

RELY ON EXCELLENCE

## Cartex Dual seals

Mechanical Seals | Mechanical seals for pumps | Standard Cartridge 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:  
p3max = 25 bar (363 PSI)  
 $\Delta p (p3 - p1)_{ideal} = 2 \dots 3 \text{ bar (29 ... 44 PSI)}$ ,  
7 bar (102 PSI) for barrier media with poor lubricating properties.

Pump startup:  
 $\Delta p (p3 - p1)_{max} = 25 \text{ bar (363 PSI)}$  allowed

### 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)

### Standards and approvals

- Compliant to TA Luft (German Clean Air Act)

### Recommended applications

- Petrochemical industry
- Chemical industry
- Pharmaceutical industry
- Power plant technology
- Pulp and paper industry
- Mining industry
- Food and beverage industry
- Sugar industry
- CCUS
- Lithium
- Hydrogen
- Sustainable plastics production
- Alternative fuels production
- Power generation
- Nuclear power technology
- Centrifugal pumps
- Eccentric screw pumps
- Universally applicable

### 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.

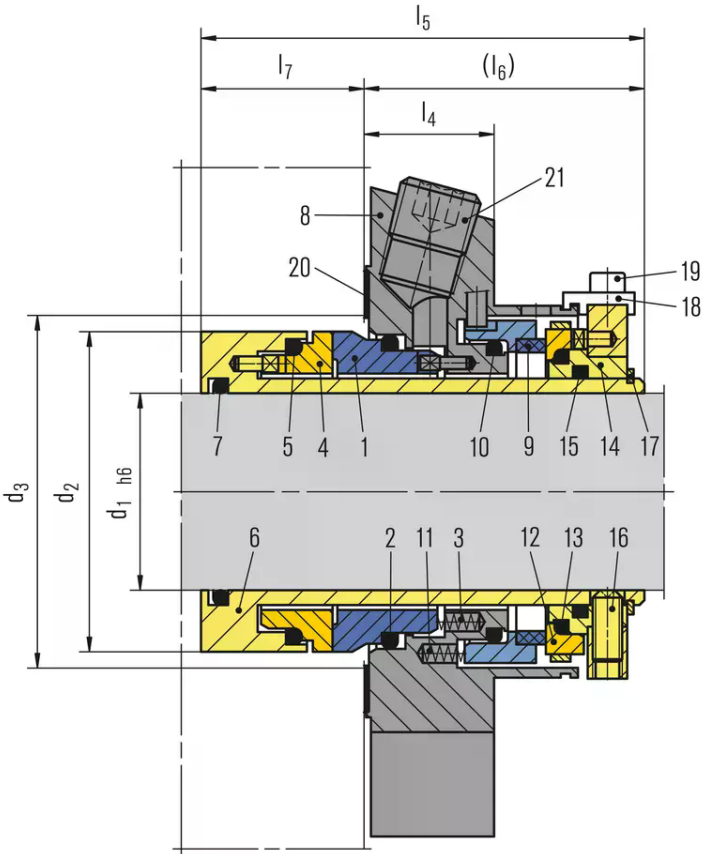
Product links:

[EagleBurgmann QFT1000](#)

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Recommended supply medium:  
 max. ISO VG 5  
 Axial movement:  $\pm 1.0$  mm,  $d1 \geq 75$  mm  $\pm 1.5$  mm

EagleBurgmann QFT2000  
 EagleBurgmann TS1000  
 EagleBurgmann TS2000  
 EagleBurgmann MultiFlow Unit (MFU)  
 EagleBurgmann BestFlow

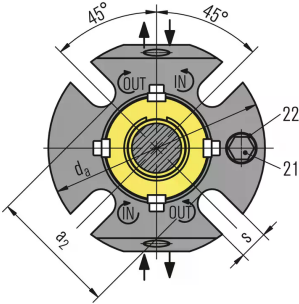


Item	Description
1	Seal face
2, 5, 7, 10, 13, 15	O-Ring
3	Spring
4	Seat
6	Shaft sleeve
8	Cover
9	Seal face
11	Spring
12	Seat
14	Drive collar
16	Set screw
17	Snap ring
18	Assembly fixture
19	Hex socket head screw
20	Gasket
21	Screw plug
22	Gasket

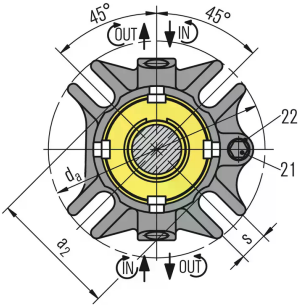
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## Installation, details, options

**Seal cover**  
Machined version



**Seal cover**  
Cast version



## RELY ON EXCELLENCE

### Dimensions

d <sub>1</sub>	d <sub>2</sub>	d <sub>3</sub> min.	d <sub>3</sub> max.	l <sub>4</sub>	l <sub>5</sub>	l <sub>6</sub>	l <sub>7</sub>	a <sub>2</sub>	d <sub>a</sub>	s
1.000	1.693	1.732	2.008	1.000	3.400	2.102	1.303	2.440	4.134	0.520
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	2.760	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
1.750	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	3.350	5.433	0.559
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
2.250	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
2.625	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
2.875	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	0.709
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	0.709
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
3.625	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
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

d <sub>1</sub>	d <sub>2</sub>	d <sub>3</sub> min.	d <sub>3</sub> max.	l <sub>4</sub>	l <sub>5</sub>	l <sub>6</sub>	l <sub>7</sub>	a <sub>2</sub>	d <sub>a</sub>	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

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d <sub>1</sub>	d <sub>2</sub>	d <sub>3</sub> min.	d <sub>3</sub> max.	l <sub>4</sub>	l <sub>5</sub>	l <sub>6</sub>	l <sub>7</sub>	a <sub>2</sub>	d <sub>a</sub>	s
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