



H-Brinker

Mechanical Seal Brochure

HI Quality

The use of the best raw materials has increased the quality level of the products. This is why H-brinker is one of the best manufacturers of mechanical seals in the world.

HBrinker Mechanical Seal

Metal bellows seals



HBFLWT8

Shaft diameter:
d1 = 14 ... 100 mm (0.55" ... 3.94")
Temperature:
t = -40 °C ... +220 °C (-40 °F ... +428 °F)
Pressure:
p = 16 bar (232 PSI)
Sliding velocity:
vg = 20 m/s (66 ft/s)
Axial movement:
± 0.5 mm



HBF95N

Shaft diameter:
d1 = 14 ... 100 mm (0.55" ... 3.94")
Temperature:
t = -40 °C ... +220 °C (-40 °F ... +428 °F)
Pressure:
p = 16 bar (232 PSI)
Sliding velocity:
vg = 20 m/s (66 ft/s)
Axial movement:
± 0.5 mm



HBFL85N

Shaft diameter:
d1 = 16 ... 100 mm (0.63" ... 4")
Externally pressurized:
p1 = ... 25 bar (363 PSI)
Internally pressurized:
p1 < 120 °C (248 °F) 10 bar (145 PSI)
p1 < 220 °C (428 °F) 5 bar (72 PSI)
Temperature:
t = -40 °C ... +220 °C (-40 °F ... 428)
Stationary seat lock necessary.
Sliding velocity:
vg = 20 m/s (66 ft/s)



HBFLCT8

Shaft diameter:
d1 = 24 ... 150 mm (0.94" ... 6")
Externally pressurized:
p1 = ... 25 bar (363 PSI)
Internally pressurized:
p1 = 10 bar (145 PSI),
stationary seat lock necessary.
Temperature:
t = -100 °C ... +100 °C (-148 °F ... 212) °F
Sliding velocity:
vg = 20 m/s (66 ft/s)



HBE400

Pressure (single ply bellows):
p = vacuum ... 20 bar (... 290 PSI)
Pressure (two ply bellows):
p = vacuum ... 35 bar (... 508 PSI)
Temperature:
t = -240 °C ... +425 °C (-400 °F ... +797 °F)
Sliding velocity:
vg = ... 50 m/s (164 ft/s)
Viscosity: ... 1 Pa·s

HBrinker Mechanical Seal

Elastomer bellows



HBX05

Shaft diameter:
d1 = ... 65 mm (2.56")
Pressure:
p1 = 0.3 bar (4.35 PSI)
Temperature:
t = -20 °C ... 100 °C (-4 °F ... 212 °F)
Sliding velocity:
vg = 10 m/s (33 ft/s)



HBTA2

Shaft diameter:
d1 = 1/2", 5/8", 3/4"
Pressure:
p1* = 4 bar (58 PSI)
Temperature:
t* = -20 °C ... +90 °C (-4 °F ... +194 °F)
Sliding velocity:
vg = 10 m/s (33 ft/s)



HBTAR

Shaft diameter:
d1 = 6 ... 70 mm (0.24" ... 2.76")
Pressure:
p1* = 6 bar (87 PSI),
vacuum ... 0.5 bar (7.45 PSI) up to 1 bar
(14.5 PSI) with seat locking
Temperature:
t* = -20 °C ... +120 °C (-4 °F ... +248 °F)
Sliding velocity: vg = 10 m/s (33 ft/s)

v



HBTFN

Shaft diameter:
d1* = 10 ... 40 mm (0.39" ... 1.57")
Pressure:
p1* = 12 (16) bar (174 (232) PSI)
Temperature:
t* = -35 °C ... +180 °C (-31 °F ... +356 °F)
Sliding velocity: vg = 15 m/s (49 ft/s)

* Dependent on medium, size and material



HBA560

Shaft diameter:
d1 = 8 ... 50 mm (0.375" ... 2")
Pressure:
p1 = 7 bar (102 PSI), vacuum ... 0.1 bar
(1.45 PSI)
Temperature:
t = -20 °C ... +100 °C (-4 °F ... +212 °F)
Sliding velocity:
vg = 5 m/s (16 ft/s)
Axial movement: ±1.0 mm



HBD560

Shaft diameter:
d1 = 13 ... 50 mm (0.51" ... 1.96")
Pressure:
p1 = d ≤ 19 mm: 2 bar (29 PSI), d ≥ 20
mm: 3 bar (44 PSI), vacuum ... 0.1
bar (1.45 PSI)
Temperature:
t = -20 °C ... +70 °C (-4 °F ... 158 °F)
Sliding velocity: vg = 5 m/s (16 ft/s)
Axial movement: ±1.0 mm ±2.0 mm

HBrinker Mechanical Seal

Elastomer bellows



HBH700

Shaft diameter:
d1 = 15 ... 35 mm

Pressure:
p1 = 15 bar (218 PSI), vacuum up to 0.1 bar

Temperature:
t = -20 °C ... +100 °C (-4 °F ... +212 °F)

Sliding velocity:
vg = 10 m/s (33 ft/s)

Axial movement: ±1.0 mm



HBTPN

Shaft diameter:
d1 = 6 ... 70 mm (0.24" ... 2.76")

Pressure:
p1* = 6 bar (87 PSI), vacuum ... 0.5 bar (7.45 PSI) up to 1 bar (14.5 PSI) with seat locking

Temperature:
t* = -20 °C ... +120 °C (-4 °F ... +248 °F)

Sliding velocity: vg = 10 m/s (33 ft/s)



HBA100

Shaft diameter:
d1 = 8 ... 20 mm (0.32" ... 0.78")

Pressure:
p1 = 5 bar (73 PSI), vacuum up to 0.1 bar (1.45 PSI)

Temperature:
t = -20 °C ... +100 °C (-4 °F... +212 °F)

Sliding velocity: vg = 5 m/s (16 ft/s)

Axial movement: ±2.0 mm

v



HBEG

Shaft diameter:
d1 = 14 ... 110 mm (0.55" ... 4.33")

Pressure:
p1 = 18 bar (261 PSI), vacuum ... 0.5 bar (7.25 PSI), up to 1 bar (14.5 PSI) with seat locking

Temperature:
t = -20 °C ... +140 °C (-4 °F ... +284 °F)

Sliding velocity: vg = 10 m/s (33 ft/s)

Admissible axial movement:
±2.0 mm (±0.08")



HBEG1

Shaft diameter:
d1 = 14 ... 110 mm (0.55" ... 4.33")

Pressure:
p1 = 18 bar (261 PSI), vacuum ... 0.5 bar (7.25 PSI), up to 1 bar (14.5 PSI) with seat locking

Temperature:
t = -20 °C ... +140 °C (-4 °F ... +284 °F)

Sliding velocity: vg = 10 m/s (33 ft/s)

Admissible axial movement: ±2.0 mm (±0.08")



HBEG12

Shaft diameter: d1 = 14 ... 100 mm (0.55" ... 3.94")

Pressure: p1 = 18 bar (261 PSI), vacuum up to 0.5 bar (7.25 PSI), up to 1 bar (14.5 PSI) with seat locking

Temperature: t = -20 °C ... +140 °C (-4 °F ... +284 °F)

Sliding velocity: vg = 10 m/s (33 ft/s)

