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Offering something new: Service



billi

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billi

d i c h t u n g s t e c h n i k g m b h

OFFERING SOMETHING NEW: SERVICE





Werkstoffschlüssel

DIN 24960 Beschreibung

Gleitwerkstoffe (Pos.1&2)

Synthetische Kohlen

- A Kohlegrafit, antimonimprägniert
- B Kohlegrafit, kunstharzimprägn.
- B₃ Kohlegrafit, kunstharzimprägn.
- B₅ Kohle, kunstharzgebunden
- C Elektrografit, antimonimprägn.

Metalle

- E Cr-Stahl
- G₁ CrNiMo-Stahl
- S Sonder-Chrommolybdenguß

Karbide

U= Wolframkarbide

- U₁ Wolframkarbid, Co-gebunden
- U₂ Wolframkarbid, Ni-gebunden
- U₂₂ Wolframkarbid, Ni-gebunden eingeschrumpft
- U₃ Wolframkarbid, NiCrMo-gebunden
- U₃₇ Wolframkarbid, NiCrMo-gebunden eingeschrumpft
- U₇ Wolframkarbid, binderfrei

Q= Siliziumkarbide

- Q₁ SiC, drucklos gesintert (i)
- Q₁₂ SiC, drucklos gesintert eingeschrumpft (i)
- Q₂ SiC-Si, reaktiongebunden
- Q₂₂ SiC-Si, reaktiongebunden eingeschrumpft
- Q₃ SiC-C-Si, Kohle siliziumimprägn.
- Q₃₂ SiC-C-Si, Kohle siliziumimprägn. eingeschrumpft
- Q₄ C-SiC, Kohle oberflächensiliziert



Material

DIN 24960 Description

Face Materials (Pos.1&2)

Synthetik Carbons

- A Carbon, antimony impregnated
- B Carbon, resin impregnated
- B₃ Carbon, resin impregnated
- B₅ Carbon, resin bonded
- C Electrographite, antimony impr.

Metals

- E Cr-Steel
- G₁ CrNiMo-Steel
- S Special cast CrMo-Steel

Carbides

U= Tungsten Carbides

- U₁ Tungsten Carbide, Co-binder
- U₂ Tungsten Carbide, Ni-binder
- U₂₂ Tungsten Carbide, Ni-binder shrunk-in
- U₃₃ Tungsten Carbide, NiCrMo-binder
- U₃₇ Tungsten Carbide, NiCrMo-binder shrunk-in
- U₇ Tungsten Carbide, binder free

Q= Silicon Carbides

- Q₁ SiC, sintered pressureless (i)
- Q₁₂ SiC, sintered pressureless shrunk-in (i)
- Q₂ SiC-Si, reaction bonded
- Q₂₂ SiC-Si, reaction bonded shrunk-in
- Q₃ SiC-C-Si, Carbon Silicon impr.
- Q₃₂ SiC-C-Si, Carbon Silicon impr. shrunk-in
- Q₄ C-SiC, Carbon surface silicated

DIN 24960 Beschreibung

Metalloxide (Keramik)

- V Al-Oxid 99,5%
- V₂ Al-Oxid 97,5%

Kunststoffe

- Y₁ PTFE, glasfaserverstärkt
- Y₂ PTFE, Kohleverstärkt

Nebendichtungen (Pos.3)

Elastomere, nicht ummantelt

- B Butyl-Kautschuk (IIR)
- E Ethylen-Propylene Dian-Kautschuk (EPDM)
- K Perfluor- Kautschuk (Kalrez®, CHEMRAZ®)
- N Chloropren-Kautschuk (CR)
- P Nitril-Butadien-Kautschuk (NBR)
- S Silikon-Kautschuk (MVQ)
- V Fluor-Kautschuk (FPM-VITON®)

Elastomere, ummantelt

- M₁ FPM, doppelt PTFE ummantelt
- M₂ EPDM, doppelt PTFE ummantelt
- M₃ MVQ, doppelt PTFE ummantelt
- M₄ CR, doppelt PTFE ummantelt
- M₅ FEP mit VITON® Kern
- M₇ FPM doppelt PTFE ummantelt / PTFE Massiv

Nicht-Elastomere

- G Reingraphit
- T PTFE massiv
- T₂ PTFE, glasfaserverstärkt
- T₃ PTFE, kohleverstärkt
- T₁₂ PTFE, kohlegrafitverstärkt
- Y₁ Flachdichtung, Asbestfrei

DIN 24960 Beschreibung

Feder und andere Metallteile

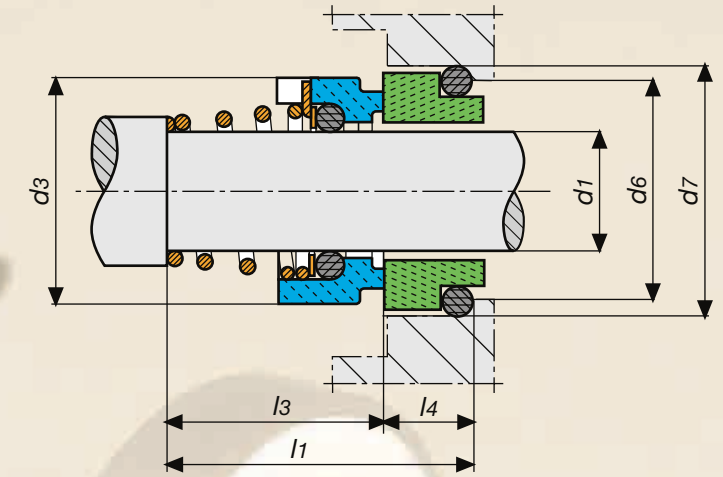
Federwerkstoffe

- G CrNiMo-Stahl
- M Hastelloy® C4 (2.4610)

andere Metallteile

- D C-Stahl
- E Cr-Stahl (1.4122)
- F CrNi-Stahl (1.4301)
- F₁ spez. CrNi-Stahlguß (1.4313)
- G CrNiMo-Stahl 1.4401, 1.4571, 1.4581
- G₁ CrNiMo-Stahl (1.4462)
- G₂ CrNiMo-Stahl (1.4439)
- G₃ CrNiMo-Stahl (1.4539)
- M Hastelloy® C4 (2.4610)
- M₁ Hastelloy® B2 (2.4617)
- M₃ Carpenter® 20Cb3 (2.4660)
- M₄ Monel® K500 (2.4375)
- M₅ Hastelloy® C-276 (2.4819)
- T₁ CrNiMoCuNb-Stahl (1.4505)
- T₂ Rein Titan (3.7035)
- T₃ Inconel® 625 (2.4856)
- T₄ Carpenter® 42 (1.3917)
- T₅ Incoloy® 800 (1.4876)
- T₆ AM 350 (Sonderlegierung)

billi Serie BB1



d1	d3	l3	d7	l4	d6	l1
mm	mm	mm	mm	mm	mm	mm
10	19,00	15,00	21,00	7,00	17,00	22,00
12	21,00	18,00	23,00	7,00	19,00	25,00
14	23,00	22,00	25,00	7,00	21,00	29,00
15	24,00	22,00	27,00	7,00	23,00	29,00
16	26,00	23,00	27,00	7,00	23,00	30,00
18	29,00	24,00	33,00	10,00	27,00	34,00
19	31,00	25,00	35,00	10,00	29,00	35,00
20	31,00	25,00	35,00	10,00	29,00	35,00
22	33,00	25,00	37,00	10,00	31,00	35,00
24	35,00	27,00	39,00	10,00	33,00	37,00
25	36,00	27,00	40,00	10,00	34,00	37,00
28	40,00	29,00	43,00	10,00	37,00	39,00
30	43,00	30,00	45,00	10,00	39,00	40,00
32	46,00	30,00	48,00	10,00	42,00	40,00
33	46,00	39,00	48,00	10,00	42,00	49,00
35	49,00	39,00	50,00	10,00	44,00	49,00
38	53,00	42,00	56,00	13,00	49,00	55,00
40	56,00	42,00	58,00	13,00	51,00	55,00
43	59,00	47,00	61,00	13,00	54,00	60,00
45	61,00	47,00	63,00	13,00	56,00	60,00
48	64,00	47,00	66,00	13,00	59,00	60,00
50	66,00	46,00	70,00	14,00	62,00	60,00
53	69,00	56,00	73,00	14,00	65,00	70,00
55	71,00	56,00	75,00	14,00	67,00	70,00
58	76,00	56,00	78,00	14,00	70,00	70,00
60	78,00	56,00	80,00	14,00	72,00	70,00
63	81,00	56,00	83,00	14,00	75,00	70,00
65	84,00	66,00	85,00	14,00	77,00	80,00
68	88,00	64,00	90,00	16,00	81,00	80,00
70	90,00	64,00	92,00	16,00	83,00	80,00
75	98,00	64,00	97,00	16,00	88,00	80,00
80	100,00	72,00	105,00	18,00	95,00	90,00
85	107,50	72,00	110,00	18,00	100,00	90,00
90	111,00	72,00	115,00	18,00	105,00	90,00
95	119,00	72,00	120,00	18,00	110,00	90,00
100	124,00	72,00	125,00	18,00	115,00	90,00



Eigenschaften:

- Einzel-Gleitringdichtung
- Konische Feder
- Drehrichtungsabhängig
- Nichtentlastet
- Nach DIN 24960

Einsatzgrenzen:

- Druck p = 10 bar
- Geschwindigkeit v = 15 m/sec.
- Temperatur t = -20+180°C



Characteristics:

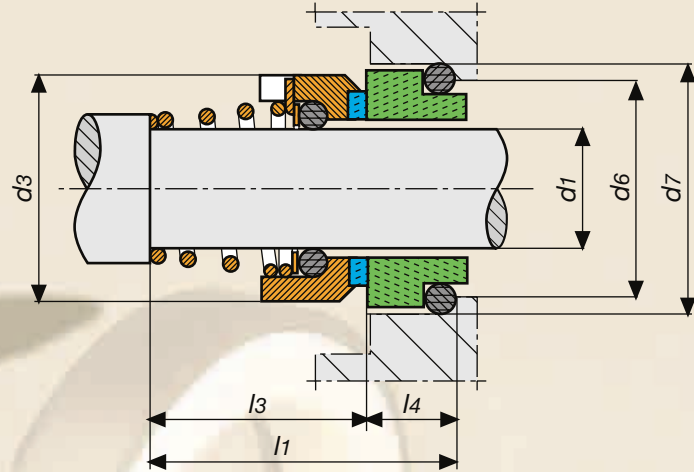
- Single Spring Seal
- Conical Spring
- Single Directional
- Unbalanced
- According to DIN 24960

Limit of applications:

- Pressure p = 10 bar
- Speed v = 15 m/sec.
- Temperature t = -20+180°C

- Gleitring = CrNiMo-Stahl
- Gegenring = Kohle
- Nebendichtung = NBR, EPDM, VITON®, FEP, KALREZ®
- Feder = 1.4401, 1.4301
- Sonstige Teile = 1.4401, 1.4301

