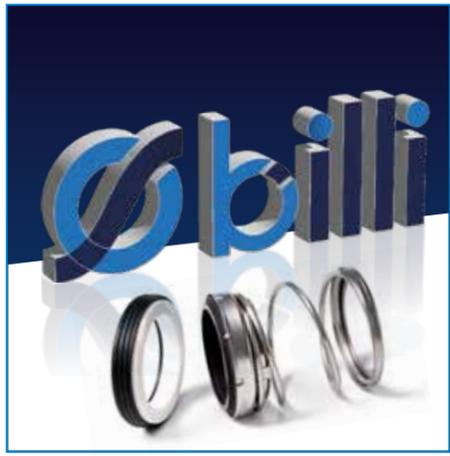


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Offering more Service



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www.billi-seals.de

Standard
mechanical seals



dichtungstechnik gmbh

OFFERING MORE SERVICE





Werkstoffschlüssel

EN 12756 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



EN 12756 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

EN 12756 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

EN 12756 Beschreibung

Feder und andere

Metalteile (Pos. 4&5)

Federwerkstoffe

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

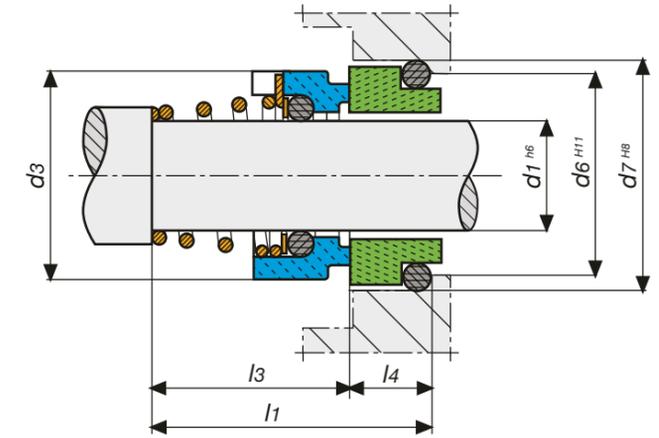
andere Metallteile

- 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



andere Gegenringe möglich siehe Seite 10, 11 und 14
other Stationaries possible pls. see page 10, 11 and 14



| 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
- Drehrichtungabhängig
- Nichtentlastet
- Nach EN 12756

Einsatzgrenzen:

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



Characteristics:

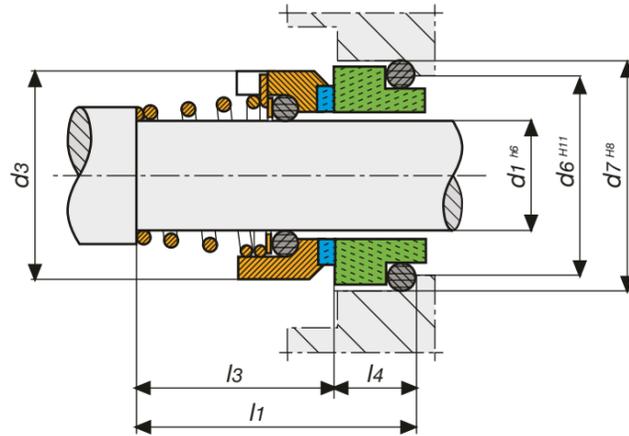
- Single Spring Seal
- Conical Spring
- Single Directional
- Unbalanced
- According to EN 12756

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



andere Gegenringe möglich siehe Seite 10, 11
other Stationaries possible pls. see page 10, 11

| 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 EN 12756

Einsatzgrenzen:

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



Characteristics:

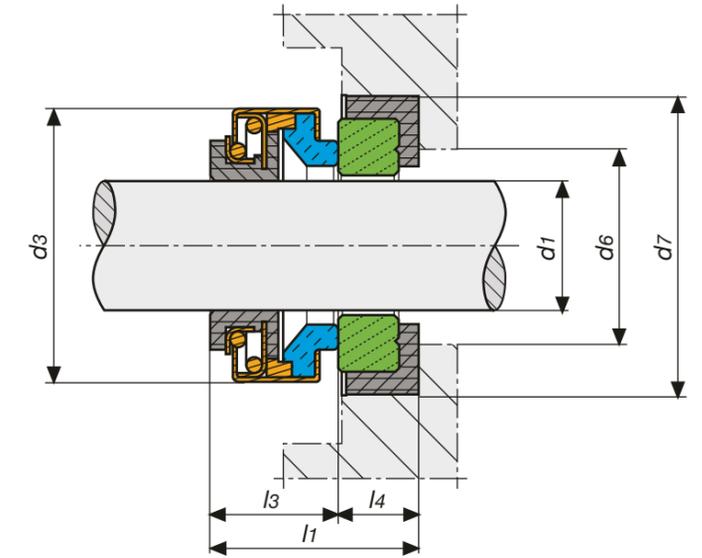
Single Spring Seal
Conical Spring
Single Directional
Unbalanced
According to EN 12756