Admissible axial movement: ±2.0 mm (±0.08")

HBrinker Mechanical Seal

Elastomer bellows



HBG1

Shaft diameter:

d1 = 10 ... 100 mm (0.39" ... 3.94")

Pressure:

p1 = 16 bar (230 PSI), vacuum ... 0.5 bar (7.25 PSI), up to 1 bar (14.5 PSI) with seat locking

Temperature:

t = -20 °C ... +140 °C (-4 °F ... +284 °F)

Sliding velocity: vg = 10 m/s (33 ft/s)

Admissible axial movement: ±2.0 mm (±0,08")



HBG12

Shaft diameter:

d1 = 10 ... 100 mm (0.39" ... 3.94")

Pressure:

p1 = 16 bar (230 PSI), vacuum ... 0.5 bar (7.25 PSI), up to 1 bar (14.5 PSI) with seat locking

Temperature: t = -20 °C ... +140 °C (-4 °F ... +284 °F)

Sliding velocity: vg = 10 m/s (33 ft/s)

Admissible axial movement: ±2.0 mm (±0,08")



HBG13

Shaft diameter:

d1 = 10 ... 100 mm (0.39" ... 3.94")

Pressure:

p1 = 16 bar (230 PSI), vacuum ... 0.5 bar (7.25 PSI), up to 1 bar (14.5 PSI) with seat locking

Temperature: t = -20 °C ... +140 °C (-4 °F ... +284 °F)

Sliding velocity: vg = 10 m/s (33 ft/s)

Admissible axial movement: ±2.0 mm (±0,08")



HBG9

Shaft diameter:

d1 = 10 ... 100 mm (0.375" ... 4")

Pressure: p1 = 12 bar (174 PSI), vacuum up to 0.5 bar (7.25 PSI), up to 1 bar (14.5 PSI) with seat locking

Temperature: t = -20 °C ... +140 °C (-4 °F ... +284 °F)

Sliding velocity: vg = 10 m/s (33 ft/s)

Axial movement: ±0.5 mm

HBrinker Mechanical Seal

Pusher Seal



HBX25

Shaft diameter:
d1 = 15 ... 300 mm (0.59" ... 11.81")
Pressure:
p1 = 16 bar (232 PSI)
Temperature:
t = -40 °C ... 220 °C (-40 °F ... 428 °F)
Sliding velocity:
vg = 20 m/s (66 ft/s)



HBX40K

Shaft diameter:
d1 = 18 ... 300 mm
Pressure:
p1 = vacuum ... 25 bar (vacuum ... 363 PSI)
Temperature:
t = -40 ... 220 °C (-40 ... 428 °F)
Sliding velocity: vg = 20 m/s (66 ft/s)



HBHJ

Shaft diameter: d1 = 18 ... 100 mm (0.71" ... 4")
Pressure: p1 = vacuum ... 40 bar (vacuum ... 580 PSI)
Temperature: t = -50 °C ... +220 °C (-58 °F ... +430 °F)
Sliding velocity: vg = 20 m/s (66 ft/s)
Axial movement:
d1 = 18 ... 25 mm: ±0,5 mm
d1 = 28 ... 55 mm: ±0,8 mm
d1 = 60 ... 100 mm: ±1,0 mm



HBK700

Pressure:
p = ... 35 bar (... 508 PSI)
Temperature:
t = 160 °C (320 °F)
Sliding velocity:
vg = 30 m/s (98 ft/s)
Viscosity: ... 0.5 Pa·s
Solids content: ... 0.5 %



HB10-HB8

Shaft Diameter:
d1 = 15 ... 100 mm (0.6" ... 3.9")
Pressure:
p1 = 25 bar (363 PSI)
Temperature:
t = -40 ... +180 °C (-40 °F ... 356 °F)
Sliding velocity:
vg = 35 m/s (115 ft/s)



HB12N

Shaft diameter: d1 = 10 ... 80 mm (0.4" ... 3.125")
Pressure: p1 = 25 bar (363 PSI)
Temperature: t = -50 °C ... +220 °C (-58 °F ... +430 °F)
Sliding velocity: vg = 15 m/s (50 ft/s)
Axial movement: ±1.0 mm



HBrinker Mechanical Seal

Pusher Seal



HB3B

Pressure:
 $p = 12 \text{ bar (174 PSI)}$
Temperature:
 $t = -20 \text{ °C ... } +160 \text{ °C (-4 °F ... 320 °F)}$
Sliding velocity:
 $vg = 20 \text{ m/s (66 ft/s)}$
Viscosity:
 ... 300 mPa·s
Solids content:
 ... 7 %



HB74D

Shaft diameter: $d1 = 14 \text{ ... } 200 \text{ mm (0.55" ... 7.87")}$
Pressure: $p1 = 80 \text{ bar (1,160 PSI)}$ for $d1 = 14 \text{ ... } 100 \text{ mm}$,
 $p1 = 25 \text{ bar (363 PSI)}$ for $d1 = 100 \text{ ... } 200 \text{ mm}$,
 $p1 = 16 \text{ bar (232 PSI)}$ for $d1 > 200 \text{ mm}$
Temperature: $t = -50 \text{ °C ... } 220 \text{ °C (-58 °F ... 428 °F)}$
Sliding velocity: $vg = 20 \text{ m/s (66 ft/s)}$
Axial movement:
 $d1 \text{ up to } 100 \text{ mm: } \pm 0.5 \text{ mm}$
 $d1 \text{ from } 100 \text{ mm: } \pm 2.0 \text{ mm}$



HB75VK

Shaft diameter:
 $d = 20 \text{ ... } 110 \text{ mm (0.79" ... 4.33")}$ *
Pressure: $p1 = 40 \text{ bar (580 PSI)}$
Temperature:
 $t = -40 \text{ °C ... } +220 \text{ °C (-40 °F ... 428 °F)}$
Sliding velocity: $vg = 23 \text{ m/s (75 ft/s)}$
Axial movement:
 $\pm 2.0 \text{ ... } 4.0 \text{ mm}$ depending on diameter and installation situation



HB75VN

Shaft diameter:
 $d = 20 \text{ ... } 110 \text{ mm (0.79" ... 4.33")}$ *
Pressure: $p1 = 40 \text{ bar (580 PSI)}$
Temperature:
 $t = -40 \text{ °C ... } +220 \text{ °C (-40 °F ... 428 °F)}$
Sliding velocity: $vg = 23 \text{ m/s (75 ft/s)}$
Axial movement: $\pm 2.0 \text{ ... } 4.0 \text{ mm}$
 depending on diameter and installation situation



HB7N

Shaft diameter: $d1 = 14 \text{ ... } 100 \text{ mm (0.55" ... 3.94")}$
(Single spring: $d1 = \text{max. } 100 \text{ mm (3.94")}$)
Pressure:
 $p1 = 80 \text{ bar (1,160 PSI)}$ for $d1 = 14 \text{ ... } 100 \text{ mm}$,
 $p1 = 25 \text{ bar (363 PSI)}$ for $d1 = 100 \text{ ... } 200 \text{ mm}$,
 $p1 = 16 \text{ bar (232 PSI)}$ for $d1 > 200 \text{ mm}$
Temperature: $t = -50 \text{ °C ... } 220 \text{ °C (-58 °F ... 428 °F)}$
Sliding velocity: $vg = 20 \text{ m/s (66 ft/s)}$
Axial movement:
 $d1 \text{ up to } 22 \text{ mm: } \pm 1.0 \text{ mm}$
 $d1 \text{ 24 up to } 58 \text{ mm: } \pm 1.5 \text{ mm}$
 $d1 \text{ from } 60 \text{ mm: } \pm 2.0 \text{ mm}$