- Rotary = Stainless Steel
- Stationary = Carbon
- Secondary Seal = NBR, EPDM, VITON®, FEP, KALREZ®
- Spring = AISI 316, 304
- Other Parts = AISI 316, 304



d1	d3	l3	d7	l4	d6	l1
mm	mm	mm	mm	mm	mm	mm
10	19,00	15,50	19,20	6,60	15,50	22,10
12	21,00	15,50	21,60	5,60	17,50	21,10
14	23,00	15,50	24,60	5,60	20,50	21,10
15	24,00	15,50	24,60	6,60	20,50	22,10
16	26,00	17,50	28,00	7,50	22,00	25,00
18	29,00	18,50	30,00	8,00	24,00	26,50
19	31,00	20,00	35,00	7,50	25,00	27,50
20	31,00	20,00	35,00	7,50	29,50	27,50
22	33,00	21,50	35,00	7,50	29,50	29,00
24	35,00	23,00	38,00	7,50	32,00	30,50
25	36,00	24,50	38,00	7,50	32,00	32,00
28	40,00	24,50	42,00	9,00	36,00	33,50
30	43,00	24,50	45,00	10,50	39,20	35,00
32	46,00	28,00	48,00	10,50	42,20	38,50
35	49,00	28,00	52,00	11,00	46,20	39,00
38	53,00	31,00	55,00	10,30	49,20	41,30
40	56,00	34,00	58,00	10,80	52,20	44,80
42	59,00	35,00	62,00	12,00	53,30	47,00
43	59,00	35,00	62,00	12,00	53,30	47,00
45	61,00	36,50	64,00	11,60	55,30	48,10
48	64,00	42,00	68,40	11,60	59,70	53,60
50	66,00	43,00	69,30	11,60	60,80	54,60
55	71,00	47,00	75,40	13,30	66,50	60,30
58	76,00	50,00	78,40	13,30	69,50	63,30
60	78,00	51,00	80,40	13,30	71,50	64,30
65	84,00	52,00	85,40	13,00	76,50	65,00
68	88,00	53,00	91,50	13,70	82,70	66,70
70	90,00	54,00	92,00	13,00	83,00	67,00
75	98,00	55,00	99,00	14,00	90,20	69,00
80	100,00	58,00	104,00	15,00	95,20	73,00



Eigenschaften:

Einzel-Gleitringdichtung
Konische Feder
Drehrichtungsabhängig
Nichtentlastet
Nach DIN 24960

Einsatzgrenzen:

Druck p = 10 bar
Geschwindigkeit v = 15 m/sec.
Temperatur t = -20+120°C



Characteristics:

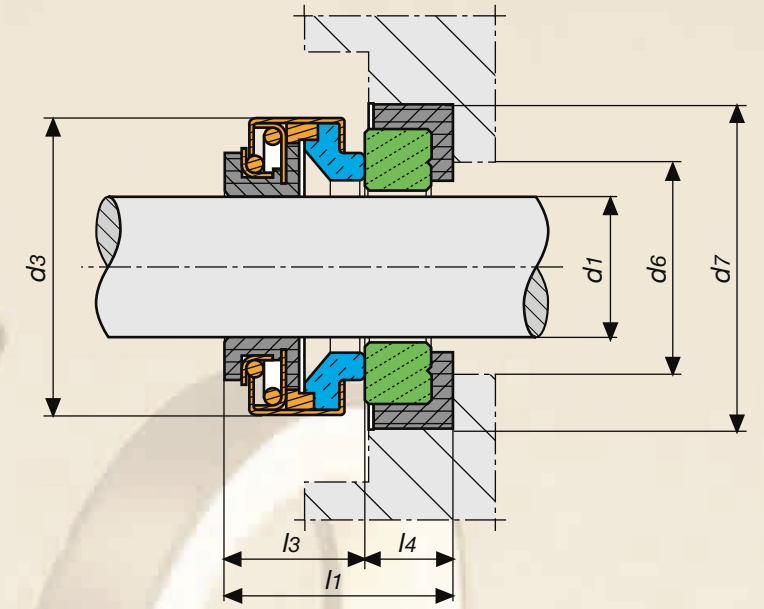
Single Spring Seal
Conical Spring
Single Directional
Unbalanced
According to DIN 24960

Limit of applications:

Pressure p = 10 bar
Speed v = 15 m/sec.
Temperature t = -20+120°C

- **Gleitring** = CrNiMo-Stahl, Kohle, SiC, WC
- **Gegenring** = Kohle, Al-Oxid, SiC, WC
- **Nebendichtung** = NBR, EPDM, VITON®, FEP, KALREZ®
- **Feder** = 1.4401, 1.4301
- **Sonstige Teile** = 1.4401, 1.4301

- **Rotary** = SS, Carbon, SiC, TC
- **Stationary** = Carbon, Al-Oxide, SiC, TC
- **Secondary Seal** = NBR, EPDM, VITON®, FEP, KALREZ®
- **Spring** = AISI 316, 304
- **Other Parts** = AISI 316, 304



d1	d3	l3	d7	l4	d6	l1
mm	mm	mm	mm	mm	mm	mm
6	18,00	8,50	22,00	4,00	8,00	12,50
8	18,00	8,50	22,00	4,00	10,00	12,50
8	24,00	11,00	26,00	5,5/8	10,00	16,5/19
10	24,00	11,00	26,00	5,5/8	12,00	16,5/19
11	24,00	11,00	26,00	5,5/8	13,00	16,5/19
12	24,00	13,00	26,00	5,5/8	14,00	18,5/21
13	24,00	13,00	26,00	5,5/8	15,00	18,5/21
14	32,00	13,00	29,5/38	8,00	16,00	21,00
15	35,00	13,00	29,5/38	8,00	17,00	21,00
16	35,00	13,00	29,5/38	8,00	18,00	21,00
16	39,00	13,00	42,00	8,00	18,00	21,00
17	39,00	13,00	42,00	8,00	19,00	21,00
18	39,00	13,00	42,00	8,00	20,00	21,00
19	39,00	13,00	42,00	8,00	21,00	21,00
20	39,00	13,00	42,00	8,00	22,00	21,00
20	42,00	13,00	45,00	10,00	22,00	23,00
22	42,00	14,00	45,00	10,00	24,00	24,00
24	47,00	14,00	50,00	10,00	26,00	24,00
25	47,00	14,00	50,00	10,00	27,00	24,00
28	54,00	15,00	57,00	10,00	31,00	25,00
30	54,00	15,00	57,00	10,00	33,00	25,00
32	54,00	15,00	57,00	10,00	35,00	25,00
35	60,00	16,00	63,00	10,00	38,00	26,00
38	65,00	17,00	68,00	12,00	41,00	29,00
40	65,00	17,00	68,00	12,00	43,00	29,00
45	70,00	20,00	73,00	12,00	48,00	32,00
50	85,00	23,00	88,00	15,00	53,00	38,00
55	85,00	23,00	88,00	15,00	53,00	38,00
60	105,00	30,00	110,00	15,00	63,00	45,00
65	105,00	30,00	110,00	15,00	67,00	45,00
70	105,00	32,00	110,00	15,00	72,00	47,00



Eigenschaften:

Einzel-Gleitringdichtung
Faltenbalgdichtung
Drehrichtungsunabhängig
Nichtentlastet

Einsatzgrenzen:

Druck p = 6 bar
Geschwindigkeit v = 10 m/sec.
Temperatur t = -20+120°C

- **Gleitring** = Kohle, SiC, WC
- **Gegenring** = Al-Oxid, SiC, WC
- **Nebendichtung** = NBR, EPDM, VITON®
- **Feder** = 1.4301
- **Sonstige Teile** = 1.4301



Characteristics:

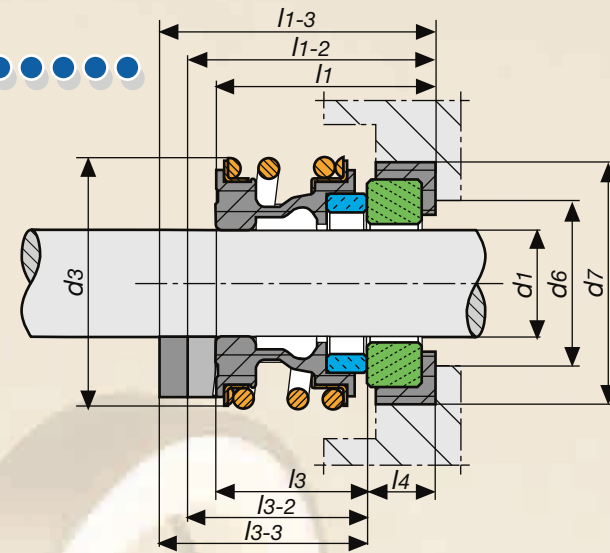
Single Spring Seal
Bellows Seal
Double Directional
Unbalanced

Limit of applications:

Pressure p = 6 bar
Speed v = 10 m/sec.
Temperature t = -20+120°C

- **Rotary** = Carbon, SiC, TC
- **Stationary** = Al-Oxide, SiC, TC
- **Secondary Seal** = NBR, EPDM, VITON®
- **Spring** = AISI 304
- **Other Parts** = AISI 304

billi Serie BB3, BB3-2, BB3-3



d1	d3	l3	l3-2	l3-3	d7	l4	d6	l1	l1-2	l1-3
mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
10	24,00	14,50	25,90	33,40	21,00	6,60	17,00	21,10	32,50	40
12	24,00	15,00	25,90	33,40	23,00	6,60	19,00	21,60	32,50	40
14	28,00	17,00	28,40	33,40	25,00	6,60	21,00	23,60	35,00	40
15	28,00	17,00	28,40	33,40	27,00	6,60	23,00	23,60	35,00	40
16	28,00	17,00	28,40	33,40	27,00	6,60	23,00	23,60	35,00	40
18	31,00	19,50	30,00	37,50	33,00	7,50	27,00	27,00	37,50	45
20	36,00	21,50	30,00	37,50	35,00	7,50	29,00	29,00	37,50	45
22	36,00	21,50	30,00	37,50	37,00	7,50	31,00	29,00	37,50	45
24	40,50	22,50	32,50	42,50	39,00	7,50	33,00	30,00	40,00	50
25	41,00	23,00	32,50	42,50	40,00	7,50	34,00	30,50	40,00	50
28	47,00	26,50	35,00	42,50	43,00	7,50	37,00	34,00	42,50	50
30	47,00	26,50	35,00	42,50	45,00	7,50	39,00	34,00	42,50	50
32	51,00	27,50	35,00	47,50	48,00	7,50	42,00	35,00	42,50	55
33	51,00	27,50	35,00	47,50	48,00	7,50	42,00	35,00	42,50	55
35	55,00	28,50	35,00	47,50	50,00	7,50	44,00	36,00	42,50	55
38	58,00	30,00	36,00	46,00	56,00	9,00	49,00	39,00	45,00	55
40	60,00	30,00	36,00	46,00	58,00	9,00	51,00	39,00	45,00	55
43	63,00	30,00	36,00	51,00	61,00	9,00	54,00	39,00	45,00	60
45	65,00	30,00	36,00	51,00	63,00	9,00	56,00	39,00	45,00	60
48	69,00	30,50	36,00	51,00	66,00	9,00	59,00	39,50	45,00	60
50	71,00	30,50	38,00	50,50	70,00	9,50	62,00	40,00	47,50	60
53	76,00	33,00	36,50	59,00	73,00	11,00	65,00	44,00	47,50	70
55	78,00	35,00	36,50	59,00	75,00	11,00	67,00	46,00	47,50	70
58	82,00	37,00	41,50	59,00	78,00	11,00	70,00	48,00	52,50	70
60	85,00	38,00	41,50	59,00	80,00	11,00	72,00	49,00	52,50	70
65	90,00	40,00	41,50	69,00	85,00	11,00	77,00	51,00	52,50	80
68	94,00	40,00	48,70	68,70	90,00	11,30	81,00	51,30	60,00	80
70	97,00	40,00	48,70	68,70	92,00	11,30	83,00	51,30	60,00	80
75	102,00	40,00	48,70	68,70	97,00	11,30	88,00	51,30	60,00	80
80	108,00	40,00	48,00	78,00	105,00	12,00	95,00	52,00	60,00	90
85	117,00	41,00	46,00	76,00	110,00	14,00	100,00	55,00	60,00	90
90	126,00	45,00	51,00	76,00	115,00	14,00	105,00	59,00	65,00	90
95	131,00	46,00	51,00	76,00	120,00	14,00	110,00	60,00	65,00	90
100	136,00	47,00	51,00	76,00	125,00	14,00	115,00	61,00	65,00	90



