.961 3.000 3.560 1.000 3.400 2.102 1.303 3.940 6.181 0.709	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
2.375 3.071 3.125 3.583 1.000 3.400 2.102 1.303 4.020 6.181 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	2.500	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	2.625	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	2.750	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	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 0.705	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 0.705	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 0.705	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	3.375	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 5.157 1.102 4.250 2.516 1.736 5.591 7.795 0.866	3.500	4.437	4.500	5.157	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	3.625	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	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	4.000	4.937	5.000	5.669	1.102	4.250	2.516	1.736	6.063	8.583	0.866

Dimensions in inch

#### **Dimensions**

d <sub>1</sub>	d <sub>2</sub>	d <sub>3</sub> min.	d <sub>3</sub> max.	I <sub>4</sub>	I <sub>5</sub>	I <sub>6</sub>	I <sub>7</sub>	a <sub>2</sub>	da	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	60.5	61.5	69.5	25.4	86.5	53.4	33.1	80	133	14.2
43	60.5	61.5	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

Dimensions in millimeter

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