HBA211

Pressure: $p = 12 \text{ bar (174 PSI)}$
Temperature:
 $t = -20 \text{ °C ... } 160 \text{ °C (-4 °F ... } +320 \text{ °F)}$
Sliding velocity: ... 20 m/s (66 ft/s)
Viscosity: ... 300 Pa·s
Solids content: ... 7 %

HBrinker Mechanical Seal

Pusher Seal



HB92N

Shaft diameter:

d1 = 18 ... 100 mm (0.625" ... 4")

Pressure:

p1 = 0.8 abs.... 25 bar (12 abs. ... 363 PSI)

Temperature: t = -50 °C ... +220 °C (-58 °F ... +430 °F)

Sliding velocity: vg = 20 m/s (66 ft/s)

Axial movement: ±0.5 mm



HBRN

Shaft diameter:

d = 18 ... 100 mm (0.71" ... 3.94")

Pressure: p1 = 25 bar (363 PSI)

Temperature: t = -40 °C ... +220 °C (-40 °F ... 428 °F)

Sliding velocity: vg = 20 m/s (66 ft/s)

Axial movement: ±1.0 mm



HB500

Pressure:

p = vacuum ... 35 bar (508 PSI)

Temperature:

t = -20 °C ... +200 °C (-4 °F ... +392 °F)

Sliding velocity: vg = ... 20 m/s (66 ft/s)

Viscosity: ... 500 mPa·s

Solids content: ... 0.5 %

v



HB2N

Shaft diameter:

d1 = 6 ... 38 mm (0.25" ... 1.5")

Pressure: p1 = 10 bar (145 PSI)

Temperature: t = -20 °C ... 140 °C (-4 °F ... 355 °F)

Sliding velocity: vg = 15 m/s (50 ft/s)

Axial movement: ±1.0 mm



HB3N

Shaft diameter:

d1 = 6 ... 80 mm (0,24" ... 3,15")

Pressure: p1 = 10 bar (145 PSI)

Temperature:

t = -20 °C ... +140 °C (-4 °F ... +284 °F)

Sliding velocity: vg = 15 m/s (50 ft/s)

Axial movement: ±1.0 mm



HBM74-D

Shaft diameter:

d1 = 18 ... 200 mm (0.71" ... 7.87")

Pressure: p1 = 25 bar (363 PSI)

Temperature: t = -50 °C ... 220 °C (-58 °F ... 428 °F)

Sliding velocity: vg = 20 m/s (66 ft/s)

Axial movement:

d1 up to 100 mm: ±0.5 mm

d1 from 100 mm: ±2.0 mm

HBrinker Mechanical Seal

Pusher Seal



HB7N

Shaft diameter:

d1 = 14 ... 100 mm (0.55" ... 3.94")

Pressure: p1 = 25 bar (363 PSI)

Temperature:

t = -50 °C ... +220 °C (-58 °F ... +428 °F)

Sliding velocity: vg = 20 m/s (66 ft/s)

Axial movement:

d1 = up to 25 mm: ±1.0 mm

d1 = 28 up to 63 mm: ±1.5 mm

d1 = from 65 mm: ±2.0 mm

HBPulace

Pressure:

p = 10 bar (145 PSI)

Temperature:

t = -20 °C ... +200 °C (-4 °F ... 392 °F)

Sliding velocity:

vg = 20 m/s (66 ft/s)

Viscosity: ... 100 Pa·s

Solids content: ... 20 %

v

Marine Seal



HB4600

Shaft diameter:

d1 = 50 ... 320 mm (1.97" ... 12.60")

Pressure: p = 2 ... 7 bar (29 ... 102 PSI)

Temperature:

t = -5 °C ... 40 °C (23 °F... 104 °F)

Speed range: n = see diagram

Allowed shaft movements

Axial: ±5 mm,

Radial: Shaft diameter (d1) up to 200 mm: ±2 mm, >200 mm: ±3 mm



HB4600SH

Shaft diameter:

d1 = 50 ... 320 mm (1.97" ... 12.60")

Pressure: p = 2 ... 7 bar (29 ... 102 PSI)

Temperature:

t = -5 °C ... 40 °C (23 °F... 104 °F)

Speed range: n = see diagram

Allowed shaft movements Axial:

±5 mm,

Radial: Shaft diameter (d1) up to 200 mm: ±2 mm, >200 mm: ±3 mm

HB4604

HB4604

Shaft diameter:

d1 = 50 ... 320 mm (1.97" ... 12.60")

Water pressure: p = max. 2 bar (29 PSI)

Barrier pressure: min. 0.2 bar (2.9 PSI)
above water pressure

Temperature:

t = -5 °C ... 40 °C (23 °F... 104 °F)

Speed range: n = see diagram

Allowed shaft movements

Axial: ±5 mm,

Radial: Shaft diameter (d1) up to 200 mm: ±2 mm, >200 mm: ±3 mm

HBrinker Mechanical Seal

Grundfos Seal



HBT-AR

Shaft diameter:
d1 = 6 ... 70 mm (0.24" ... 2.76")
Pressure: p1 = 6 bar (87 PSI),
vacuum ... 0.5 bar (7.45 PSI) up to 1 bar
(14.5 PSI) with seat locking
Temperature:
t = -20 °C ... +120 °C (-4 °F ... +248 °F)
Sliding velocity: vg = 10 m/s (33 ft/s)



HBT-FN

Shaft diameter:
d1 = 10 ... 40 mm (0.39" ... 1.57")
Pressure: p1 = 12 (16) bar (174 (232) PSI)
Temperature:
t = -35 °C ... +180 °C (-31 °F ... +356 °F)
Sliding velocity: vg = 15 m/s (49 ft/s)



HBT-FN.NU

Temperature: -40 to +200 c
Pressure: <=1.6 mpa
Speed: <=15 m/s
Stationary and rotating face:
SIC/SIC – Viton
Available Material:
CARBON/SIC/TC/EPDM/VITON, SS304 or
SS316
Rubber type: EPDM
Shaft diameter: 10-40

v



HBCR

Temperature: -40 to +200 c
Pressure: <=1.6 mpa
Speed: <=15 m/s
Stationary and rotating face: SIC/SIC
Material of metal part: AISI304
Application: CDLF, Grundfos, CNS
Rubber type: EPDM
Shaft diameter: 12-16-22



HBGRE

Temperature: -40 to +200 c
Pressure: <=1.6 mpa
Speed: <=15 m/s
Stationary and rotating face: SIC/SIC –
Viton
Material of metal part: AISI304
Available Material:
CARBON/SIC/TC/EPDM/VITON, SS304 or
SS316
Shaft diameter: 12-16-22



HBGRF

Temperature: -40 to +200 c
Pressure: <=1.6 mpa
Speed: <=15 m/s
Stationary and rotating face: SIC/SIC
– Viton
Material of metal part: AISI304
Rubber type: EPDM
Shaft diameter: 12-16-22