Eigenschaften:

Einzel-Gleitringdichtung
 Faltenbalgdichtung
 Drehrichtungsunabhängig
 Nichtentlastet
 Nach DIN 24960

Einsatzgrenzen:

Druck $p = 12 \text{ bar}$
 Geschwindigkeit $v = 10 \text{ m/sec.}$
 Temperatur $t = -20+120^\circ\text{C}$



Characteristics:

Single Spring Seal
 Bellow Seal
 Double Directional
 Unbalanced
 According to DIN 24960

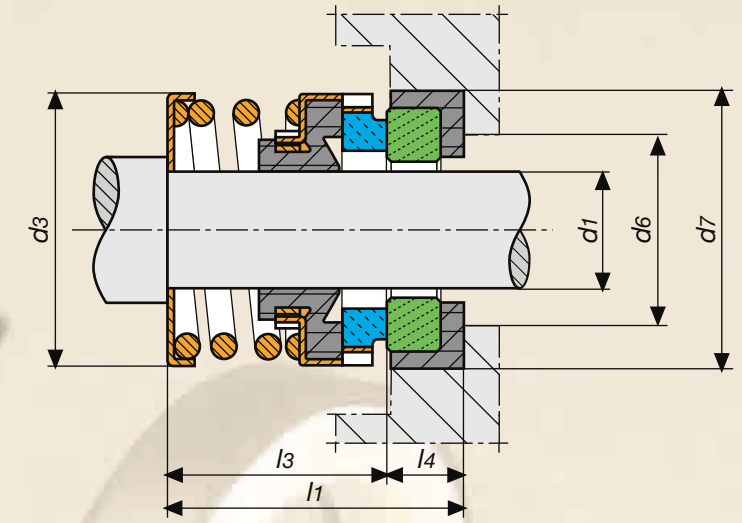
Limit of applications:

Pressure $p = 12 \text{ bar}$
 Speed $v = 10 \text{ m/sec.}$
 Temperature $t = -20+120^\circ\text{C}$

- **Gleitring** = Kohle, SiC, WC
- **Gegenring** = Al-Oxid, Kohle, CrNiMo-Stahl, SiC, WC
- **Nebendichtung** = NBR, EPDM, VITON®
- **Feder** = 1.4401
- **Sonstige Teile** = 1.4401

- **Rotary** = Carbon, SiC, TC
- **Stationary** = Al-Oxide, Carbon, SS, SiC, TC
- **Secondary Seal** = NBR, EPDM, VITON®
- **Spring** = AISI 316
- **Other Parts** = AISI 316

billi Serie BB4-D



d1	d3	l3	d7	l4	d6	l1
mm	mm	mm	mm	mm	mm	mm
12	21,70	23,90	23,00	8,60	19,00	32,50
14	23,90	26,40	25,00	8,60	21,00	35,00
16	26,70	26,40	27,00	8,60	23,00	35,00
18	30,40	27,50	33,00	10,00	27,00	37,50
20	33,40	27,50	35,00	10,00	29,00	37,50
22	33,40	27,50	37,00	10,00	31,00	37,50
24	38,00	30,00	39,00	10,00	33,00	40,00
25	39,30	30,00	40,00	10,00	34,00	40,00
28	42,00	32,50	43,00	10,00	37,00	42,50
30	43,95	32,50	45,00	10,00	39,00	42,50
32	45,80	32,50	48,00	10,00	42,00	42,50
33	45,80	32,50	48,00	10,00	42,00	42,50
35	49,00	32,50	50,00	10,00	44,00	42,50
38	52,80	34,00	56,00	11,00	49,00	45,00
40	55,80	34,00	58,00	11,00	51,00	45,00
43	58,80	34,00	61,00	11,00	54,00	45,00
45	61,00	34,00	63,00	11,00	56,00	45,00
48	64,00	34,00	66,00	11,00	59,00	45,00
50	66,00	34,50	70,00	13,00	62,00	47,50
53	70,65	34,50	73,00	13,00	65,00	47,50
55	71,65	34,50	75,00	13,00	67,00	47,50
58	78,40	39,50	78,00	13,00	70,00	52,50
60	78,40	39,50	80,00	13,00	72,00	52,50
63	81,50	39,50	83,00	13,00	75,00	52,50
65	84,30	39,50	85,00	13,00	77,00	52,50
68	89,65	37,20	90,00	15,30	81,00	52,50
70	89,65	37,20	92,00	15,30	83,00	52,50
75	96,80	44,70	97,00	15,30	88,00	60,00
80	104,00	44,30	105,00	15,70	95,00	60,00
85	107,95	44,30	110,00	15,70	100,00	60,00
90	111,10	49,30	115,00	15,70	105,00	65,00
95	119,00	49,30	120,00	15,70	110,00	65,00
100	124,00	49,30	125,00	15,70	115,00	65,00



Eigenschaften:

Einzel-Gleitringdichtung
 Faltenbalgdichtung
 Drehrichtungsunabhängig
 Nichtentlastet
 Nach DIN 24960

Einsatzgrenzen:

Druck $p = 12 \text{ bar}$
 Geschwindigkeit $v = 10 \text{ m/sec.}$
 Temperatur $t = -20+120^\circ\text{C}$

- **Gleitring** = Kohle, SiC, WC
- **Gegenring** = Al-Oxid, Kohle, CrNi-Stahl, SiC, WC
- **Nebendichtung** = NBR, EPDM, VITON®
- **Feder** = 1.4301
- **Sonstige Teile** = 1.4301



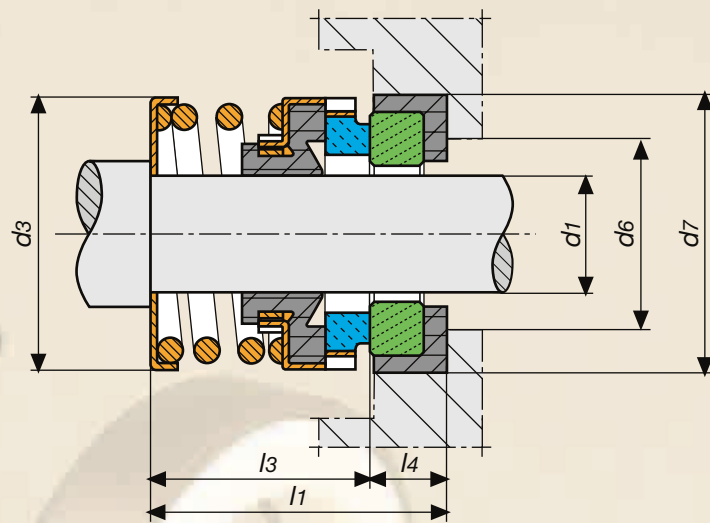
Characteristics:

Single Spring Seal
 Bellow Seal
 Double Directional
 Unbalanced
 According to DIN 24960

Limit of applications:

Pressure $p = 12 \text{ bar}$
 Speed $v = 10 \text{ m/sec.}$
 Temperature $t = -20+120^\circ\text{C}$

- **Rotary** = Carbon, SiC, TC
- **Stationary** = Al-Oxide, Carbon, SS, SiC, TC
- **Secondary Seal** = NBR, EPDM, VITON®
- **Spring** = AISI 304
- **Other Parts** = AISI 304



Abmessung	d1	d3	l3	d7	l4	d6	l1
Inch	mm	mm	mm	mm	mm	mm	mm
0,375	9,50	20,00	43,65	24,60	8,74	16,00	52,39
0,500	12,70	22,00	43,65	27,79	8,74	19,05	52,39
0,625	15,80	26,00	43,65	30,95	10,32	22,23	53,97
0,750	19,10	34,00	43,65	34,15	10,32	25,40	53,97
0,875	22,20	36,00	43,65	37,30	10,32	28,58	53,97
1,000	25,40	39,00	43,65	40,50	10,32	31,75	53,97
1,125	28,60	42,00	60,33	47,63	11,99	35,72	72,32
1,250	31,70	46,00	60,33	50,80	11,99	38,89	72,32
1,375	34,90	49,00	60,33	53,98	11,99	42,07	72,32
1,500	38,10	54,00	60,33	57,15	11,99	45,24	72,32
1,625	41,20	59,00	60,33	60,35	11,99	48,42	72,32
1,750	44,40	61,00	70,64	63,50	11,99	51,59	82,63
1,875	47,60	64,00	70,64	66,70	11,99	54,75	82,63
2,000	50,80	66,00	70,64	69,85	11,99	58,00	82,63
2,125	53,90	71,00	71,00	73,05	13,50	62,00	84,50
2,250	57,10	78,00	71,00	76,20	13,50	65,00	84,50
2,375	60,30	80,00	71,00	79,40	13,50	68,00	84,50
2,500	63,50	85,00	71,00	82,55	13,50	71,20	84,50
2,625	66,60	88,00	70,00	92,10	15,90	78,35	85,90
2,750	69,80	90,00	70,00	95,25	15,90	81,10	85,90
2,875	73,00	99,00	73,00	98,45	15,90	84,50	88,90
3,000	76,20	99,00	73,00	101,65	15,90	88,10	88,90
3,125	79,40	104,00	79,00	111,15	18,50	93,68	97,50
3,250	82,60	104,00	79,00	114,30	18,50	96,85	97,50
3,375	85,70	108,00	79,00	117,50	18,50	100,00	97,50
3,500	88,90	112,00	79,00	120,65	18,50	103,18	97,50
3,625	92,10	114,00	83,00	123,85	18,50	106,35	101,50
3,750	95,30	119,00	83,00	127,00	18,50	109,52	101,50
3,875	98,40	121,00	86,00	130,20	18,50	112,65	104,50
4,000	101,60	124,00	86,00	133,35	18,50	115,88	104,50



Eigenschaften:

Einzel-Gleitringdichtung
 Faltenbalgdichtung
 Drehrichtungsunabhängig
 Nichtentlastet

Einsatzgrenzen:

Druck p = 12 bar
 Geschwindigkeit v = 10 m/sec.
 Temperatur t = -20+120°C



Characteristics:

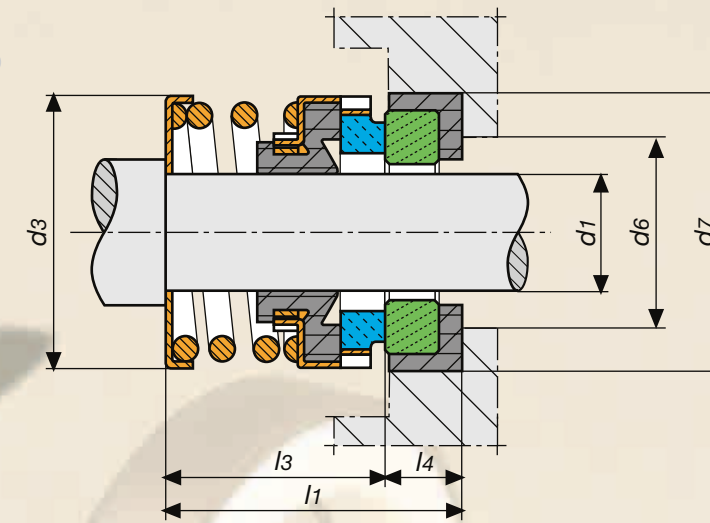
Single Spring Seal
 Bellow Seal
 Double Directional
 Unbalanced

Limit of applications:

Pressure p = 12 bar
 Speed v = 10 m/sec.
 Temperature t = -20+120°C

- **Gleitring** = Kohle, SiC
- **Gegenring** = Al-Oxid, SiC
- **Nebendichtung** = NBR, EPDM, VITON®
- **Feder** = 1.4301
- **Sonstige Teile** = 1.4301

- **Rotary** = Carbon, SiC
- **Stationary** = Al-Oxide, SiC
- **Secondary Seal** = NBR, EPDM, VITON®
- **Spring** = AISI 304
- **Other Parts** = AISI 304



Abmessung	d1	d3	l3	d7	l4	d6	l1
Inch	mm	mm	mm	mm	mm	mm	mm
0,375	9,50	20,00	25,40	24,60	8,74	16,00	34,14
0,500	12,70	22,00	25,40	27,79	8,74	19,05	34,14
0,625	15,80	26,00	25,40	30,95	10,32	22,23	35,72
0,750	19,10	34,00	25,40	34,15	10,32	25,40	35,72
0,875	22,20	36,00	25,40	37,30	10,32	28,58	35,72
1,000	25,40	39,00	25,40	40,50	10,32	31,75	35,72
1,125	28,60	42,00	33,34	47,63	11,99	35,72	45,33
1,250	31,70	46,00	33,34	50,80	11,99	38,89	45,33
1,375	34,90	49,00	33,34	53,98	11,99	42,07	45,33
1,500	38,10	54,00	33,34	57,15	11,99	45,24	45,33
1,625	41,20	59,00	33,34	60,35	11,99	48,42	45,33
1,750	44,40	61,00	40,48	63,50	11,99	51,59	52,47
1,875	47,60	64,00	40,48	66,70	11,99	54,75	52,47
2,000	50,80	66,00	40,48	69,85	11,99	58,00	52,47
2,125	53,90	71,00	41,00	73,05	13,50	62,00	54,50
2,250	57,10	78,00	41,00	76,20	13,50	65,00	54,50
2,375	60,30	80,00	41,00	79,40	13,50	68,00	54,50
2,500	63,50	85,00	41,00	82,55	13,50	71,20	54,50
2,625	66,60	88,00	49,00	92,10	15,90	78,35	64,90
2,750	69,80	90,00	49,00	95,25	15,90	81,10	64,90
2,875	73,00	99,00	49,00	98,45	15,90	84,50	64,90
3,000	76,20	99,00	49,00	101,65	15,90	88,10	64,90
3,125	79,40	104,00	56,00	111,15	18,50	93,68	74,50
3,250	82,60	104,00	56,00	114,30	18,50	96,85	74,50
3,375	85,70	108,00	56,00	117,50	18,50	100,00	74,50
3,500	88,90	112,00	56,00	120,65	18,50	103,18	74,50
3,625	92,10	114,00	59,00	123,85	18,50	106,35	77,50
3,750	95,30	119,00	59,00	127,00	18,50	109,52	77,50
3,875	98,40	121,00	62,00	130,20	18,50	112,65	80,50
4,000	101,60	124,00	62,00	133,35	18,50	115,88	80,50



Eigenschaften:

Einzel-Gleitringdichtung
 Faltenbalgdichtung
 Drehrichtungsunabhängig
 Nichtentlastet

Einsatzgrenzen:

Druck p = 12 bar
 Geschwindigkeit v = 10 m/sec.
 Temperatur t = -20+120°C

- **Gleitring** = Kohle, SiC
- **Gegenring** = Al-Oxid, SiC
- **Nebendichtung** = NBR, EPDM, VITON®
- **Feder** = 1.4301
- **Sonstige Teile** = 1.4301



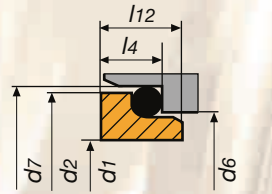
Characteristics:

Single Spring Seal
 Bellow Seal
 Double Directional
 Unbalanced

Limit of applications:

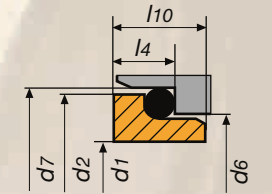
Pressure p = 12 bar
 Speed v = 10 m/sec.
 Temperature t = -20+120°C

- **Rotary** = Carbon, SiC
- **Stationary** = Al-Oxide, SiC
- **Secondary Seal** = NBR, EPDM, VITON®
- **Spring** = AISI 304
- **Other Parts** = AISI 304



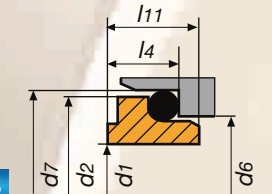
C4
C3...-OD

d1	d2	d6	d7	l4	l12
mm	mm	mm	mm	mm	mm
10	18,80	15,50	19,20	6,60	7,50
12	21,20	17,50	21,60	5,60	6,50
14	24,20	20,50	24,60	5,60	6,50
15	24,20	20,50	24,60	6,60	7,50
16	27,60	22,00	28,00	7,50	8,50
18	29,60	24,00	30,00	8,00	9,00
20	34,60	29,50	35,00	7,50	8,50
22	34,60	29,50	35,00	7,50	8,50
24	37,60	32,00	38,00	7,50	8,50
25	37,60	32,00	38,00	7,50	8,50
28	41,60	36,00	42,00	9,00	10,00
30	44,60	39,20	45,00	10,50	11,50
32	47,60	42,20	48,00	10,50	11,50
33	49,60	44,20	50,00	11,00	12,00
35	51,60	46,20	52,00	11,00	12,00
38	54,60	49,20	55,00	10,30	11,30
40	57,60	52,20	58,00	10,80	11,80
43	61,60	53,30	62,00	12,00	13,20
45	63,60	55,30	64,00	11,60	12,80
48	68,00	59,70	68,40	11,60	12,80
50	68,90	60,80	69,30	11,60	12,80
53	71,80	63,80	72,30	12,30	13,50
55	74,90	66,50	75,40	13,30	14,50
58	77,90	69,50	78,40	13,30	14,50
60	79,90	71,50	80,40	13,30	14,50
63	82,90	75,00	83,40	13,30	14,20
65	84,90	76,50	85,40	13,00	14,20
68	91,00	82,70	91,50	13,70	14,90
70	91,40	83,00	92,00	13,00	14,20
75	98,40	90,20	99,00	14,00	15,20
80	103,20	95,20	104,00	15,00	16,20
85	108,20	100,20	109,00	14,80	16,00
90	113,20	105,20	114,00	14,80	16,00
95	119,50	111,60	120,30	15,80	17,00
100	122,50	114,50	123,30	15,80	17,00



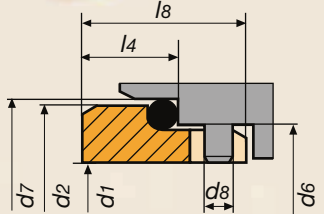
C6
C3...-OD

d1	d2	d6	d7	l4	l10
mm	mm	mm	mm	mm	mm
10	20,60	17,00	21,00	6,60	7,50
12	22,60	19,00	23,00	6,60	7,50
14	24,60	21,00	25,00	6,60	7,50
15	26,60	23,00	27,00	6,60	7,50
16	26,60	23,00	27,00	6,60	7,50
18	32,60	27,00	33,00	7,50	8,50
20	34,60	29,00	35,00	7,50	8,50
22	36,60	31,00	37,00	7,50	8,50
24	38,60	33,00	39,00	7,50	8,50
25	39,60	34,00	40,00	7,50	8,50
28	42,60	37,00	43,00	7,50	8,50
30	44,60	39,00	45,00	7,50	8,50
32	47,60	42,00	48,00	7,50	8,50
33	47,60	42,00	48,00	7,50	8,50
35	49,60	44,00	50,00	7,50	8,50
38	55,60	49,00	56,00	9,00	10,00
40	57,40	51,00	58,00	9,00	10,00
43	60,60	54,00	61,00	9,00	10,00
45	62,60	56,00	63,00	9,00	10,00
48	65,60	59,00	66,00	9,00	10,00
50	69,60	62,00	70,00	9,50	10,50
53	72,60	65,00	73,00	11,00	12,00
55	74,40	67,00	75,00	11,00	12,00
58	77,50	70,00	78,00	11,00	12,00
60	79,50	72,00	80,00	11,00	12,00
63	82,50	75,00	83,00	11,00	12,00
65	84,50	77,00	85,00	11,00	12,00
68	89,50	81,00	90,00	11,30	12,50
70	91,40	83,00	92,00	11,30	12,50
75	96,40	88,00	97,00	11,30	12,50
80	104,20	95,00	105,00	12,00	13,00
85	109,20	100,00	110,00	14,00	15,00
90	114,20	105,00	115,00	14,00	15,00
95	119,20	110,00	120,00	14,00	15,00
100	124,20	115,00	125,00	14,00	15,00



