

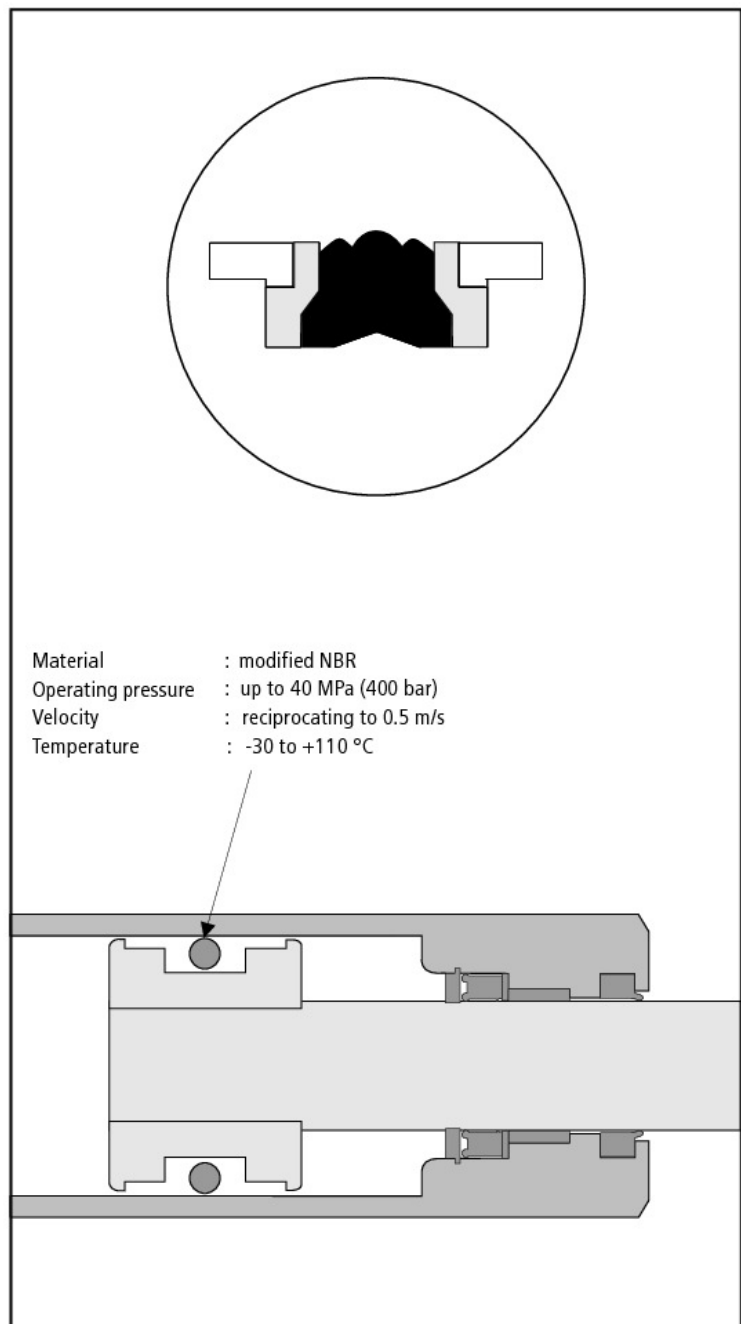


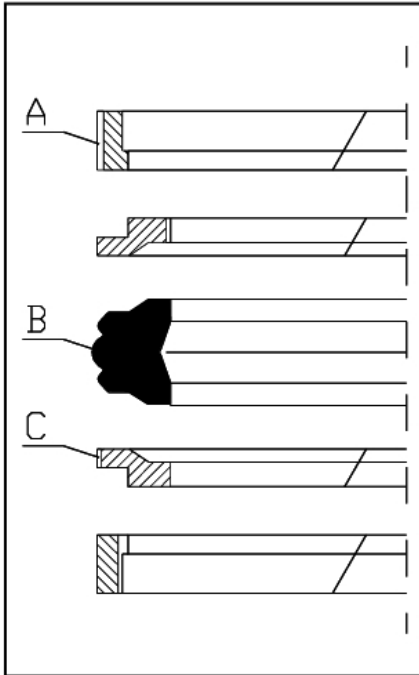
Double action piston seals of the HK 100 series combine sealing and guiding functions to the most confined of spaces. The special form of the sealing element also makes them suitable for use with suction or positioning cylinders.