HBrinker Mechanical Seal

Grundfos Seal



HBGRK

Temperature: -40 to +200 c
Pressure: <=1.6 mpa
Speed: <=15 m/s
Stationary and rotating face: SIC/SIC
Material of metal part: AISI304
Application: CDLF, Grundfos, CNS
Rubber type: EPDM
Shaft diameter: 12-22



HB706C

Temperature: -40 to +200 c
Pressure: <=1.6 mpa
Speed: <=15 m/s
Stationary and rotating face: SIC/SIC – Viton
Material of metal part: AISI304
Available Material: CARBON/SIC/TC/EPDM/VITON, SS304 or SS316
Rubber type: EPDM
Shaft diameter: 8-12 v



HB706K

Temperature: -40 to +200 c
Pressure: <=1.6 mpa
Speed: <=15 m/s
Stationary and rotating face: SIC/SIC – Viton
Material of metal part: AISI304
Available Material: CARBON/SIC/TC/EPDM/VITON, SS304 or SS316
Rubber type: EPDM
Shaft diameter: 22-32



HBGH

Temperature: -40 to +200 c
Pressure: <=1.6 mpa
Speed: <=15 m/s
Stationary and rotating face: SIC/SIC
Material of metal part: AISI304
Rubber type: EPDM
Shaft diameter: 12-22

HBrinker Mechanical Seal

Standard Cartridge Seal



HBCartex ANSI Dual Seal

Shaft diameter: d1 = 25 ... 100 mm (1.000" ... 4.000") Other sizes on request
Temperature: t = -40 °C ... 220 °C (-40 °F ... 428 °F) (Check O-Ring resistance)
Sliding face material combination BQ1
Pressure: p1 = 25 bar (363 PSI)
Sliding velocity: vg = 16 m/s (52 ft/s)
Sliding face material combination Q1Q1 or U2Q1
Pressure: p1 = 20 bar (290 PSI)
Sliding velocity: vg = 10 m/s (33 ft/s)
Axial movement: ±1.0 mm, d1 ≥75 mm ±1.5 mm



HBCartex ANSI Single Seal

Shaft diameter: d1 = 1.000" ... 3.750"
 Other sizes on request
Temperature: t = -40 °C ... 220 °C (-40 °F ... 428 °F) (Check O-Ring resistance)
Sliding face material combination BQ1
Pressure: p1 = 25 bar (363 PSI)
Sliding velocity: vg = 16 m/s (52 ft/s)
Sliding face material combination Q1Q1 or U2Q1
Pressure: p1 = 12 bar (174 PSI)
Sliding velocity: vg = 10 m/s (33 ft/s)
Axial movement: ±1.0 mm, d1 ≥75 mm ±1.5 mm



HBCartex Dual Seal

Shaft diameter: d1 = 25 ... 100 mm (1.000" ... 4.000") Other sizes on request
Temperature: t = -40 °C ... 220 °C (-40 °F ... 428 °F) (Check O-Ring resistance)
Sliding face material combination BQ1
Pressure: p1 = 25 bar (363 PSI)
Sliding velocity: vg = 16 m/s (52 ft/s)
Sliding face material combination Q1Q1 or U2Q1
Pressure: p1 = 20 bar (290 PSI)
Sliding velocity: vg = 10 m/s (33 ft/s)
Axial movement: ±1.0 mm, d1 ≥75 mm ±1.5 mm



HBCartex Single Seal

Shaft diameter: d1 = 25 ... 100 mm (1.000" ... 4.000") Other sizes on request
Temperature: t = -40 °C ... 220 °C (-40 °F ... 428 °F) (Check O-Ring resistance)
Sliding face material combination BQ1
Pressure: p1 = 25 bar (363 PSI)
Sliding velocity: vg = 16 m/s (52 ft/s)
Sliding face material combination Q1Q1 or U2Q1
Pressure: p1 = 12 bar (174 PSI)
Sliding velocity: vg = 10 m/s (33 ft/s)
Axial movement: ±1.0 mm, d1 ≥75 mm ±1.5 mm



HBA290 HBA291

HBA290:
Pressure: p = ... 20 bar (290 PSI)
Temperature: t = -20 °C ... 160 °C (-4 °F ... 320 °F) (oil), 0 °C ... 60 °C (32 °F ... 140 °F) (water)
Sliding velocity: vg = max. 20 m/s (66 ft/s)
Viscosity: 0.5 Pa·s
Solids content: 0.3 %
HBA291:
Pressure: p = ... 16 bar (232 PSI)
Temperature: t = -20 °C ... 160 °C (-4 °F ... 320 °F) (oil), 0 °C ... 60 °C (32 °F ... 140 °F) (water)
Sliding velocity: vg = max. 20 m/s (66 ft/s)
Viscosity: 3 Pa·s
Solids content: 10 %



HBA390 HBA391

HBA390:
Pressure: p = ... 20 bar (290 PSI)
Temperature: t = -20 °C ... 160 °C (-4 °F ... 320 °F) (oil), 0 °C ... 60 °C (32 °F ... 140 °F) (water)
Sliding velocity: vg = max. 20 m/s (66 ft/s)
Viscosity: 0.5 Pa·s
Solids content: 0.3 %
HBA391:
Pressure: p = ... 16 bar (232 PSI)
Temperature: t = -20 °C ... 160 °C (-4 °F ... 320 °F) (oil), 0 °C ... 60 °C (32 °F ... 140 °F) (water)
Sliding velocity: vg = max. 20 m/s (66 ft/s)
Viscosity: 3 Pa·s
Solids content: 10 %

HBrinker Mechanical Seal

Standard Cartridge Seal



HBTEX-DS

Shaft diameter: $d_1 = 25 \dots 80 \text{ mm}$ (1" ... 3.15")

Temperature: $t = -40 \text{ }^\circ\text{C} \dots +220 \text{ }^\circ\text{C}$ (-40 °F ... +428 °F)

Pressure: $p_1 = 25 \text{ bar}$ (232 PSI)

Sliding velocity: $v_g = 20 \text{ m/s}$ (66 ft/s)

Barrier fluid circulation system:

$p_{3\text{max}} = 16 \text{ bar}$ (232 PSI)

Δp ($p_3 - p_1$) ideal = 2 ... 3 bar (29 ... 44 PSI)

Δp ($p_3 - p_1$) max.