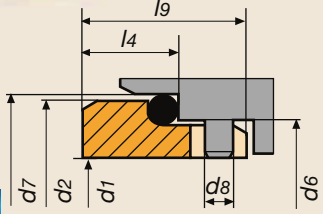
C13
C3...-C13

d1	d2	d6	d7	l4	l11
mm	mm	mm	mm	mm	mm
10	18,80	15,50	19,20	7,10	9,00
12	21,20	17,50	21,60	7,60	10,00
14	24,20	20,50	24,60	7,60	10,00
15	24,20	20,50	24,60	8,60	11,00
16	27,60	22,00	28,00	9,00	11,50
18	29,60	24,00	30,00	10,00	12,50
20	34,60	29,50	35,00	9,50	12,50
22	34,60	29,50	35,00	9,50	12,50
24	37,60	32,00	38,00	9,50	12,50
25	37,60	32,00	38,00	9,50	12,50
28	41,60	36,00	42,00	11,00	14,00
30	44,60	39,20	45,00	11,00	14,00
32	47,60	42,20	48,00	11,00	14,00
33	49,60	44,20	50,00	11,50	14,50
35	51,60	46,20	52,00	11,50	14,50
38	54,60	49,20	55,00	11,50	14,50
40	57,60	52,20	58,00	11,50	14,50
43	61,60	53,30	62,00	14,30	17,00
45	63,60	55,30	64,00	14,30	17,00
48	68,00	59,70	68,40	14,30	17,00
50	68,90	60,80	69,30	14,30	17,00
53	71,80	63,80	72,30	14,30	17,00
55	74,90	66,50	75,40	15,30	18,00
58	77,90	69,50	78,40	15,30	18,00
60	79,90	71,50	80,40	15,30	18,00
63	82,90	75,00	83,40	15,30	18,00
65	84,90	76,50	85,40	15,30	18,00
68	91,00	82,70	91,50	16,00	19,00
70	91,40	83,00	92,00	15,30	18,00
75	98,40	90,20	99,00	15,30	18,00
80	103,20	95,20	104,00	16,30	19,00
85	108,20	100,20	109,00	16,30	19,00
90	113,20	105,20	114,00	16,30	19,00
95	119,50	111,60	120,30	17,30	20,00
100	122,50	114,50	123,30	17,30	20,00



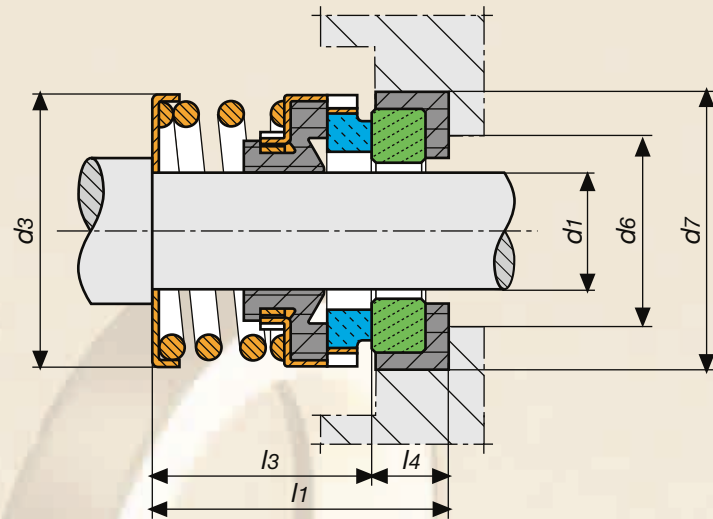
C9
C3...-ODL

d1	d2	d6	d7	l4	d8	l8
mm	mm	mm	mm	mm	mm	mm
10	20,60	17,00	21,00	10,00	3,00	17,50
12	22,60	19,00	23,00	10,00	3,00	17,50
14	24,60	21,00	25,00	10,00	3,00	17,50
15	26,60	23,00	27,00	10,00	3,00	17,50
16	26,60	23,00	27,00	10,00	3,00	17,50
18	32,60	27,00	33,00	11,50	3,00	19,50
20	34,60	29,00	35,00	11,50	3,00	19,50
22	36,60	31,00	37,00	11,50	3,00	19,50
24	38,60	33,00	39,00	11,50	3,00	19,50
25	39,60	34,00	40,00	11,50	3,00	19,50
28	42,60	37,00	43,00	11,50	3,00	19,50
30	44,60	39,00	45,00	11,50	3,00	19,50
32	47,60	42,00	48,00	11,50	3,00	19,50
33	47,60	42,00	48,00	11,50	3,00	19,50
35	49,60	44,00	50,00	11,50	3,00	19,50
38	55,60	49,00	56,00	14,00	4,00	22,00
40	57,40	51,00	58,00	14,00	4,00	22,00
43	60,60	54,00	61,00	14,00	4,00	22,00
45	62,60	56,00	63,00	14,00	4,00	22,00
48	65,60	59,00	66,00	14,00	4,00	22,00
50	69,60	62,00	70,00	15,00	4,00	23,00
53	72,60	65,00	73,00	15,00	4,00	23,00
55	74,40	67,00	75,00	15,00	4,00	23,00
58	77,50	70,00	78,00	15,00	4,00	23,00
60	79,50	72,00	80,00	15,00	4,00	23,00
63	82,50	75,00	83,00	15,00	4,00	23,00
65	84,50	77,00	85,00	15,00	4,00	23,00
68	89,50	81,00	90,00	18,00	4,00	26,00
70	91,40	83,00	92,00	18,00	4,00	26,00
75	96,40	88,00	97,00	18,00	4,00	26,00
80	104,20	95,00	105,00	18,20	4,00	26,20
85	109,20	100,00	110,00	18,20	4,00	26,20
90	114,20	105,00	115,00	18,20	4,00	26,20
95	119,20	110,00	120,00	17,20	4,00	25,20
100	124,20	115,00	125,00	17,20	4,00	25,20



C9S
C3...-ODLS

d1	d2	d6	d7	l4	d8	l9
mm	mm	mm	mm	mm	mm	mm
10	20,60	17,00	21,00	8,60	4,00	15,00
12	22,60	19,00	23,00	8,60	4,00	15,00
14	24,60	21,00	25,00	8,60	4,00	15,00
15	26,60	23,00	27,00	8,60	4,00	15,00
16	26,60	23,00	27,00	8,60	5,00	15,00
18	32,60	27,00	33,00	10,00	5,00	17,00
20	34,60	29,00	35,00	10,00	5,00	17,00
22	36,60	31,00	37,00	10,00	5,00	17,00
24	38,60	33,00	39,00	10,00	5,00	17,00
25	39,60	34,00	40,00	10,00	5,00	17,00
28	42,60	37,00	43,00	10,00	5,00	17,00
30	44,60	39,00	45,00	10,00	5,00	17,00
32	47,60	42,00	48,00	10,00	5,00	17,00
33	47,60	42,00	48,00	10,00	5,00	17,00
35	49,60	44,00	50,00	10,00	5,00	17,00
38	55,60	49,00	56,00	11,00	5,00	18,00
40	57,60	51,00	58,00	11,00	5,00	18,00
43	60,60	54,00	61,00	11,00	5,00	18,00
45	62,60	56,00	63,00	11,00	5,00	18,00
48	65,60	59,00	66,00	11,00	5,00	18,00
50	69,60	62,00	70,00	13,00	5,00	20,00
53	72,60	65,00	73,00	13,00	5,00	20,00
55	74,60	67,00	75,00	13,00	5,00	20,00
58						



Abmessung	d1	d3	l3	d7	l4	d6	l1
Inch	mm	mm	mm	mm	mm	mm	mm
0,500	12,70	22,00	20,62	25,40	7,93	19,05	28,55
0,625	15,80	26,00	22,22	31,75	10,28	23,80	32,50
0,750	19,10	32,00	22,22	34,93	10,28	26,98	32,50
0,875	22,20	36,00	23,80	38,10	10,28	30,15	34,08
1,000	25,40	39,00	25,40	41,28	11,10	33,32	36,50
1,125	28,60	42,00	26,97	44,44	11,10	36,50	38,07
1,250	31,70	46,00	26,97	47,63	11,10	39,70	38,07
1,375	34,90	49,00	28,58	50,80	11,10	42,84	39,68
1,500	38,10	54,00	28,58	53,98	11,10	46,05	39,68
1,625	41,20	59,00	34,93	60,33	12,70	50,80	47,63
1,750	44,40	61,00	34,93	63,50	12,70	53,97	47,63
1,875	47,60	64,00	38,10	66,68	12,70	57,15	50,80
2,000	50,80	66,00	38,10	69,85	12,70	60,32	50,80
2,125	53,90	69,00	42,88	76,20	14,28	60,32	57,16
2,250	57,10	78,00	42,88	79,38	14,28	61,90	57,16
2,375	60,30	80,00	46,02	82,55	14,28	67,39	60,30
2,500	63,50	83,00	46,02	85,73	14,28	68,00	60,30
2,625	66,60	85,00	49,20	85,73	15,90	71,42	65,10
2,750	69,80	90,00	49,20	88,90	15,90	74,60	65,10
2,875	73,00	95,00	52,37	95,25	15,90	77,77	68,27
3,000	76,20	99,00	52,37	98,43	15,90	80,95	68,27



Eigenschaften:

Einzel-Gleitringdichtung
 Faltenbalgdichtung
 Drehrichtungsunabhängig
 Nichtentlastet

Einsatzgrenzen:

Druck p = 12 bar
 Geschwindigkeit v = 10 m/sec.
 Temperatur t = -20+120°C

- Gleitring = Kohle, SiC
- Gegenring = Al-Oxid, SiC
- Nebendichtung = NBR, EPDM, VITON®
- Feder = 1.4301
- Sonstige Teile = 1.4301



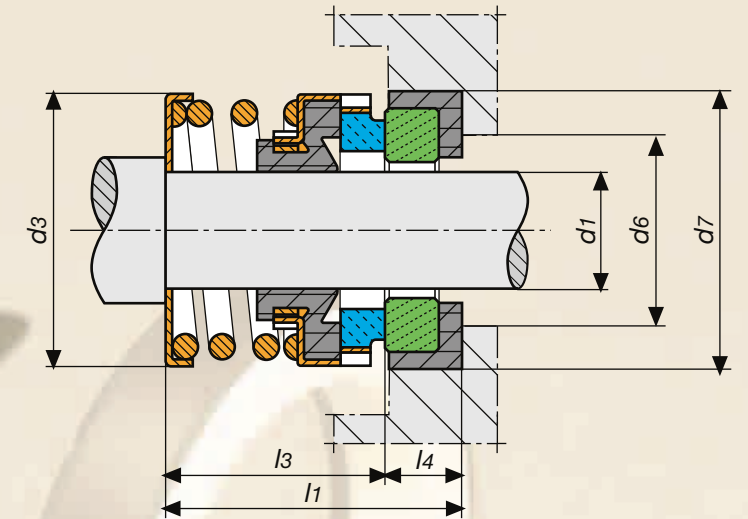
Characteristics:

Single Spring Seal
 Bellow Seal
 Double Directional
 Unbalanced

Limit of applications:

Pressure p = 12 bar
 Speed v = 10 m/sec.
 Temperature t = -20+120°C

- Rotary = Carbon, SiC
- Stationary = Al-Oxide, SiC
- Secondary Seal = NBR, EPDM, VITON®
- Spring = AISI 304
- Other Parts = AISI 304