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:

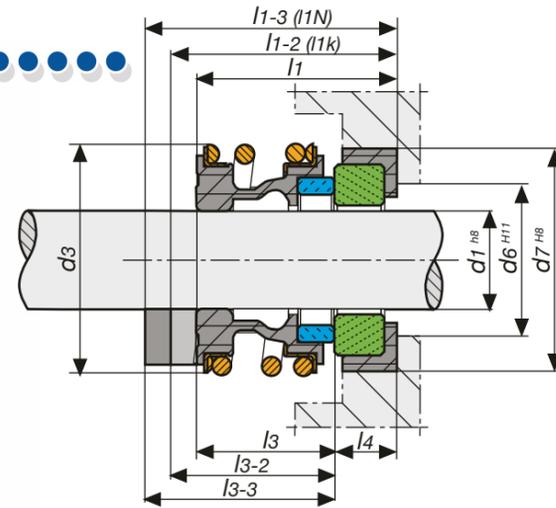
Single Spring Seal
Bellow Seal
Double Directional
Unbalanced

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



andere Gegenringe möglich siehe Seite 10, 11
other Stationaries possible pls. see page 10, 11

| 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 EN 12756

Einsatzgrenzen:

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



Characteristics:

Single Spring Seal
Bellow Seal
Double Directional
Unbalanced
According to EN 12756

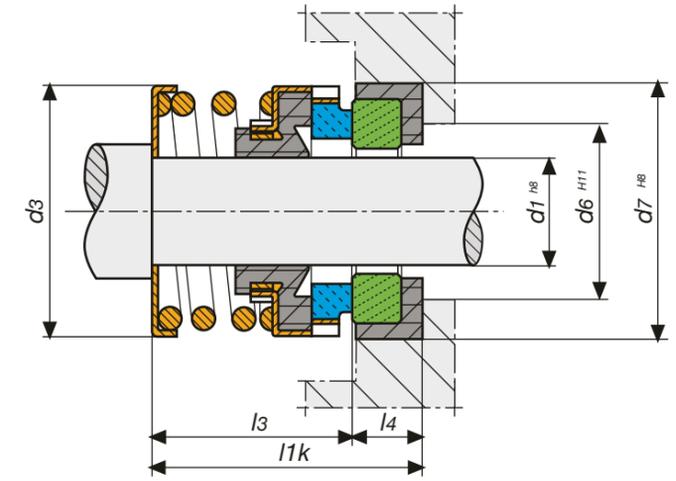
Limit of applications:

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



andere Gegenringe möglich siehe Seite 10, 11
other Stationaries possible pls. see page 10, 11

| d1 | d3 | l3 | d7 | l4 | d6 | l1k |
|-----|--------|-------|--------|-------|--------|-------|
| mm | mm | mm | mm | mm | mm | mm |
| 10 | 22,50 | 32,50 | 21,00 | 8,60 | 17,00 | 31,10 |
| 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 EN 12756

Einsatzgrenzen:

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



Characteristics:

Single Spring Seal
Bellow Seal
Double Directional
Unbalanced
According to EN 12756

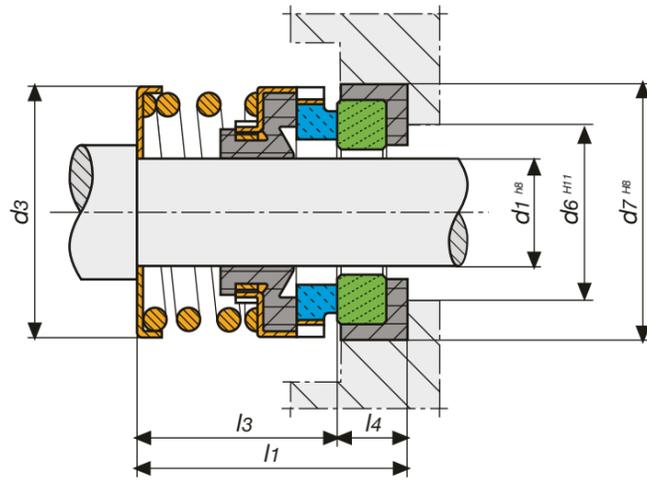
Limit of applications:

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

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

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

billi Serie BB4-1



| Abmessung | d1 | d3 | l3 | d7 | l4 | d6 | l1 |
|-----------|--------|--------|-------|--------|-------|--------|--------|
| Inch | mm | mm | mm | mm | mm | mm | mm |
| 0,375 | 9,50 | 22,50 | 43,65 | 24,60 | 8,74 | 16,00 | 52,39 |
| 0,500 | 12,70 | 23,90 | 43,65 | 27,79 | 8,74 | 19,05 | 52,39 |
| 0,625 | 15,80 | 26,70 | 43,65 | 30,95 | 10,32 | 22,23 | 53,97 |
| 0,750 | 19,10 | 31,10 | 43,65 | 34,15 | 10,32 | 25,40 | 53,97 |
| 0,875 | 22,20 | 33,00 | 43,65 | 37,30 | 10,32 | 28,58 | 53,97 |
| 1,000 | 25,40 | 43,20 | 43,65 | 40,50 | 10,32 | 31,75 | 53,97 |
| 1,125 | 28,60 | 46,30 | 60,33 | 47,63 | 11,99 | 35,72 | 72,32 |
| 1,250 | 31,70 | 49,40 | 60,33 | 50,80 | 11,99 | 38,89 | 72,32 |
| 1,375 | 34,90 | 52,60 | 60,33 | 53,98 | 11,99 | 42,07 | 72,32 |
| 1,500 | 38,10 | 55,80 | 60,33 | 57,15 | 11,99 | 45,24 | 72,32 |
| 1,625 | 41,20 | 59,20 | 60,33 | 60,35 | 11,99 | 48,42 | 72,32 |
| 1,750 | 44,40 | 66,00 | 70,64 | 63,50 | 11,99 | 51,59 | 82,63 |
| 1,875 | 47,60 | 66,60 | 70,64 | 66,70 | 11,99 | 54,75 | 82,63 |
| 2,000 | 50,80 | 73,00 | 70,64 | 69,85 | 11,99 | 58,00 | 82,63 |
| 2,125 | 53,90 | 73,30 | 71,00 | 73,05 | 13,50 | 62,00 | 84,50 |
| 2,250 | 57,10 | 78,40 | 71,00 | 76,20 | 13,50 | 65,00 | 84,50 |
| 2,375 | 60,30 | 82,00 | 71,00 | 79,40 | 13,50 | 68,00 | 84,50 |
| 2,500 | 63,50 | 84,90 | 71,00 | 82,55 | 13,50 | 71,20 | 84,50 |
| 2,625 | 66,60 | 88,40 | 70,00 | 92,10 | 15,90 | 78,35 | 85,90 |
| 2,750 | 69,80 | 92,60 | 70,00 | 95,25 | 15,90 | 81,10 | 85,90 |
| 2,875 | 73,00 | 95,85 | 73,00 | 98,45 | 15,90 | 84,50 | 88,90 |
| 3,000 | 76,20 | 102,70 | 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 $p = 12 \text{ bar}$
 Geschwindigkeit $v = 10 \text{ m/sec.}$
 Temperatur $t = -20+120^\circ\text{C}$



Characteristics:

Single Spring Seal
 Bellow Seal
 Double Directional
 Unbalanced

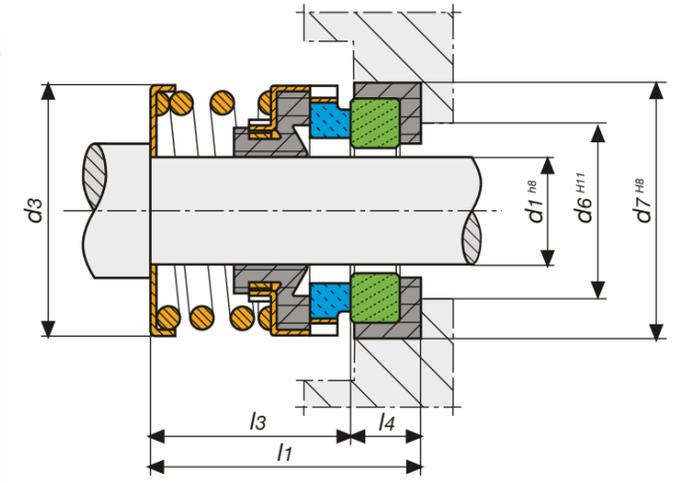
Limit of applications:

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

- **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

billi Serie BB4-2



| Abmessung | d1 | d3 | l3 | d7 | l4 | d6 | l1 |
|-----------|--------|--------|-------|--------|-------|--------|-------|
| Inch | mm | mm | mm | mm | mm | mm | mm |
| 0,375 | 9,50 | 22,95 | 25,40 | 24,60 | 8,74 | 16,00 | 34,14 |
| 0,500 | 12,70 | 23,90 | 25,40 | 27,79 | 8,74 | 19,05 | 34,14 |
| 0,625 | 15,80 | 26,70 | 25,40 | 30,95 | 10,32 | 22,23 | 35,72 |
| 0,750 | 19,10 | 31,10 | 25,40 | 34,15 | 10,32 | 25,40 | 35,72 |
| 0,875 | 22,20 | 33,40 | 25,40 | 37,30 | 10,32 | 28,58 | 35,72 |
| 1,000 | 25,40 | 43,20 | 25,40 | 40,50 | 10,32 | 31,75 | 35,72 |
| 1,125 | 28,60 | 46,30 | 33,34 | 47,63 | 11,99 | 35,72 | 45,33 |
| 1,250 | 31,70 | 49,40 | 33,34 | 50,80 | 11,99 | 38,89 | 45,33 |
| 1,375 | 34,90 | 52,60 | 33,34 | 53,98 | 11,99 | 42,07 | 45,33 |
| 1,500 | 38,10 | 55,80 | 33,34 | 57,15 | 11,99 | 45,24 | 45,33 |
| 1,625 | 41,20 | 59,20 | 33,34 | 60,35 | 11,99 | 48,42 | 45,33 |
| 1,750 | 44,40 | 66,00 | 40,48 | 63,50 | 11,99 | 51,59 | 52,47 |
| 1,875 | 47,60 | 66,60 | 40,48 | 66,70 | 11,99 | 54,75 | 52,47 |
| 2,000 | 50,80 | 73,00 | 40,48 | 69,85 | 11,99 | 58,00 | 52,47 |
| 2,125 | 53,90 | 73,30 | 41,00 | 73,05 | 13,50 | 62,00 | 54,50 |
| 2,250 | 57,10 | 78,40 | 41,00 | 76,20 | 13,50 | 65,00 | 54,50 |
| 2,375 | 60,30 | 82,00 | 41,00 | 79,40 | 13,50 | 68,00 | 54,50 |
| 2,500 | 63,50 | 84,90 | 41,00 | 82,55 | 13,50 | 71,20 | 54,50 |
| 2,625 | 66,60 | 88,40 | 49,00 | 92,10 | 15,90 | 78,35 | 64,90 |
| 2,750 | 69,80 | 92,60 | 49,00 | 95,25 | 15,90 | 81,10 | 64,90 |
| 2,875 | 73,00 | 92,85 | 49,00 | 98,45 | 15,90 | 84,50 | 64,90 |
| 3,000 | 76,20 | 102,70 | 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 $p = 12 \text{ bar}$
 Geschwindigkeit $v = 10 \text{ m/sec.}$
 Temperatur $t = -20+120^\circ\text{C}$

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



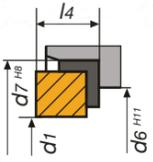
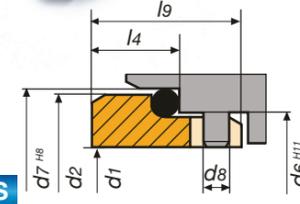
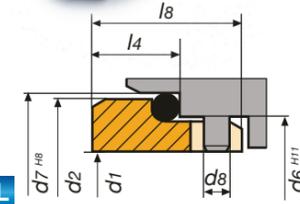
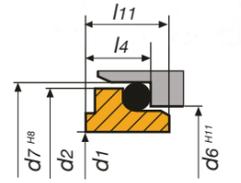
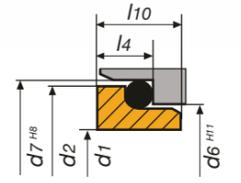
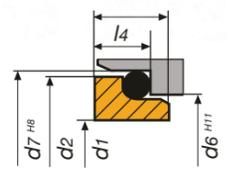
Characteristics:

Single Spring Seal
 Bellow Seal
 Double Directional
 Unbalanced

Limit of applications:

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

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



C4
C3...-OD

C6
C3...-OD

C13
C3...-C13

C9
C3...-ODL

C9S
C3...-ODLS

C60
C3...-D

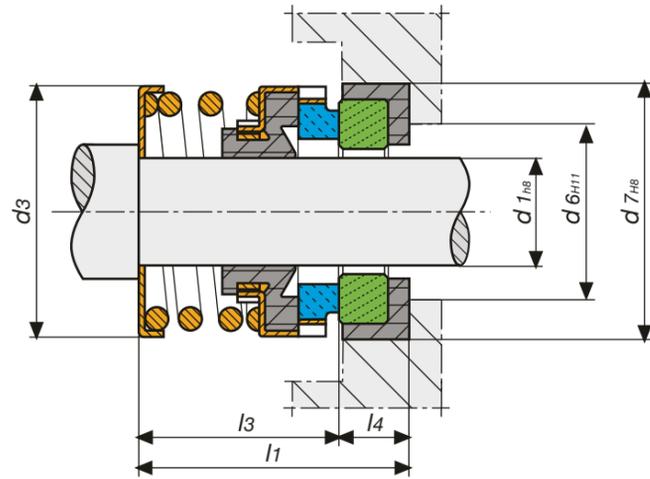
| d1 | d2 | d6 | d7 | l4 | l12 |
|-----|--------|--------|--------|-------|-------|
| mm | mm | mm | mm | mm | mm |
| 10 | 18,80 | 15,50 | 19,20 | 6,60 | 7,50 |
| 12 | 21,20 | 17,50 | 21,60 | 5,60 | 6,50 |
| 14 | 24,20 | 20,50 | 24,60 | 5,60 | 6,50 |
| 15 | 24,20 | 20,50 | 24,60 | 6,60 | 7,50 |
| 16 | 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 |