A carefully chosen material of construction also makes it suitable for extreme service conditions.

Special Features:

- 5 part sealing set. Snap on assembly possible with single-piece pistons
- Sealing components from heavy duty anti-wear grade NBR
- Sealing components with three sealing edges. Optimal efficiency with least friction
- Also suitable for unilateral pressure application
- Torsion resistant due to form-locking components
- Heavy duty thrust rings with pressure relief/unloading grooves
- Extensive variety of sizes available.





Angular Slide Rings - Part A

Material: filled Polyamide

Short insides of the split/partitioned slide rings guarantee considerably simple assembly on single piece pistons. The practical design facilitates optimal distribution of transverse forces/shear forces that come into play. Axial unloading grooves ensure a shorter response time of the seal in case of quick changes in load. Specially designed materials ensure high pressure stability, even in case of variable thermal conditions. Low finishing tolerances ensure better piston sliding and optimize the seal function.

Elastomeric Seal Components - Part B

Material: NBR

Sturdy sealing elements from highly wear-resistant NBR are proven to be superior due to low compression strain and high tensile strength. Out of the three sealing edges, the larger one in the middle serves as the primary seal, and the two smaller external lips serve as a pre-seal. The broad clamping area is taken up by static sealing of the groove base/root.

Specially designed angular shoulders incorporated on both sides eliminate the possibility of turning of the sealing element in the event of shocks.

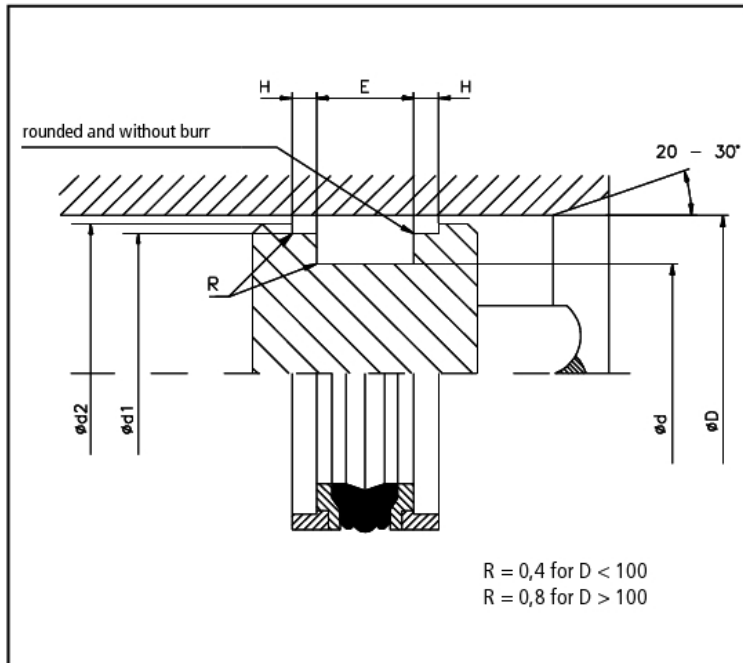
Piston Seal - Part C

Material: Polyester-Elastomer

Both thrust rings together produce the required form and force locking arrangements between sealing element and slide ring. Special material and close tolerances prevent split extrusion of the sliding elements.

Unloading grooves/relief grooves on the dynamic side eliminate pressure concentration even with quick load variations.

Double action piston seal series HK 100 has been used as a cylinder seal for years. The universal range of application from low pressures to heavy hydraulics is a major advantage. It also has proven results in cases of unilateral pressure application.