Abmessung	d1	d3	l3	d7	l4	d6	l1
Inch	mm	mm	mm	mm	mm	mm	mm
0,500	12,70	22,00	31,75	25,40	7,93	19,05	39,68
0,625	15,80	26,00	34,93	31,75	10,28	23,80	45,21
0,750	19,10	32,00	34,93	34,93	10,28	26,98	45,21
0,875	22,20	36,00	36,50	38,10	10,28	30,15	46,78
1,000	25,40	39,00	41,28	41,28	11,10	33,32	52,38
1,125	28,60	42,00	42,85	44,44	11,10	36,50	53,95
1,250	31,70	46,00	42,85	47,63	11,10	39,70	53,95
1,375	34,90	49,00	42,85	50,80	11,10	42,84	53,95
1,500	38,10	54,00	42,85	53,98	11,10	46,05	53,95
1,625	41,20	59,00	50,80	60,33	12,70	50,80	63,50
1,750	44,40	61,00	50,80	63,50	12,70	53,97	63,50
1,875	47,60	64,00	53,98	66,68	12,70	57,15	66,68
2,000	50,80	66,00	53,98	69,85	12,70	60,32	66,68
2,125	53,90	69,00	60,32	76,20	14,28	60,32	74,60
2,250	57,10	78,00	60,32	79,38	14,28	61,90	74,60
2,375	60,30	80,00	63,50	82,55	14,28	67,39	77,78
2,500	63,50	83,00	63,50	85,73	14,28	68,00	77,78
2,625	66,60	85,00	69,85	85,73	15,90	71,42	85,75
2,750	69,80	90,00	69,85	88,90	15,90	74,60	85,75
2,875	73,00	95,00	73,03	95,25	15,90	77,77	88,93
3,000	76,20	99,00	73,03	98,43	15,90	80,95	88,93



Eigenschaften:

Einzel-Gleitringdichtung
 Faltenbalgdichtung
 Drehrichtungsunabhängig
 Nichtentlastet

Einsatzgrenzen:

Druck p = 12 bar
 Geschwindigkeit v = 10 m/sec.
 Temperatur t = -20+120°C

- Gleitring = Kohle, SiC
- Gegenring = Al-Oxid, SiC
- Nebendichtung = NBR, EPDM, VITON®
- Feder = 1.4301
- Sonstige Teile = 1.4301



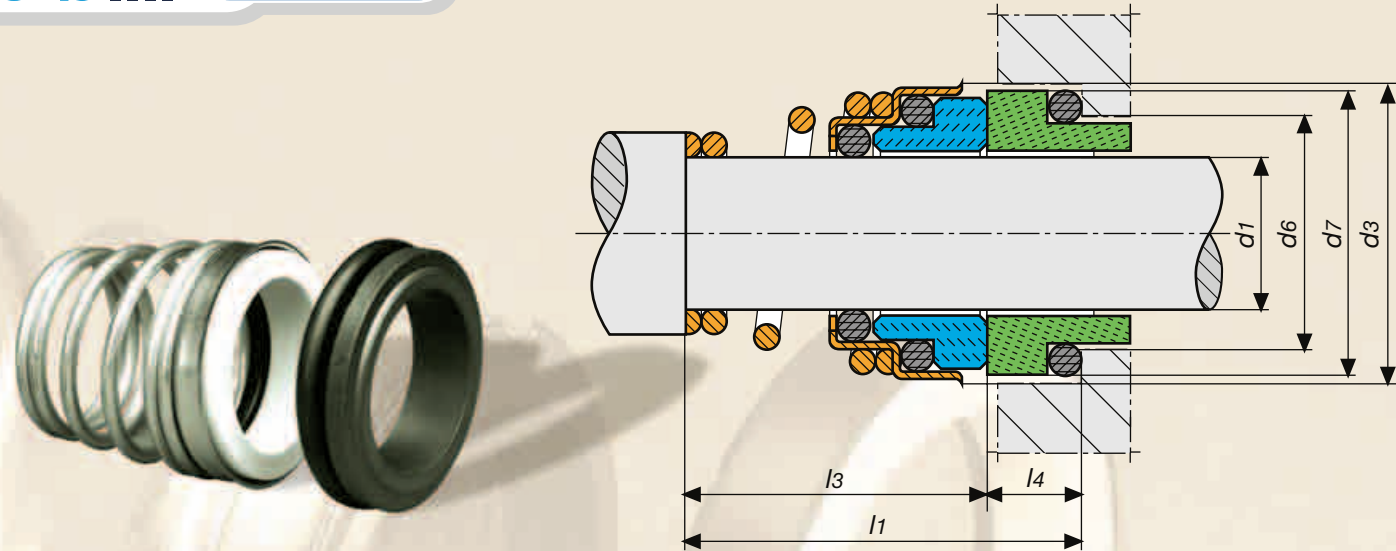
Characteristics:

Single Spring Seal
 Bellow Seal
 Double Directional
 Unbalanced

Limit of applications:

Pressure p = 12 bar
 Speed v = 10 m/sec.
 Temperature t = -20+120°C

- Rotary = Carbon, SiC
- Stationary = Al-Oxide, SiC
- Secondary Seal = NBR, EPDM, VITON®
- Spring = AISI 304
- Other Parts = AISI 304



d1	d3	l3	d7	l4	d6	l1
mm	mm	mm	mm	mm	mm	mm
10	19,50	15,00	18,10	5,50	14,00	20,50
11	22,50	18,00	20,60	5,50	16,50	23,50
12	22,50	18,00	20,60	5,50	16,50	23,50
13	24,50	22,00	23,10	6,00	19,00	28,00
14	24,50	22,00	23,10	6,00	19,00	28,00
15	29,00	22,00	26,90	7,00	21,00	29,00
16	29,00	23,00	26,90	7,00	21,00	30,00
17	29,00	23,00	26,90	7,00	21,00	30,00
18	32,50	24,00	30,90	8,00	25,00	32,00
19	32,50	25,00	30,90	8,00	25,00	33,00
20	32,50	25,00	30,90	8,00	25,00	33,00
22	37,50	25,00	35,40	8,00	30,00	33,00
24	37,50	27,00	35,40	8,00	30,00	35,00
25	40,00	27,00	38,20	8,50	33,00	35,50
28	46,00	29,00	43,30	9,00	38,00	38,00
30	46,00	30,00	43,30	9,00	38,00	39,00
32	46,00	30,00	43,30	9,00	38,00	39,00
33	48,00	30,00	53,50	11,50	45,00	41,50
35	50,00	39,00	53,50	11,50	45,00	50,50
38	56,00	39,00	60,50	11,50	52,00	50,50
40	58,00	39,00	60,50	11,50	52,00	50,50



Eigenschaften:

Einzel-Gleitringdichtung
Konische Feder
Drehrichtungsabhängig
Nichtentlastet

Einsatzgrenzen:

Druck p = 10 bar
Geschwindigkeit v = 20 m/sec.
Temperatur t = -20+180°C



Characteristics:

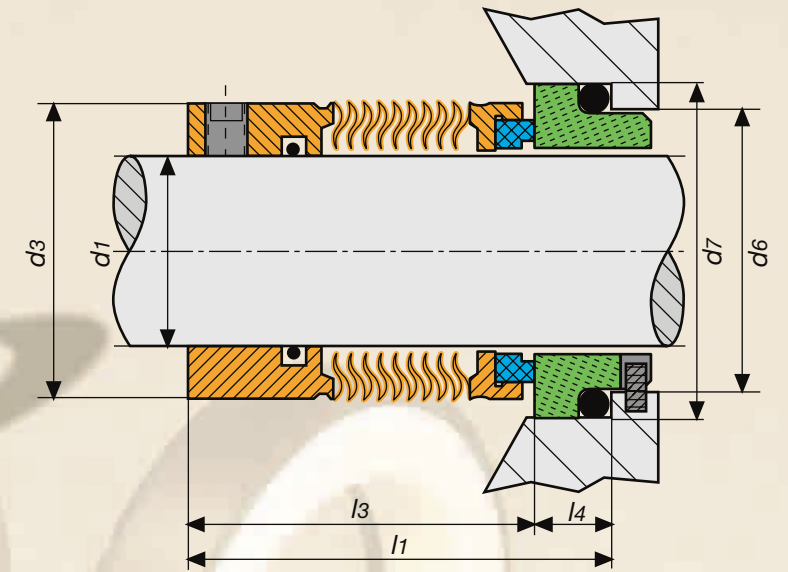
Single Spring Seal
Conical Spring
Single Directional
Unbalanced

Limit of applications:

Pressure p = 10 bar
Speed v = 20 m/sec.
Temperature t = -20+180°C

- **Gleitring** = Al-Oxid, SiC, WC
- **Gegenring** = Kohle, SiC, WC
- **Nebendichtung** = NBR, EPDM, VITON®
- **Feder** = 1.4301
- **Sonstige Teile** = 1.4301

- **Rotary** = Al-Oxide, SiC, TC
- **Stationary** = Carbon, SiC, TC
- **Secondary Seal** = NBR, EPDM, VITON®
- **Spring** = AISI 304
- **Other Parts** = AISI 304



d1	d3	l3	d7	l4	d6	l1
mm	mm	mm	mm	mm	mm	mm
18	34,00	27,50	33,00	10,00	27,00	37,50
20	38,20	27,50	35,00	10,00	29,00	37,50
22	38,20	27,50	37,00	10,00	31,00	37,50
24	38,20	30,00	39,00	10,00	33,00	40,00
25	40,10	30,00	40,00	10,00	34,00	40,00
28	42,00	32,50	43,00	10,00	37,00	42,50
30	44,00	32,50	45,00	10,00	39,00	42,50
32	46,10	32,50	48,00	10,00	42,00	42,50
33	47,50	32,50	48,00	10,00	42,00	42,50
35	49,50	32,50	50,00	10,00	44,00	42,50
38	53,00	34,00	56,00	11,00	49,00	45,00
40	56,00	34,00	58,00	11,00	51,00	45,00
43	59,00	34,00	61,00	11,00	54,00	45,00
45	59,00	34,00	63,00	11,00	56,00	45,00
48	62,00	34,00	66,00	11,00	59,00	45,00
50	65,10	34,50	70,00	13,00	62,00	47,50
53	69,00	34,50	73,00	13,00	65,00	47,50
55	71,00	34,50	75,00	13,00	67,00	47,50
58	74,00	39,50	78,00	13,00	70,00	52,50
60	75,00	39,50	80,00	13,00	72,00	52,50
63	81,00	39,50	83,00	13,00	75,00	52,50
65	85,00	39,50	85,00	13,00	77,00	52,50
68	86,00	37,20	90,00	15,30	81,00	52,50
70	87,00	44,70	92,00	15,30	83,00	60,00
75	95,00	44,70	97,00	15,30	88,00	60,00
80	99,00	44,30	105,00	15,70	95,00	60,00
85	104,50	44,30	110,00	15,70	100,00	60,00
90	108,00	49,30	115,00	15,70	105,00	65,00
95	114,30	49,30	120,00	15,70	110,00	65,00
100	120,50	49,30	125,00	15,70	115,00	65,00



Eigenschaften:

Einzel-Gleitringdichtung
Metallfaltenbalgdichtung
Drehrichtungsunabhängig
Nichtentlastet
Nach DIN 24960

Einsatzgrenzen:

Druck p = 20 bar
Geschwindigkeit v = 20 m/sec.
Temperatur t = -20+220°C
Nach O-Ringe/Graphit