= 10 bar (145 PSI) at $<120 \text{ }^\circ\text{C}$ ($<248 \text{ }^\circ\text{F}$)

= 5 bar (73 PSI) at $\leq 220 \text{ }^\circ\text{C}$ ($\leq 232 \text{ }^\circ\text{F}$)



HBTEX-SS

Shaft diameter: $d_1 = 25 \dots 80 \text{ mm}$ (1" ... 3.15")

Temperature: $t^* = -40 \text{ }^\circ\text{C} \dots +220 \text{ }^\circ\text{C}$ (-40 °F ... +428 °F)

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

Sliding velocity: $v_g = 20 \text{ m/s}$ (66 ft/s)

* Operating limits of O-Rings to be observed



HBitex

Shaft diameter: $d_N = 25 \dots 75 \text{ mm}$ (1" ... 2.625")

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

Temperature: $t = -20 \text{ }^\circ\text{C} \dots 140 \text{ }^\circ\text{C}$ (-4 °F ... 284 °F)

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

Axial movement: $\pm 0.5 \text{ mm}$

Split Seal



HBGH201

Shaft diameter: $d_1 = 50 \dots 310 \text{ mm}$ (2" ... 12.20") (larger diameters on request)

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

Temperature: $t_1 = 150 \text{ }^\circ\text{C}$ (302 °F)

Sliding velocity: $v_g = 20 \text{ m/s}$ (66 ft/s)

Axial movement: $\pm 2.0 \text{ mm}$



HBSplitex

Shaft diameter: $d_1 = 50 \dots 150 \text{ mm}$ (1.940" ... 6.000")

Pressure: $p_1 = 10 \text{ bar}$ (145 PSI)

Temperature: $t = -40 \dots +150 \text{ }^\circ\text{C}$ (-40 ... +300 °F), above 80 °C (175 °F) flush is recommended

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

Axial movement: $\pm 1.5 \text{ mm}$ (1/16")

Radial movement: $\pm 0.8 \text{ mm}$ (1/32")

HBrinker Mechanical Seal

Engineered Seal



HBDF-P

Shaft diameter:
D = 32 ... 154 mm (1.26" ... 6.06")
Pressure (static and dynamic): p = 0 ... 120 bar (1,450 PSI)
with PTFE option: 0 ... 250 bar (3,625 PSI)
Temperature:
t = -20 °C ... +150 °C (-4 °F ... +302 °F)
with PTFE option:
-100 °C ... +200 °C (-148 °F ... +392 °F)
Sliding velocity:
vg = 0.6 ... 140 m/s (2 ... 459 ft/s)



HBDF-SA

Shaft diameter: d1 = 120 ... 250 mm (4.72" ... 9.84")
Pressure: p1 = 70 bar (1,015 PSI)
Temperature: t = 300 °C (572 °F)
Sliding velocity: vg = 70 m/s (330 ft/s)
Axial movement: ±3 mm



HBHR

Shaft diameter:
dN = 36 ... 270 mm (1.4" ... 10.63")
Pressure: p1 = 16 bar (230 PSI)
Temperature:
t = -20 °C ... +160 °C (-4 °F ... +320 °F)
Sliding velocity: vg = 10 m/s (33 ft/s)



HBCR

Shaft diameter:
d10 = 30 ... 60 mm (1.181" ... 2.362")
Pressure: p1 = 23 bar (334 PSI)
Temperature: t = -20 °C ... +160 (200*) °C (-4 °F ... +320 (382*) °F)
Sliding velocity: vg = 20 m/s (66 ft)
Axial movement: ±1.0 mm



HBP-D

Temperature: t = -20 °C ... +140 °C (-4 °F ... +284 °F) (180 °C (356 °F) with Kalrez® elastomers)
Pressure: p1 ... 25 bar (363 PSI), p3 <12 bar (174 PSI)
Sliding velocity: vg ... 20 m/s (66 ft/s)
Stock content: <8 %
Non-flow operation:
Temperature: t = +5 °C ... +100 °C (+41 °F ... +212 °F)
Pressure: p1 max. 10 bar (145 PSI), p3 > p1
Sliding velocity: vg <10 m/s (33 ft/s)



HBP-S

Temperature: t = -20 °C ... +140 °C (-4 °F ... +284 °F)
Pressure: p1 ... 25 bar (363 PSI)
Sliding velocity: vg ... 20 m/s (66 ft/s)
Stock content: ... 4 %

HBrinker Mechanical Seal

Engineered Seal



HBAF / HBAP

Shaft diameter: d1 = 120 ... 250 mm (4.72" ... 9.84")
Pressure: p1 = 50 bar (725 PSI)
Temperature: t = +300 °C (+572 °F)
Sliding velocity: vg = 65 m/s (213 ft/s)
Axial movement: ±3 mm* Other sizes on request



HBSH

Shaft diameter: d1 = 40 ... 110 (250) mm (1.57" ... 4.33 (9.84)"
Pressure:
p1 = 42 (150) bar (609 (2,175) PSI)
Temperature: t = -40 °C ... +176 (+200) °C (-40 °F ... +350 (+394) °F)
Sliding velocity: vg = 23 (60) m/s (76 (197) ft/s)
Axial movement: ±3.0 mm



HBSH-D

Shaft diameter: d1 = 40 ... 110 (250) mm (1.57" ... 4.33 (9.84)"
Pressure: p1 = 42 (150) bar (609 (2,175) PSI)
Temperature: t = -40 °C ... +176 (+200) °C (-40 °F ... +350 (+394) °F)
Sliding velocity: vg = 23 (60) m/s (76 (197) ft/s)
Axial movement: ±3.0 mm

v



HBHF / HBHP

Shaft diameter: d1 = 40 ... 250 mm (1.57" ... 9.84")
Pressure: p1 = 50 bar (725 PSI)
Temperature: t = +300 °C (+572 °F)
Sliding velocity: vg = 60 m/s (197 ft/s)
Axial movement: ±3 mm



HBHF-D / HBHP-D

Shaft diameter: d1 = 40 ... 250 mm (1.57" ... 9.84")
Pressure: p3 = 150 bar (2,175 PSI)
Temperature: t = +200 °C (+392 °F)
Sliding velocity: vg = 60 m/s (197 ft/s)



HBHI300

Shaft diameter: d1* = 50 ... 150 mm (1.97" ... 5.91")
Pressure: p1 = 100 bar (1,450 PSI),
Static: up to 150 bar (2,175 PSI),
Dynamic: up to 100 bar (1,450 PSI)
Temperature: t = -20 ... +100 °C (-4 ... 212 °F)
Sliding velocity: vg = 50 m/s (164 ft/s)
Axial movement: ±1 mm
Additional sizes upon request

HBrinker Mechanical Seal

Engineered Seal



HBHV

Shaft diameter: $d1^* = 30 \dots 140$ mm (1.1811" ... 5.5118") Other sizes on request

Temperature: $t = -40 \text{ }^\circ\text{C} \dots +380 \text{ }^\circ\text{C}$ (-40 °F ... +716 °F),

Sliding velocity: $vg = 50$ m/s (164 ft/s)

Axial movement: ± 3 mm

Sliding material combination AQ2:

Dynamic pressure: $p1 = 100$ bar (1,450 PSI)

Static pressure: $p1 = 240$ bar (3,481 PSI)

Sliding material combination Q3Q2:

Dynamic pressure: $p1 = 120$ bar (1,740 PSI)

Static pressure: $p1 = 160$ bar (2,320 PSI)



HBHPV / HBHFV

Shaft diameter: $d1 = 40 \dots 250$ mm (1.57" ... 9.84")

Pressure: $p1 = 150$ bar (2,175 PSI)

Temperature: $t = +350 \text{ }^\circ\text{C}$ (+662 °F)

Sliding velocity: $vg = 60$ m/s (197 ft/s)

Axial movement: ± 3 mm* Other sizes on request



HBHI366

Shaft diameter:

$d1^* = 50 \dots 150$ mm (1.97" ... 5.91")

Pressure: $p1 = 100$ bar (1,450 PSI),

Static: up to 150 bar (2,175 PSI),

Dynamic: up to 100 bar (1,450 PSI)