| 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 |

| 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 |

| 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 |

| 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 |



| Abmessung | d1 | d3 | l3 | d7 | l4 | d6 | l1 |
|-----------|--------|--------|-------|--------|-------|--------|-------|
| Inch | mm | mm | mm | mm | mm | mm | mm |
| 0,500 | 12,70 | 23,90 | 20,62 | 25,40 | 7,93 | 19,05 | 28,55 |
| 0,625 | 15,80 | 26,70 | 22,22 | 31,75 | 10,28 | 23,80 | 32,50 |
| 0,750 | 19,10 | 31,10 | 22,22 | 34,93 | 10,28 | 26,98 | 32,50 |
| 0,875 | 22,20 | 33,40 | 23,80 | 38,10 | 10,28 | 30,15 | 34,08 |
| 1,000 | 25,40 | 43,20 | 25,40 | 41,28 | 11,10 | 33,32 | 36,50 |
| 1,125 | 28,60 | 46,30 | 26,97 | 44,44 | 11,10 | 36,50 | 38,07 |
| 1,250 | 31,70 | 49,40 | 26,97 | 47,63 | 11,10 | 39,70 | 38,07 |
| 1,375 | 34,90 | 52,60 | 28,58 | 50,80 | 11,10 | 42,84 | 39,68 |
| 1,500 | 38,10 | 55,80 | 28,58 | 53,98 | 11,10 | 46,05 | 39,68 |
| 1,625 | 41,20 | 62,20 | 34,93 | 60,33 | 12,70 | 50,80 | 47,63 |
| 1,750 | 44,40 | 66,00 | 34,93 | 63,50 | 12,70 | 53,97 | 47,63 |
| 1,875 | 47,60 | 66,60 | 38,10 | 66,68 | 12,70 | 57,15 | 50,80 |
| 2,000 | 50,80 | 73,00 | 38,10 | 69,85 | 12,70 | 60,32 | 50,80 |
| 2,125 | 53,90 | 73,30 | 42,88 | 76,20 | 14,28 | 60,32 | 57,16 |
| 2,250 | 57,10 | 78,40 | 42,88 | 79,38 | 14,28 | 61,90 | 57,16 |
| 2,375 | 60,30 | 82,00 | 46,02 | 82,55 | 14,28 | 67,39 | 60,30 |
| 2,500 | 63,50 | 84,90 | 46,02 | 85,73 | 14,28 | 68,00 | 60,30 |
| 2,625 | 66,60 | 88,40 | 49,20 | 85,73 | 15,90 | 71,42 | 65,10 |
| 2,750 | 69,80 | 92,60 | 49,20 | 88,90 | 15,90 | 74,60 | 65,10 |
| 2,875 | 73,00 | 94,85 | 52,37 | 95,25 | 15,90 | 77,77 | 68,27 |
| 3,000 | 76,20 | 102,70 | 52,37 | 98,43 | 15,90 | 80,95 | 68,27 |
| 3,125 | 79,40 | 104,00 | 55,55 | 101,60 | 18,88 | 93,70 | 74,45 |
| 3,250 | 82,60 | 104,00 | 55,55 | 104,78 | 18,88 | 96,85 | 74,45 |
| 3,375 | 85,70 | 108,00 | 55,55 | 107,95 | 18,88 | 100,00 | 74,45 |
| 3,500 | 88,90 | 112,00 | 55,55 | 111,13 | 18,88 | 103,20 | 74,45 |
| 3,625 | 92,10 | 114,00 | 58,72 | 114,30 | 18,88 | 106,35 | 77,60 |
| 3,750 | 95,30 | 119,00 | 58,72 | 117,48 | 18,88 | 109,50 | 77,60 |
| 3,875 | 98,40 | 121,00 | 58,72 | 120,65 | 18,88 | 112,65 | 77,60 |
| 4,000 | 101,60 | 124,00 | 58,72 | 123,83 | 18,88 | 115,90 | 77,60 |



Eigenschaften:

Einzel-Gleitringdichtung
 Faltenbalgdichtung
 Drehrichtungsunabhängig
 Nichtentlastet

Einsatzgrenzen:

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



Characteristics:

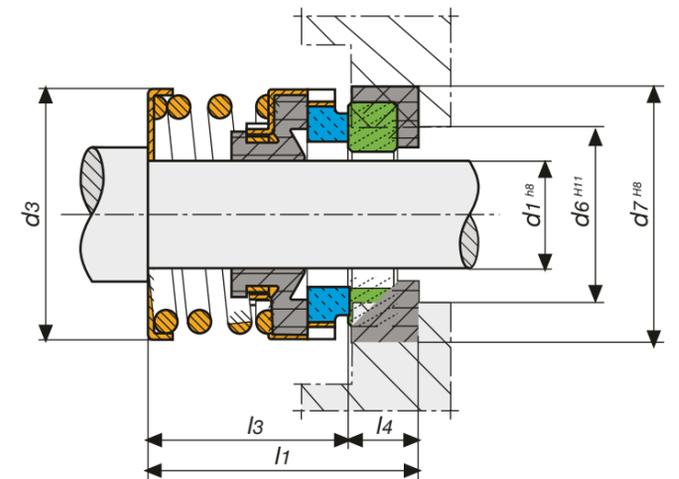
Single Spring Seal
 Bellow Seal
 Double Directional
 Unbalanced

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 |
| 0,500 | 12,70 | 23,90 | 31,75 | 25,40 | 7,93 | 19,05 | 39,68 |
| 0,625 | 15,80 | 26,70 | 34,93 | 31,75 | 10,28 | 23,80 | 45,21 |
| 0,750 | 19,10 | 31,10 | 34,93 | 34,93 | 10,28 | 26,98 | 45,21 |
| 0,875 | 22,20 | 33,40 | 36,50 | 38,10 | 10,28 | 30,15 | 46,78 |
| 1,000 | 25,40 | 43,20 | 41,28 | 41,28 | 11,10 | 33,32 | 52,38 |
| 1,125 | 28,60 | 46,30 | 42,85 | 44,44 | 11,10 | 36,50 | 53,95 |
| 1,250 | 31,70 | 49,40 | 42,85 | 47,63 | 11,10 | 39,70 | 53,95 |
| 1,375 | 34,90 | 52,60 | 42,85 | 50,80 | 11,10 | 42,84 | 53,95 |
| 1,500 | 38,10 | 55,80 | 42,85 | 53,98 | 11,10 | 46,05 | 53,95 |
| 1,625 | 41,20 | 62,20 | 50,80 | 60,33 | 12,70 | 50,80 | 63,50 |
| 1,750 | 44,40 | 66,00 | 50,80 | 63,50 | 12,70 | 53,97 | 63,50 |
| 1,875 | 47,60 | 66,60 | 53,98 | 66,68 | 12,70 | 57,15 | 66,68 |
| 2,000 | 50,80 | 73,00 | 53,98 | 69,85 | 12,70 | 60,32 | 66,68 |
| 2,125 | 53,90 | 73,30 | 60,32 | 76,20 | 14,28 | 60,32 | 74,60 |
| 2,250 | 57,10 | 78,40 | 60,32 | 79,38 | 14,28 | 61,90 | 74,60 |
| 2,375 | 60,30 | 82,00 | 63,50 | 82,55 | 14,28 | 67,39 | 77,78 |
| 2,500 | 63,50 | 84,90 | 63,50 | 85,73 | 14,28 | 68,00 | 77,78 |
| 2,625 | 66,60 | 88,40 | 69,85 | 85,73 | 15,90 | 71,42 | 85,75 |
| 2,750 | 69,80 | 92,60 | 69,85 | 88,90 | 15,90 | 74,60 | 85,75 |
| 2,875 | 73,00 | 94,85 | 73,03 | 95,25 | 15,90 | 77,77 | 88,93 |
| 3,000 | 76,20 | 102,70 | 73,03 | 98,43 | 15,90 | 80,95 | 88,93 |
| 3,125 | 79,40 | 104,00 | 79,38 | 101,60 | 19,88 | 93,70 | 99,30 |
| 3,250 | 82,60 | 104,00 | 79,38 | 104,78 | 19,88 | 96,85 | 99,30 |
| 3,375 | 85,70 | 108,00 | 79,38 | 107,95 | 19,88 | 100,00 | 99,30 |
| 3,500 | 88,90 | 112,00 | 79,38 | 111,13 | 19,88 | 103,20 | 99,30 |
| 3,625 | 92,10 | 114,00 | 82,55 | 114,30 | 19,88 | 106,35 | 102,45 |
| 3,750 | 95,30 | 119,00 | 82,55 | 117,48 | 19,88 | 109,50 | 102,45 |
| 3,875 | 98,40 | 121,00 | 85,72 | 120,65 | 19,88 | 112,65 | 105,60 |
| 4,000 | 101,60 | 124,00 | 85,72 | 123,83 | 19,88 | 115,90 | 105,60 |