- **Gleitring** = Kohle, SiC, WC
- **Gegenring** = SiC, WC
- **Nebendichtung** = NBR, EPDM, VITON®, FEP, KALREZ®
- **Balg** = AM 350, Hastelloy® C
- **Sonstige Teile** = 1.4401



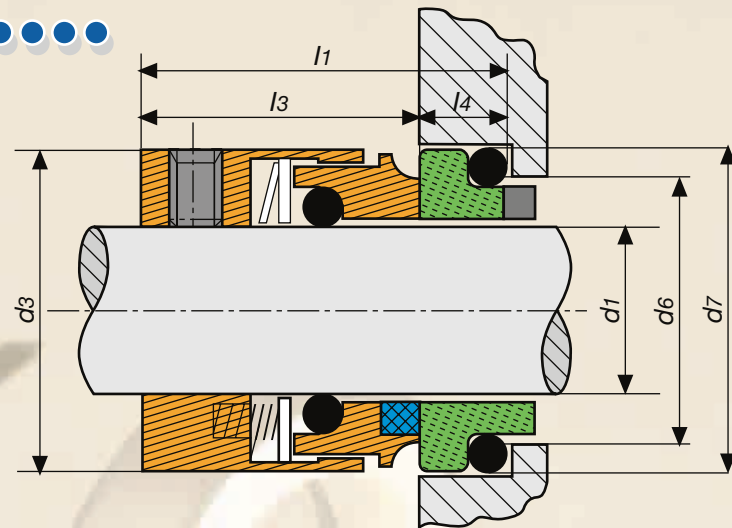
Characteristics:

Single Spring Seal
Metal Bellow Seal
Double Directional
Unbalanced
According to DIN 24960

Limit of applications:

Pressure p = 20 bar
Speed v = 20 m/sec.
Temperature t = -20+220°C
According to the O-Rings/Graphite

- **Rotary** = Carbon, SiC, TC
- **Stationary** = SiC, TC
- **Secondary Seal** = NBR, EPDM, VITON®, FEP, KALREZ®
- **Bellow** = AM 350, Hastelloy® C
- **Other Parts** = AISI 316



d1	d3	l3	d7	l4	d6	l1
mm	mm	mm	mm	mm	mm	mm
12	25,00	25,00	23,00	10,00	19,00	35,00
14	25,00	25,00	25,00	10,00	21,00	35,00
16	27,00	25,00	27,00	10,00	23,00	35,00
18	33,00	26,00	33,00	11,50	27,00	37,50
20	35,00	26,00	35,00	11,50	29,00	37,50
22	37,00	26,00	37,00	11,50	31,00	37,50
24	39,00	28,50	39,00	11,50	33,00	40,00
25	40,00	28,50	40,00	11,50	34,00	40,00
28	43,00	31,00	43,00	11,50	37,00	42,50
30	45,00	31,00	45,00	11,50	39,00	42,50
32	47,00	31,00	48,00	11,50	42,00	42,50
33	48,00	31,00	48,00	11,50	42,00	42,50
35	50,00	31,00	50,00	11,50	44,00	42,50
38	55,00	31,00	56,00	14,00	49,00	45,00
40	57,00	31,00	58,00	14,00	51,00	45,00
43	60,00	31,00	61,00	14,00	54,00	45,00
45	62,00	31,00	63,00	14,00	56,00	45,00
48	65,00	31,00	66,00	14,00	59,00	45,00
50	67,00	32,50	70,00	15,00	62,00	47,50
53	70,00	32,50	73,00	15,00	65,00	47,50
55	72,00	32,50	75,00	15,00	67,00	47,50
58	79,00	37,50	78,00	15,00	70,00	52,50
60	81,00	37,50	80,00	15,00	72,00	52,50
63	84,00	37,50	83,00	15,00	75,00	52,50
65	86,00	37,50	85,00	15,00	77,00	52,50
68	89,00	34,50	90,00	18,00	81,00	52,50
70	91,00	42,00	92,00	18,00	83,00	60,00
75	99,00	42,00	97,00	18,00	88,00	60,00
80	104,00	41,80	105,00	18,20	95,00	60,00
85	109,00	41,80	110,00	18,20	100,00	60,00
90	114,00	46,80	115,00	18,20	105,00	65,00
95	119,00	47,80	120,00	17,20	110,00	65,00
100	124,00	47,80	125,00	17,20	115,00	65,00



Eigenschaften:

Einzel-Gleitringdichtung
Sinusfederdichtung (Gruppenbefed. Möglich)
Drehrichtungsunabhängig
Nichtentlastet

Einsatzgrenzen:

Druck p = 16 bar
Geschwindigkeit v = 20 m/sec.
Temperatur t = -30+220°C



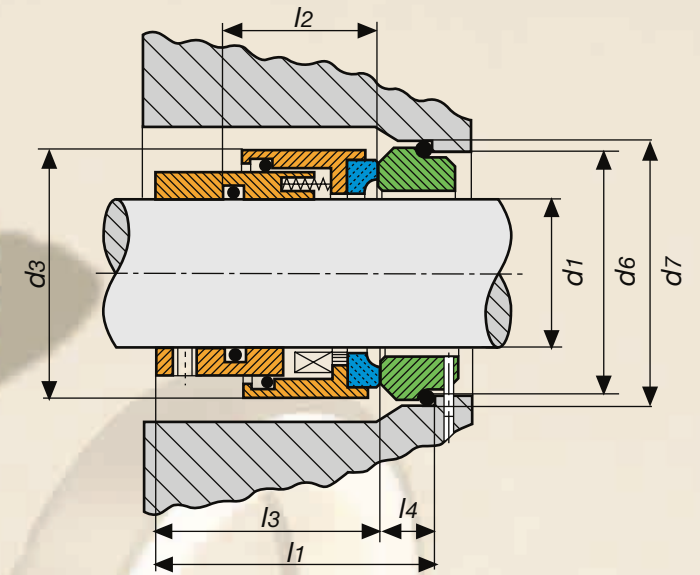
Characteristics:

Single Spring Seal
Wave Spring Seal (multiple Spring possible)
Double Directional
Unbalanced

Limit of applications:

Pressure p = 16 bar
Speed v = 20 m/sec.
Temperature t = -30+220°C

- **Gleitring** = CrNiMo-Stahl, Kohle, SiC, WC
- **Gegenring** = Kohle, Al-Oxid, SiC, WC
- **Nebendichtung** = NBR, EPDM, VITON®, FEP, KALREZ®
- **Feder** = 1.4401, 1.4571
- **Sonstige Teile** = 1.4401, 1.4571
- **Rotary** = SS, Carbon, SiC, TC
- **Stationary** = Carbon, Al-Oxide, SiC, TC
- **Secondary Seal** = NBR, EPDM, VITON®, FEP, KALREZ®
- **Spring** = AISI 316, 316 Ti
- **Other Parts** = AISI 316, 316 Ti



d1	d3	l2	l3	d7	l4	d6	l1
mm	mm	mm	mm	mm	mm	mm	mm
18	34,00	18,00	30,00	33,00	10,00	27,00	40,00
20	36,00	18,00	30,00	35,00	10,00	29,00	40,00
22	38,00	18,00	30,00	37,00	10,00	31,00	40,00
24	40,00	18,00	30,00	39,00	10,00	33,00	40,00
25	41,00	18,00	30,00	40,00	10,00	34,00	40,00
28	44,00	18,00	32,50	43,00	10,00	37,00	42,50
30	46,00	18,00	32,50	45,00	10,00	39,00	42,50
32	48,00	18,00	32,50	48,00	10,00	42,00	42,50
33	49,00	18,00	32,50	48,00	10,00	42,00	42,50
35	50,90	18,00	32,50	50,00	10,00	44,00	42,50
38	54,80	18,00	34,00	56,00	11,00	49,00	45,00
40	58,00	18,00	34,00	58,00	11,00	51,00	45,00
42	58,00	18,00	34,00	61,00	11,00	54,00	45,00
43	61,00	18,00	34,00	61,00	11,00	54,00	45,00
45	61,00	18,00	34,00	63,00	11,00	56,00	45,00
48	64,40	18,00	34,00	66,00	11,00	59,00	45,00
50	67,60	18,00	34,50	70,00	13,00	62,00	47,50
53	70,80	18,00	34,50	73,00	13,00	65,00	47,50
55	73,00	18,00	34,50	75,00	13,00	67,00	47,50
58	77,20	18,00	34,50	78,00	13,00	70,00	47,50
60	77,20	18,00	34,50	80,00	13,00	72,00	47,50
63	78,30	18,00	34,50	83,00	13,00	75,00	47,50
65	88,20	18,00	36,00	85,00	13,00	77,00	49,00
68	88,20	18,00	36,00	90,00	15,30	81,00	51,30
70	91,40	18,00	36,00	92,00	15,30	83,00	51,30
75	97,70	18,00	36,00	97,00	15,30	88,00	51,30
80	100,90	18,00	36,00	105,00	15,70	95,00	51,70
85	107,30	18,00	36,00	110,00	15,70	100,00	51,70
90	110,40	18,00	36,00	115,00	15,70	105,00	51,70
95	113,40	18,00	36,00	120,00	15,70	110,00	51,70
100	120,00	18,00	36,00	125,00	15,70	115,00	51,70

weitere Abmessungen auf Anfrage. Die Maße l3, l1 können gem. Kundenwunsch geändert werden
Other sizes on request. The Sizes l3, l1 could be modified according to the customer request



Eigenschaften:

Einzel-Gleitringdichtung
Gruppenbefedertedichtung
Drehrichtungsunabhängig
Entlastet

Einsatzgrenzen:

Druck p = 25 bar
Geschwindigkeit v = 20 m/sec.
Temperatur t = -30+220°C

- **Gleitring** = Kohle, SiC, WC
- **Gegenring** = Al-Oxid, Kohle, CrNiMo-Stahl, SiC, WC
- **Nebendichtung** = NBR, EPDM, VITON®, FEP, KALREZ®
- **Feder** = 1.4401 oder Hastelloy® C, 1.4571
- **Sonstige Teile** = 1.4401, 1.4571