Temperature:

$t = -20 \dots +100 \text{ }^\circ\text{C}$ (-4 ... 212 °F)

Sliding velocity: $vg = 50$ m/s (164 ft/s)

Axial movement: ± 1 mm

* Additional sizes upon request

HBrinker Mechanical Seal

Compressor Seal



HB800

Shaft diameter: $d = \dots 220 \text{ mm (8.66")}$
Pressure: $(p_2-p_1) = \dots 5 \text{ bar (73 PSI)}$
Sliding velocity: $vg = 90 \text{ m/s (295 ft/s)}$



HBSH

Shaft diameter: $27.2 \dots 323.2 \text{ mm (1.07" } \dots 12.72\text{")}$
Design pressure (mechanical integrity):
 $p = 0 \dots 70 \text{ bar (0 } \dots 1000 \text{ PSI)}$
Normal operating pressure: $p = 2.7 \text{ bar (39.16 PSI)}$
Temperature: $t = -20 \text{ }^\circ\text{C } \dots +200 \text{ }^\circ\text{C (-4 }^\circ\text{F } \dots +392 \text{ }^\circ\text{F)}$
Sliding velocity: $vg = 0 \dots 150 \text{ m/s (0 } \dots 492 \text{ ft/s)}$
Dew point: No limitation



Coba HBDGS

Shaft diameter: $d = 24.5 \dots 360 \text{ mm (0.96" } \dots 14.17\text{")}$
Pressure (static and dynamic): $p = \text{from vacuum up to } 160 \text{ bar (2,321 PSI)}$
Design temperature: $t = -46 \text{ }^\circ\text{C } \dots +230 \text{ }^\circ\text{C (-51 }^\circ\text{F } \dots +446 \text{ }^\circ\text{F)}$
Sliding velocity: $vg = \text{up to } 140 \text{ m/s (459 ft/s)}$



HBHF / HBHP

Shaft diameter: $24.5 \dots 360 \text{ mm (0.96" } \dots 14.17\text{")}$
Design pressure: $p = \dots 10 \text{ bar (145 PSI)}$
Operating pressure: $p = 0.07 \text{ bar (1.02 PSI)}$
Temperature: $t = -20 \text{ }^\circ\text{C } \dots +200 \text{ }^\circ\text{C (-4 }^\circ\text{F } \dots +392 \text{ }^\circ\text{F)}$
Sliding velocity: $vg = 0 \dots 200 \text{ m/s (0 } \dots 656 \text{ ft/s)}$
Dew point: No limitation



HBSR

Shaft diameter: $24.5 \dots 320.3 \text{ mm (0.96" } \dots 12.61\text{")}$
Design pressure: $p = 0.5 \dots 10 \text{ bar (7.25 } \dots 145 \text{ PSI)}$
Operating pressure: $p = 0.5 \dots 0.8 \text{ bar (7.25 } \dots 11.60 \text{ PSI)}$
Temperature: $t = -20 \text{ }^\circ\text{C } \dots +200 \text{ }^\circ\text{C (-4 }^\circ\text{F } \dots +392 \text{ }^\circ\text{F)}$
Sliding velocity: $vg = 10 \dots 140 \text{ m/s (33 } \dots 459 \text{ ft/s)}$
Separation gas dew point at 0.8 bar (11.6 PSI):
 $t = -50 \text{ }^\circ\text{C } \dots -20 \text{ }^\circ\text{C (-58 }^\circ\text{F } \dots -4^\circ\text{F)}$



HBGS

Shaft diameter: $d = 24.5 \dots 406 \text{ mm (1.14" } \dots 15.98\text{")}$
Pressure: $p = 0 \dots 160 \text{ bar (2,320 PSI)}$
Design temperature: $t = -46 \text{ }^\circ\text{C } \dots +230 \text{ }^\circ\text{C (-51 }^\circ\text{F } \dots +446 \text{ }^\circ\text{F)}$
Sliding velocity: $vg = \text{up to } 227 \text{ m/s (744 ft/s)}$

HBrinker Mechanical Seal

Compressor Seal



HBMGS

Shaft diameter:
 $d_1 = 48 \dots 200 \text{ mm}$ (1.89" ... 7.87")
Pressure: $p = 0 \dots 50 \text{ bar}$ (0 ... 725 PSI)
Temperature:
 $t = -20 \text{ }^\circ\text{C} \dots +200 \text{ }^\circ\text{C}$ (-4 °F ... +392 °F)
Sliding velocity: $vg = 0.6 \dots 200 \text{ m/s}$ (2 ... 656 ft/s)



HBF94

Pressure: $p = 5 \text{ bar}$ (73 PSI)
Temperature:
 $t = -20 \text{ }^\circ\text{C} \dots +200 \text{ }^\circ\text{C}$ (-4 °F ... +392 °F)
Sliding velocity:
 $vg = 60 \text{ m/s}$ (197 ft/s)



HBPGS

Shaft diameter: $D = 24.5 \dots 360 \text{ mm}$
 (0.96" ... 14.17")
Pressure (static and dynamic): $p = \text{up to } 650 \text{ bar}$ (7.977 PSI)
Temperature: $t = -200 \text{ }^\circ\text{C} \dots +230 \text{ }^\circ\text{C}$ (-328 °F ... +446 °F)
Sliding velocity: $vg = \text{up to } 227 \text{ m/s}$ (744 ft/s)

v



HBRiGiSeal

Shaft diameter: $d = \text{up to } 410 \text{ mm}$
 (16.14")
Pressure: $p = \text{up to } 450 \text{ bar}$ (6,525 PSI)
 and more
Design-temperature: $t = -200 \text{ }^\circ\text{C} \dots +230 \text{ }^\circ\text{C}$ (-328 °F ... +446 °F)
Sliding velocity: $vg = \text{up to } 227 \text{ m/s}$ (744 ft/s)
 Project specific special designs possible
 $vg = 0.6 \dots 200 \text{ m/s}$ (2 ... 656 ft/s)



HBRotechSeal

Shaft diameter: $d = \text{up to } 410 \text{ mm}$
 (16.14")
Pressure: $p = \text{up to } 450 \text{ bar}$ (6,525 PSI)
 and more
Design-temperature: $t = -200 \text{ }^\circ\text{C} \dots +230 \text{ }^\circ\text{C}$ (-328 °F ... +446 °F)
Sliding velocity: $vg = \text{up to } 227 \text{ m/s}$ (744 ft/s)



HBTDGS

Shaft diameter: $d_s = 40 \dots 140 \text{ mm}$
 (1.57" ... 5.51")
Pressure: $p = 0 \dots 10 \text{ bar}$ (0 ... 145 PSI)
Temperature: $t = -50 \text{ }^\circ\text{C} \dots +450 \text{ }^\circ\text{C}$ (-58 °F ... +842 °F)
Sliding velocity: $vg = 130 \text{ m/s}$ (427 ft/s)

HBrinker Mechanical Seal

Compressor Seal



HBWRS

Shaft diameter: 25 ... 195 mm (1" ... 7.7")
Process gas pressure: up to 40 bar (580 PSI)
Required oil pressure: $P_{\text{product}} + \Delta p$ (1-3 bar, depending on sliding velocity)
Gas temperature: $t = -20\text{ °C} \dots +200\text{ °C}$ (-4 °F ... +392 °F)
Oil temperature: $t = 30\text{ °C} \dots 60\text{ °C}$ (86 °F ... 140 °F)
Sliding velocity: $v_g = 5 \dots 100\text{ m/s}$ (16 ... 328 ft/s)
Oil viscosity: ISO VG32 + 46