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



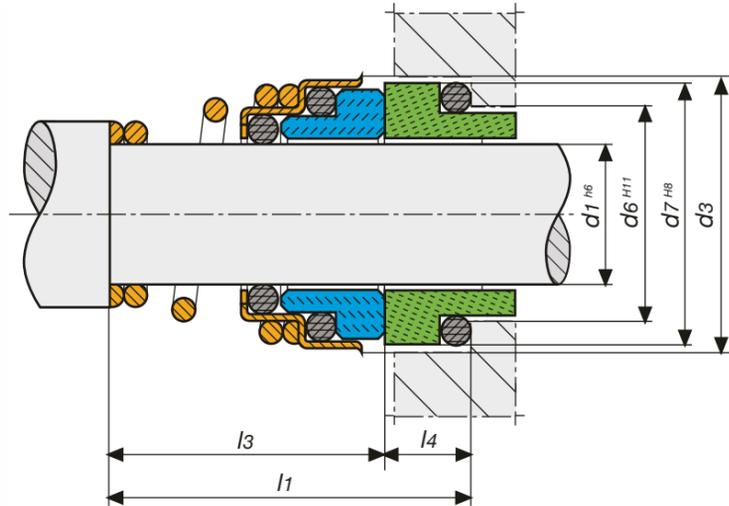
Characteristics:

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



andere Gegenringe möglich siehe Seite 10, 11 und 3
other Stationaries possible pls. see page 10, 11 and 3

| 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:

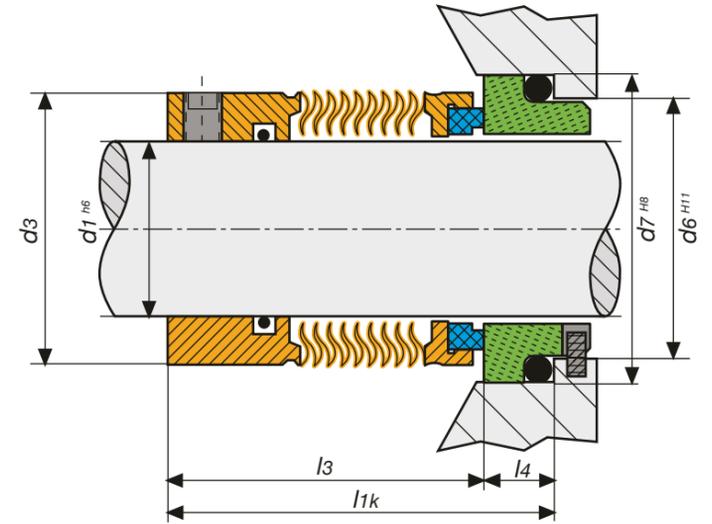
Single Spring Seal
Conical Spring
Single Directional
Unbalanced

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



andere Gegenringe möglich siehe Seite 10, 11
other Stationaries possible pls. see page 10, 11

| d1 | d3 | l3 | d7 | l4 | d6 | l1k |
|-----|--------|-------|--------|-------|--------|-------|
| 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 EN 12756

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



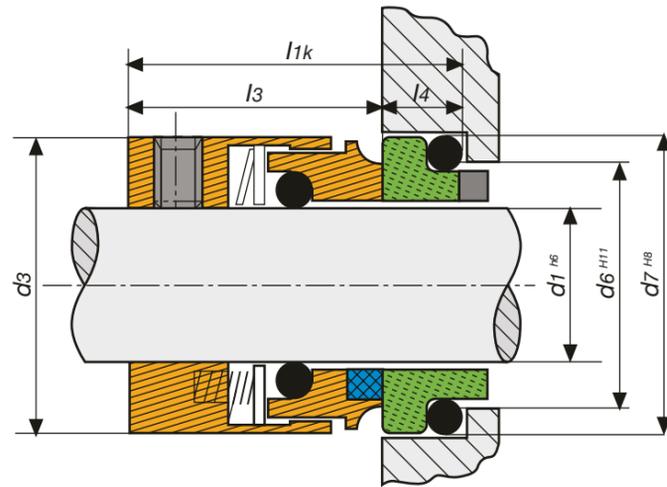
Characteristics:

Single Spring Seal
Metal Bellow Seal
Double Directional
Unbalanced
According to EN 12756

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



andere Gegenringe möglich siehe Seite 10, 11
other Stationaries possible pls. see page 10, 11

| d1 | d3 | l3 | d7 | l4 | d6 | l1k |
|-----|--------|-------|--------|-------|--------|-------|
| 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