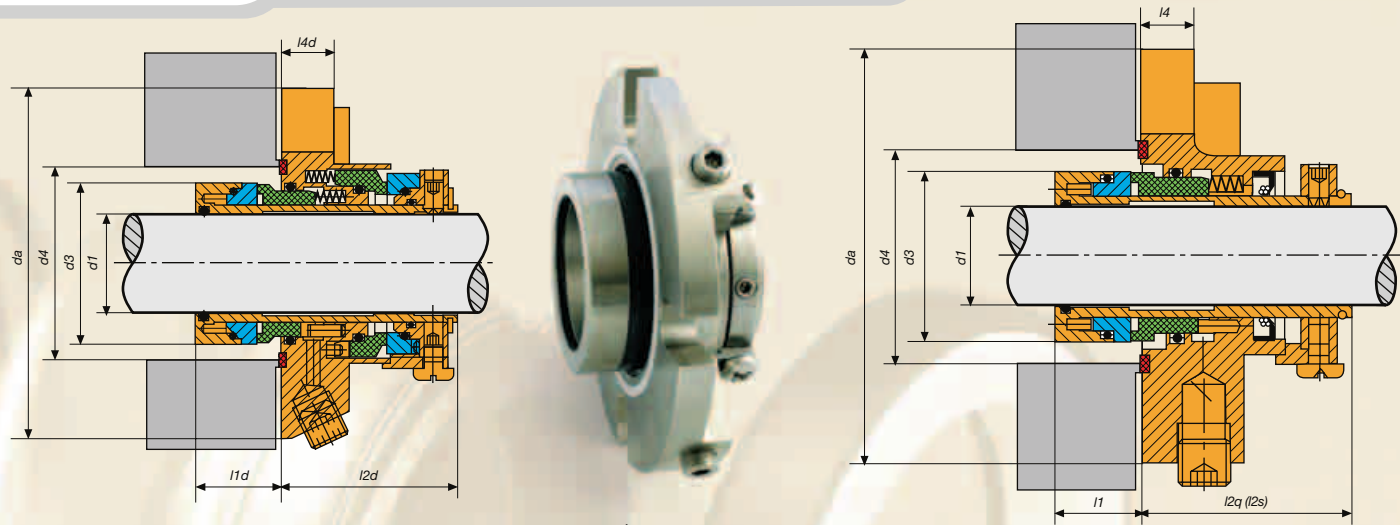
Characteristics:

Single Spring Seal
Multiple Spring Seal
Double Directional
Balanced

Limit of applications:

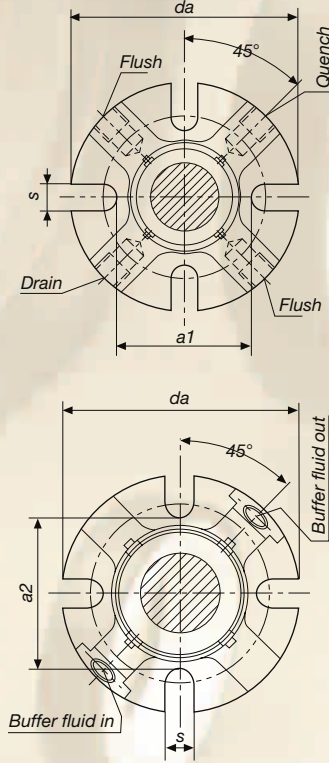
Pressure p = 25 bar
Speed v = 20 m/sec.
Temperature t = -30+220°C

- **Rotary** = Carbon, SiC, TC
- **Stationary** = Al-Oxide, Carbon, SS, SiC, TC
- **Secondary Seal** = NBR, EPDM, VITON®, FEP, KALREZ®
- **Spring** = AISI 316 or Hastelloy® C, 316 Ti
- **Other Parts** = AISI 316, 316 Ti



GLRD Serie BB10

d1	l4	l4d	a1	a2	da	s
25	14	16	62	62	105	12,5
28	14	16	62	65	105	12,5
30	14	16	65	67	105	12,5
32	14	16	67	70	110	12,5
33	14	16	67	70	110	12,5
35	14	16	70	72	115	12,5
38	14	16	75	75	125	12,5
40	14	16	75	77	125	14,7
42	14	16	80	80	133	14,7
43	14	16	80	80	133	14,7
45	14	16	81	82	141	14,7
48	14	16	84	85	141	14,7
50	14	16	87	87	150	14,7
53	14	16	97	97	150	17,5
55	14	16	90	92	150	17,5
60	14	16	102	102	157	17,5
65	14	16	109	109,3	165	17,5
70	14	16	118	118,3	180	17,5
75	17	19	129	129	190	17,5
80	17	19	135	135	195	17,5
85	17	19	139	139	200	20,5
90	17	19	145	145	205	20,5
95	17	19	148	148	210	20,5
100	17	19	154	154	220	20,5



Serie BB10-Q & BB10-S (a1)
Serie BB10-D (a2)
 No Connections for BB10-1
 2 Flushing Connections for Series BB10-Q, BB10-S & BB10-D
 2 Quench Connections for Series BB10-Q & BB10-S
 Connections with 1/4" NPT thread
 l4 = Flange Thickness BB10-Q & BB10-S
 l4d = Flange Thickness BB10-D

Serie BB10-Q & BB10-S (a1)
Serie BB10-D (a2)
 Keine Anschlüsse für BB10-1
 2 Anschlüsse für Spülung für die Serie BB10-Q, BB10-S & BB10-D
 2 Anschlüsse für Quench für die Serie BB10-Q & BB10-S
 Anschlüsse 1/4" NPT Gewinde
 l4 = Dicke der Flansche BB10-Q & BB10-S
 l4d = Dicke der Flansche BB10-D

GLRD Serie BB10

d1	d3	d4	d4	BB10-S		BB10-Q		BB10-D	
				l1	l2s	l1	l2q	l1d	l2d
mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
25	43,0	44,0	51,0	22,0	46,0	22,0	54,0	25,0	53,0
28	46,0	47,0	52,0	22,0	46,0	22,0	54,0	25,0	53,0
30	48,0	49,0	56,0	22,0	46,0	22,0	54,0	25,0	53,0
32	50,0	51,0	57,0	22,0	46,0	22,0	54,0	25,0	53,0
33	50,0	51,0	57,0	22,0	46,0	22,0	54,0	25,0	53,0
35	53,0	54,0	61,5	22,0	46,0	22,0	54,0	25,0	53,0
38	56,0	57,0	66,0	22,0	46,0	22,0	54,0	25,0	53,0
40	58,0	59,0	68,0	22,0	46,0	22,0	54,0	25,0	53,0
42	61,0	62,0	69,5	22,0	46,0	22,0	54,0	25,0	53,0
43	61,0	62,0	70,5	22,0	46,0	22,0	54,0	25,0	53,0
45	63,0	64,0	73,0	22,0	46,0	22,0	54,0	25,0	53,0
48	66,0	67,0	75,0	22,0	46,0	22,0	54,0	25,0	53,0
50	68,0	69,0	78,0	22,0	46,0	22,0	54,0	25,0	53,0
53	71,0	72,0	83,0	22,0	46,0	22,0	54,0	25,0	53,0
55	73,0	74,0	87,0	22,0	46,0	22,0	54,0	25,0	53,0
60	78,0	79,0	91,0	22,0	46,0	22,0	54,0	25,0	53,0
65	83,0	84,0	98,5	22,0	46,0	22,0	56,0	25,0	53,0
70	93,0	95,0	108,0	22,0	46,0	22,0	56,0	25,0	53,0
75	100,0	102,0	118,0	22,0	46,0	22,0	56,0	25,0	60,0
80	106,0	108,0	124,0	22,0	46,0	22,0	58,0	25,0	60,0
85	109,0	111,0	128,0	22,0	46,0	22,0	59,0	25,0	60,0
90	116,0	117,5	135,0	25,0	50,0	25,0	62,0	28,0	65,0
95	119,0	120,5	138,0	25,0	50,0	25,0	62,0	28,0	65,0
100	125,0	127,0	144,0	25,0	50,0	25,0	62,0	28,0	65,0



Characteristics:
BB10-S: Single Cartridge Seal with connections for steam quench and drainage
BB10-Q: Single Cartridge Seal with liquid quench. Same design as "S" but including an oil seal on the atmosphere side (longer fitting length).
BB10-D: Double Cartridge Seal with connections for forced circulation
Limit of applications:
 Pressure p = 25 bar
 Speed v = 10-16 m/sec.
 Temperature t = -40+200°C

- **Rotary** = Carbon, SiC, TC
- **Stationary** = Carbon, SS, SiC, WC
- **Secondary Seal** = NBR, EPDM, VITON®, FEP, KALREZ®
- **Spring** = Hastelloy® C
- **Other Parts** = AISI 316Ti



ROTOR	T	
STATIONÄR	C	1. Ziffer
BB1	1	
BB2	2	
BB3	3	
BB4	4	
BB5	5	
BB6	6	
BB7	7	
BB8	8	
BB10	10	2. Ziffer
Kohle	1	
Al-Oxid (Keramik)	2	
CrNiMo-Stahl	3	
Siliziumkarbid	4	
Wolframkarbid	5	3. Ziffer
NBR	N	
EPDM	E	
VITON	V	
FEP	F	
OTHER	S	4. Ziffer
ABMESSUNG	mm	5. & 6. Ziffer

TYP DER GEGENRINGE

Die Gegenringe werden durch einen Zusatz unterschieden. Der entsprechende Zusatz ist lediglich der Schlüsselnummer hinzuzufügen.

C4	Kein Zusatz
C6	-OD
C9	-ODL
C9S	-ODLS
C60	-D

zum Beispiel:

BB3, 25 mm. Kohle/SiC/EPDM	
T31E25	Gleitring aus Kohle mit EPDM Balg
C34E25	Gegenring C4 aus SiC mit EPDM Elastomer
C34E25-OD	Gegenring C6 aus SiC mit EPDM Elastomer
C34E25-ODL	Gegenring C9 aus SiC mit EPDM Elastomer
C34E25-ODLS	Gegenring C9S aus SiC mit EPDM Elastomer
C34E25-D	Gegenring C60 aus SiC mit EPDM Elastomer



ROTOR	T	
STATIONARY	C	1 st Number
BB1	1	
BB2	2	
BB3	3	
BB4	4	
BB5	5	
BB6	6	
BB7	7	
BB8	8	
BB10	10	2 nd Number
Carbon	1	
Al-Oxide (Ceramic)	2	
CrNiMo-Steel	3	
Silicone Carbide	4	
Tungsten Carbide	5	3 rd Number
NBR	N	
EPDM	E	
VITON	V	
FEP	F	
SONDER	S	4 th Number
SIZE	mm	5 th & 6 th Numbers

STATIONARY STYLE

Stationaries could be identified according to the following suffix you have to add to the Stationary No.

C4	no Suffix
C6	-OD
C9	-ODL
C9S	-ODLS
C60	-D

For Example:

BB3, 25 mm. Carbon/SiC/EPDM	
T31E25	Rotary from Carbon with EPDM Bellow
C34E25	Stationary C4 from SiC with EPDM Elastomer
C34E25-OD	Stationary C6 from SiC with EPDM Elastomer
C34E25-ODL	Stationary C9 from SiC with EPDM Elastomer
C34E25-ODLS	Stationary C9S from SiC with EPDM Elastomer
C34E25-D	Stationary C60 from SiC with EPDM Elastomer



Eigenschaften:
BB10-S: Einzeldichtung mit Anschluß für Spülung und Drainage.
BB10-Q: Einzeldichtung für Betrieb mit druckloser Flüssigkeitsvorlage.
 Baugleich "S" jedoch mit Wellendichtung an der Atmosphärenseite (Einbaulänge größer).
BB10-D: Doppeldichtung mit Anschlüssen. Sperrsystem erforderlich.
Einsatzgrenzen:
 Druck p = 25 bar
 Geschwindigkeit v = 10-16 m/sec.
 Temperatur t = -40+200°C

- **Gleitring** = Kohle, SiC, WC
- **Gegenring** = Kohle, CrNiMo-Stahl, SiC, WC
- **Nebendichtung** = NBR, EPDM, VITON®, FEP, KALREZ®
- **Feder** = Hastelloy® C
- **Sonstige Teile** = 1.4571