Agitator Seal



HBD510 / HBD520

Pressure:
 $p = \text{vacuum (7 mbara)} \dots 5\text{ bar (73 PSI)}$
Temperature:
 $t = -30\text{ °C} \dots +175\text{ °C}$ (-22 °F ... +347 °F)
Sliding velocity: $v_g = \text{max. } 1.0\text{ m/s}$ (3 ft/s)
Allowable gas consumption: 2 NI/h



HBGSR

Shaft diameter:
 $d_1 = 20 \dots 200\text{ mm}$ (0.8" ... 7.9")
Pressure: $p_1 = \text{Vakuum} \dots 6\text{ bar (87 PSI)}$,
 $\Delta p = \text{min. } 3\text{ bar (44 PSI)}$,
 $p_3 = \text{max. } 9\text{ bar (131 PSI)}$
Temperature:
 $t_1 = -20\text{ °C} \dots +200\text{ °C}$ (-4 °F ... +392 °F)
Sliding velocity:
 $v_g = 0 \dots 5\text{ m/s}$ (0 ... 16 ft/s)



HBGSZ

Shaft diameter:
 $d_1 = 40 \dots 220\text{ mm}$ (1.6" ... 8.7")
Pressure: $p_1 = \text{vacuum} \dots 6\text{ bar (87 PSI)}$,
 $\Delta p = \text{min. } 3\text{ bar (44 PSI)}$, $p_3 = 9\text{ bar (131 PSI)}$
Temperature: $t_1 = -20\text{ °C} \dots +200$ (+250*)
 $\text{°C (-4 °F ... +392 (+482*) °F)}$
Sliding velocity: $v_g = 0 \dots 5\text{ m/s}$ (0 ... 16 ft/s), higher velocities on request.

HBrinker Mechanical Seal

Agitator Seal



HBRB

Pressure: $p = \text{vacuum} \dots 10 \text{ bar (145 PSI)}$
Temperature: $t = -30 \text{ }^\circ\text{C} \dots +200 \text{ }^\circ\text{C (-22 }^\circ\text{F} \dots +392 \text{ }^\circ\text{F)}$
Rotational speed: = max. 200 min⁻¹
Axial movement: max. 0.3 mm



HBS-D

Shaft diameter: $d_1 = 20 \dots 500 \text{ mm (0.79" } \dots 19.69\text{"})$
Pressure: $p_1 = \text{vacuum} \dots 30 \text{ bar (... 435 PSI)}$
Temperature: $t_1 = -40 \text{ }^\circ\text{C} \dots +200 \text{ (350*) }^\circ\text{C (-40 }^\circ\text{F} \dots +392 \text{ (662*) }^\circ\text{F)}$
Sliding velocity: $v_g = 0 \dots 5 \text{ m/s (0 } \dots 16 \text{ ft/s)}$
 * with cooling flange



HBSH-D

Shaft diameter: $d_1 = 20 \dots 500 \text{ mm (0.79" } \dots 19.69\text{"})$
Pressure: $p_1 = \text{vacuum} \dots 250 \text{ bar (... 3,625 PSI)*, } p_3 = p_1 + 10 \%$
Temperature: $t_1 = -40 \text{ }^\circ\text{C} \dots +200 \text{ (350**) }^\circ\text{C (-40 }^\circ\text{F} \dots +392 \text{ (662**) }^\circ\text{F)}$
Sliding velocity: $v_g = 0 \dots 5 \text{ m/s (0 } \dots 16 \text{ ft/s)}$
 * Depending on size, from 100 ... 150 bar (1,450 ... 2,175 PSI) executed as tandem seal (pressure reduction in 2 stages).
 ** with cooling flange

v



HBSH-L

Shaft diameter: $d_1 = \dots 500 \text{ mm (... 19.69"})$
Pressure: $p_1 = \text{vacuum} \dots 60 \text{ bar (870 PSI)}$
Temperature: $t_1 = -40 \text{ }^\circ\text{C} \dots +200 \text{ }^\circ\text{C (-40 }^\circ\text{F} \dots +392 \text{ }^\circ\text{F)}$
Sliding velocity: $v_g = 0 \dots 5 \text{ m/s (0 } \dots 16 \text{ ft/s)}$
 For applications beyond this range, please inquire



HBSMR34

Shaft diameter: $d_1 = 35 \dots 140 \text{ (500) mm (1.38" } \dots 5.51\text{" (19.68""))}$
Axial offset shaft/housing: $d_1 = 35 \dots 60 \text{ mm (1.38" } \dots 2.36\text{"): max. } \pm 1.5 \text{ mm (0.059") } d_1 > 60 \text{ mm (2.36"): max. } \pm 2.0 \text{ mm (0.079")}$
Radial offset shaft/housing: max. $\pm 0.3 \text{ mm (0.012")}$
Pressure:
 $p_1 = \text{vacuum} \dots 14 \text{ (23) bar (203 (334) PSI)}$
 $p_3 = \text{max. } 16 \text{ (25) bar (232 (363) PSI)}$
 $\Delta p_3 - p_1 = 2 \dots 10 \text{ bar (29 } \dots 145 \text{ PSI), higher } \Delta p \text{ on request}$
Temperature: $t_1 = -20 \text{ }^\circ\text{C} \dots +200 \text{ (300) }^\circ\text{C (-4 }^\circ\text{F} \dots +392 \text{ (572) }^\circ\text{F)}$
Sliding velocity: $v_g = \text{max. } 10 \text{ (20) m/s (33 (66) ft/s)}$



HBM461

Shaft diameter: $d_1 = 40 \dots 160 \text{ mm (1.57" } \dots 6.30\text{"})$
Pressure:
 $p_1 = \text{vacuum} \dots 16 \text{ bar (232 PSI), } p_3 = \text{max. } 18 \text{ bar (261 PSI)}$
Temperature: $t_1 = -40 \text{ }^\circ\text{C} \dots +200 \text{ (250*) }^\circ\text{C (-40 }^\circ\text{F} \dots +392 \text{ (482*) }^\circ\text{F)}$
Sliding velocity: $v_g = 0 \dots 5 \text{ m/s (0 } \dots 16 \text{ ft/s)}$ For applications beyond this range, please inquire.
 * with cooling flange

HBrinker Mechanical Seal

Agitator Seal



HBM481C

Shaft diameter: d1 = 40 ... 125 mm (1.57" ... 4.92")

Pressure:

p1 = vacuum ... 10 bar (145 PSI),
p3 = max. 12 bar (174 PSI)

Temperature: t1 = -40 °C ... +200 °C (-40 °F ... +392 °F)

Sliding velocity: vg = 0 ... 3 m/s (0 ... 16 ft/s)



HBM481K

Shaft diameter: d1 = 40 ... 220 mm (1.57" ... 8.66")

Pressure:

p1 = vacuum ... 16 bar (232 PSI),
p3 = max. 18 bar (261 PSI)

Temperature: t1 = -40 °C ... +200 (350*) °C (-40 °F ... +392 (662*) °F)

Sliding velocity: vg = 0 ... 5 m/s (0 ... 16 ft/s)

For applications beyond this range, please inquire.