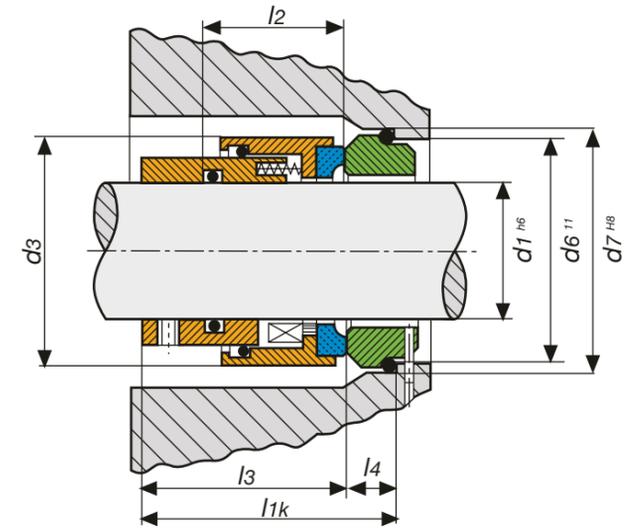
Characteristics:

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



andere Gegenringe möglich siehe Seite 10, 11
other Stationaries possible pls. see page 10, 11

| d1 | d3 | l2 | l3 | d7 | l4 | d6 | l1k |
|-----|--------|-------|-------|--------|-------|--------|-------|
| 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



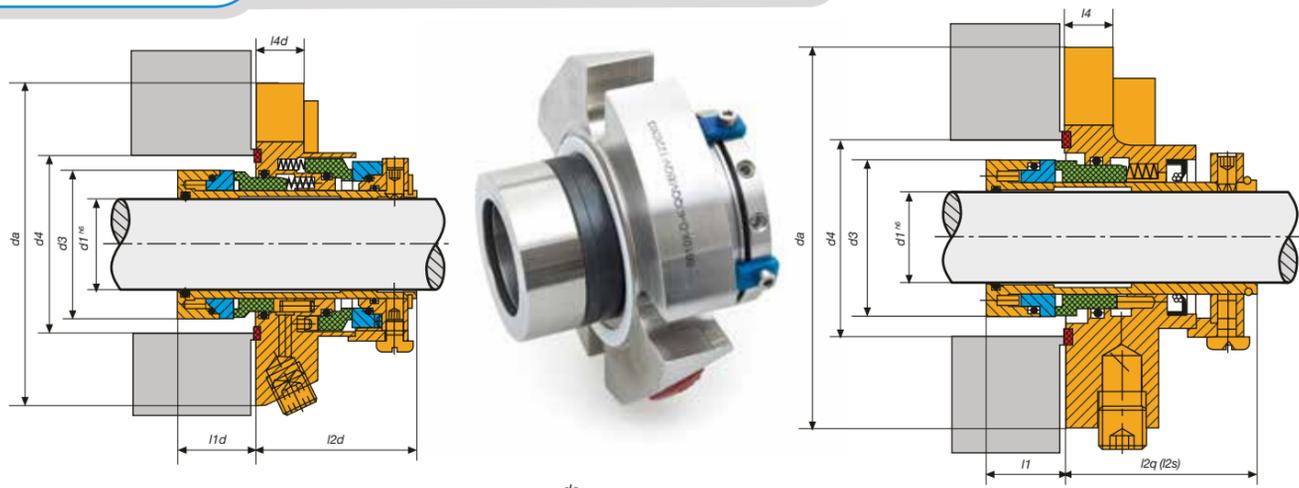
Characteristics:

Single Spring Seal
Multiple Spring Seal
Double Directional
Balanced

Limit of applications:

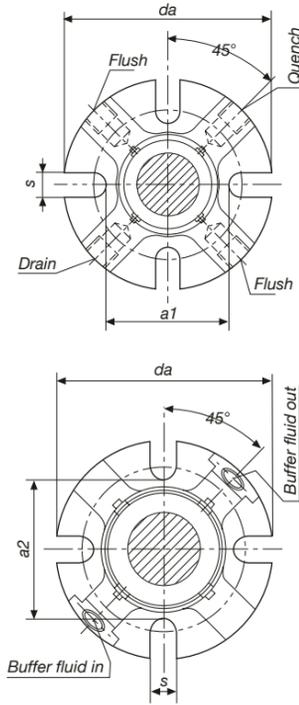
Pressure p = 25 bar
Speed v = 20 m/sec.
Temperature t = -30+220°C

- **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
- **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 | 1. Ziffer |
|-------------------|----|----------------|
| STATIONÄR | C | |
| 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 |

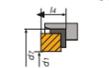
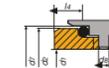
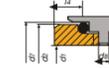
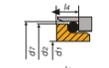
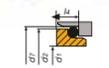
TYP DER GEGENRINGE

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:

| | |
|-------------|--|
| 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 | 1 st Number |
|--------------------|----|---|
| STATIONARY | C | |
| 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 |