Limitations on Use

Maximum allowable operational pressure depending on the rubbing speed and temperature range of application is given below:

Vmax [m/s]	Application Temperature [°C]		
	-30 +60	-30 +80	-30 +110
0,50	250 bar	160 bar	100 bar
0,15	400 bar	250 bar	160 bar

Media for Use

Mineral oil based hydraulic oils, flame resistant pressure media and emulsions (HFA, HFB, HFC), Bio Oils.

Surface Finish

Surfaces	Rmax	Rz	Ra
Faces	2,5 μ m	1,6 μ m	0,4 μ m
Groove root	10,0 μ m	6,3 μ m	1,6 μ m
Groove flanks or sides	16,0 μ m	10,0 μ m	3,2 μ m

Extensive range of inch measurement diagrams available on request.

D H9	d h9	E +0,2	H +0,1	d1 h9	d2 h11	Part N°.
20,00	11,00	13,50	2,10	17,00	19,00	HK100 0200-01-100
22,00	13,00	13,50	2,10	19,00	21,00	HK100 0220-01-100
25,00	15,00	12,00	4,00	21,00	23,00	HK100 0250-01-100
25,00	15,00	12,50	4,00	22,00	24,00	HK100 0250-02-100
25,00	15,00	16,40	6,35	21,45	23,50	HK100 0250-04-100
25,00	16,00	13,50	2,10	22,00	24,00	HK100 0250-05-100
25,00	17,00	10,00	4,00	22,00	24,00	HK100 0250-06-100
25,00	17,00	13,50	3,20	21,00	24,40	HK100 0250-07-100
28,00	19,00	13,50	2,10	25,00	27,00	HK100 0280-01-100
30,00	17,00	15,40	6,35	26,50	29,00	HK100 0300-01-100
30,00	21,00	13,50	2,10	27,00	29,00	HK100 0300-02-100
30,00	22,00	13,50	3,20	26,00	29,40	HK100 0300-03-100
32,00	22,00	12,50	4,00	29,00	31,00	HK100 0320-01-100
32,00	22,00	15,50	2,60	28,00	31,00	HK100 0320-02-100
32,00	22,00	16,40	6,35	28,50	30,50	HK100 0320-03-100
32,00	24,00	10,00	4,00	29,00	31,00	HK100 0320-04-100
32,00	24,00	15,50	3,20	28,00	31,40	HK100 0320-05-100
35,00	25,00	15,50	2,60	31,00	34,00	HK100 0350-01-100
35,00	25,00	16,40	6,35	31,40	33,50	HK100 0350-02-100
35,00	27,00	15,50	3,20	31,00	34,40	HK100 0350-03-100
36,00	26,00	15,50	2,60	32,00	35,00	HK100 0360-01-100
40,00	24,00	18,40	6,35	35,40	38,50	HK100 0400-01-100
40,00	26,00	15,50	2,60	36,00	39,00	HK100 0400-02-100
40,00	30,00	12,50	4,00	36,00	38,00	HK100 0400-03-100
40,00	30,00	12,50	4,00	37,00	39,00	HK100 0400-04-100
40,00	30,00	16,40	6,35	35,40	38,50	HK100 0400-05-100
40,00	32,00	10,00	4,00	37,00	39,00	HK100 0400-06-100
40,00	32,00	15,50	3,20	36,00	39,40	HK100 0400-07-100
42,00	28,00	15,50	2,60	38,00	41,00	HK100 0420-01-100
45,00	29,00	18,40	6,35	40,40	43,70	HK100 0450-01-100
45,00	31,00	15,50	2,60	41,00	44,00	HK100 0450-02-100
45,00	35,00	16,40	6,35	40,40	43,50	HK100 0450-03-100