* with cooling flange



HBMR-D

Shaft diameter: d1 = 35 ... 140 (500) mm (1.38" ... 5.51" (19.68"))

Axial offset shaft/housing: d1 = 35 ... 60 mm (1.38" ... 2.36"): max. ±1.5 mm (0.059")
d1 > 60 mm (2.36"): max. ±2.0 mm (0.079")

Radial offset shaft/housing: max. ±0.3 mm (0.012")

Pressure:

p1 = vacuum ... 14 (23) bar (203 (334) PSI)
p3 = max. 16 (25) bar (232 (363) PSI)

Temperature: t1 = -20 °C ... +200 (300) °C (-4 °F ... +392 (572) °F)

Sliding velocity: vg = max. 10 (20) m/s (33 (66) ft/s)



HBSLip461

Shaft diameter (on stock): d1 = 40 ... 125 mm (1.57" ... 4.92")

Special shaft diameters between 25 mm and 200 mm possible (0.98" ... 7.87")

Pressure: p1 = vacuum ... 6 bar (87 PSI)

Temperature: -30 °C ... +200 °C (-22 °F ... +392 °F)

Sliding velocity: vg = 0 ... 2 m/s (0 ... 6 ft/s)

Axial movement: ±3.0 mm

Radial movement: 1.0 mm (up to 3 mm on request)

For applications beyond this range, please inquire.



HBSLip481

Shaft diameter (on stock): d1 = 40 ... 125 mm (1.57" ... 4.92")

Special shaft diameters between 25 mm and 200 mm possible (0.98" ... 7.87")

Pressure: p1 = vacuum ... 6 bar (87 PSI)

Temperature: -30 °C ... +200 °C (-22 °F ... +392 °F)

Sliding velocity: vg = 0 ... 2 m/s (0 ... 6 ft/s)

Axial movement: ±3.0 mm

Radial movement: 1.0 mm (up to 3 mm on request)



HBMS1

Shaft diameter: d1 = 25 ... 220 mm (0.98" ... 8.66")

Pressure: p1 = vacuum ... 6 bar (87 PSI)

Temperature: t1 = -20 °C ... +200 (250*) °C (-4 °F ... 392 (482*) °F)

Sliding velocity: vg = 0 ... 2 m/s (0 ... 6 ft/s)

Axial movement: ±1.5 mm

Radial movement: ±1.5 mm

* with cooling flange

HBrinker Mechanical Seal

Agitator Seal



HBMS461

Shaft diameter: d1 = 40 ... 160 mm (1.57" ... 6.3")

Pressure: p1 = vacuum ... 6 bar (87 PSI)

Temperature: t1 = -20 °C ... +200 (250*) °C (-4 °F ... +392 (482*)) °F

Sliding velocity: vg = 0 ... 2 m/s (0 ... 6 ft/s)

For applications beyond this range, please inquire.

* with cooling flange



HBSM481

Shaft diameter: d1 = 40 ... 220 mm (1.57" ... 8.66")

Pressure: p1 = vacuum ... 6 bar (87 PSI)

Temperature: t1 = -20 °C ... +200 (250*) °C (-4 °F ... +392 (482*)) °F

Sliding velocity: vg = 0 ... 2 m/s (0 ... 6 ft/s)

For applications beyond this range, please inquire.

* with cooling flange



HBSMR

Shaft diameter: d1 = 35 ... 220 (300) mm (1.38" ... 8.66"(11.81"))

Axial offset shaft/housing: d1 = 35 ... 60 mm (1.38" ... 2.36"): max. ±1.5 mm (0.059")
d1 >60 mm (2.36"): max. ±2.0 mm (0.079")

Radial offset shaft/housing: max. ±0.3 mm (0.012")

Pressure: p1 = Vacuum ... 6 bar (87 PSI)

Temperature: t1 = -20 °C ... +200 °C (-4 °F ... +392 °F)

Sliding velocity: vg = 0 ... 2 m/s (0 ... 6 ft/s)

For applications beyond this range, please inquire.

STD1

STD1

Shaft diameter: d3 = 40 ... 200 mm (1.57" ... 7.87")

Pressure: p1 = 16 bar (232 PSI)

Temperature: t = +100 °C (+212 °F)

HBrinker Mechanical Seal

Gas-lubricated seal



HBM300

Pressure: $p = 2 \text{ bar (29 PSI)}$ normal operation, max. 60 bar (870 PSI)

Temperature: $t = -20 \text{ °C ... } +200 \text{ °C (-4 °F ... } +392 \text{ °F)}$

Sliding velocity: $vg = 25 \text{ m/s (82 ft/s)}$



HBSO-DN

Shaft diameter: $d1 = 30 \text{ ... } 75 \text{ mm (1,125" ... } 2,625\text{"})$ (other dimensions on request)

Product pressure: $p1 = \text{max. } 22 \text{ bar (319 PSI)}$, (dependent on shaft diameter and sliding materials)

Barrier pressure: $p3 = \text{max. } 25 \text{ bar (362 PSI)}$, Differential pressure: $\Delta p = \text{min. } 3 \text{ bar (44 PSI)}$

Temperature: $t = -20 \text{ °C ... } +170 \text{ °C (-4 °F ... } +338 \text{ °F)}$ (dependent on resistance of O-Rings)

Sliding velocity: $vg = 16 \text{ m/s (52 ft/s)}$, with special design max. 25 m/s (82 ft/s)

Axial movement: $\pm 0.2 \text{ mm}$



HBRGS-D

Shaft diameter: $\pm dw = 20 \text{ ... } 200 \text{ mm (0.787" ... } 7.874\text{"})$

Pressure HRGS-DC: $p1 = \text{... } 22 \text{ bar (319 PSI)}$
 $p3 = \text{... } 25 \text{ bar (363 PSI)}$

Pressure HRGS-DD: $p1 = \text{... } 40 \text{ bar (580 PSI)}$
 $p3 = \text{... } 43 \text{ bar (624 PSI)}$

Operating temperature limits for:

EPDM $-20 \text{ °C ... } +140 \text{ °C (-4 °F ... } +284 \text{ °F)}$

FFKM $-20 \text{ °C ... } +120 \text{ °C (-4 °F ... } 248 \text{ °F)}$

FKM $-20 \text{ °C ... } +170 \text{ °C (-4 °F ... } 338 \text{ °F)}$

Sliding velocity: $vg = 4 \text{ ... } 25 \text{ m/s (13 ... } 82 \text{ ft/s)}$

Differential pressure $\Delta p = \text{min. } 3 \text{ bar (44 PSI)}$, max. 16 bar (232 PSI) (internal pressure)



HBGSH-K

Shaft diameter: $d1 = 28 \text{ ... } 125 \text{ mm (1.10" ... } 4.92\text{"})$

Pressure: $p1 = 25 \text{ bar (363 PSI)}$

Temperature: $t = -20 \text{ °C ... } +170 \text{ °C (-4 °F ... } +338 \text{ °F)}$

Sliding velocity: $vg = 4 \text{ ... } 25 \text{ m/s (13 ... } 82 \text{ ft/s)}$