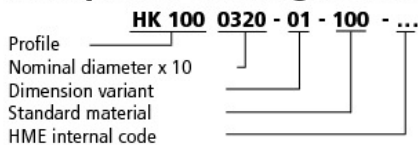
D H9	d h9	E +0,2	H +0,1	d1 h9	d2 h11	Part N°.
45,00	37,00	15,50	3,20	41,00	44,40	HK100 0450-04-100
50,00	34,00	18,40	6,35	45,40	48,70	HK100 0500-01-100
50,00	34,00	20,50	3,10	46,00	49,00	HK100 0500-02-100
50,00	35,00	20,00	5,00	46,00	48,50	HK100 0500-03-100
50,00	38,00	20,50	4,20	46,00	49,40	HK100 0500-04-100
50,00	40,00	12,50	4,00	47,00	49,00	HK100 0500-05-100
55,00	39,00	18,40	6,35	50,36	53,50	HK100 0550-01-100
55,00	39,00	20,50	3,10	51,00	54,00	HK100 0550-02-100
55,00	43,00	20,50	4,20	51,00	54,90	HK100 0550-03-100
55,00	45,00	12,50	4,00	52,00	54,00	HK100 0550-04-100
56,00	40,00	20,50	3,10	52,00	55,00	HK100 0560-01-100
60,00	44,00	18,40	6,35	55,40	58,50	HK100 0600-01-100
60,00	44,00	20,50	3,10	56,00	59,00	HK100 0600-02-100
60,00	48,00	20,50	4,20	56,00	59,40	HK100 0600-03-100
63,00	47,00	18,40	6,35	58,40	61,50	HK100 0630-01-100
63,00	47,00	19,40	6,35	58,40	61,60	HK100 0630-02-100
63,00	47,00	20,50	3,10	59,00	62,00	HK100 0630-03-100
63,00	48,00	20,00	5,00	59,00	61,50	HK100 0630-04-100
63,00	51,00	20,50	4,20	59,00	62,40	HK100 0630-05-100
63,00	53,00	12,50	4,00	60,00	62,00	HK100 0630-06-100
65,00	49,00	20,50	3,10	61,00	64,00	HK100 0650-01-100
65,00	50,00	18,40	6,35	60,40	63,50	HK100 0650-02-100
65,00	53,00	20,50	4,20	61,00	64,90	HK100 0650-03-100
70,00	50,00	22,40	6,35	64,20	68,30	HK100 0700-01-100
70,00	54,00	20,50	3,10	66,00	69,00	HK100 0700-02-100
70,00	55,00	20,00	5,00	66,00	68,50	HK100 0700-03-100
70,00	58,00	20,50	4,20	66,00	69,40	HK100 0700-04-100
75,00	55,00	22,40	6,35	69,20	73,30	HK100 0750-01-100
75,00	59,00	20,50	3,10	71,00	74,00	HK100 0750-02-100
80,00	60,00	22,40	6,35	74,15	78,30	HK100 0800-01-100
80,00	60,00	25,00	6,35	75,00	78,00	HK100 0800-02-100
80,00	62,00	22,50	3,60	76,00	79,00	HK100 0800-03-100
80,00	65,00	20,00	5,00	76,00	78,50	HK100 0800-04-100
80,00	66,00	22,50	5,20	76,00	79,40	HK100 0800-05-100
85,00	65,00	22,40	6,35	79,15	83,30	HK100 0850-01-100
85,00	75,00	20,00	4,00	81,00	83,34	HK100 0850-02-100
90,00	70,00	22,40	6,35	84,15	88,30	HK100 0900-01-100
90,00	72,00	22,50	3,60	86,00	89,00	HK100 0900-02-100
90,00	75,00	20,00	5,00	86,00	88,50	HK100 0900-03-100
90,00	76,00	22,50	5,20	86,00	89,40	HK100 0900-04-100
95,00	75,00	22,40	6,35	89,15	93,30	HK100 0950-01-100
100,00	75,00	22,40	6,35	93,15	98,00	HK100 1000-01-100
100,00	80,00	25,00	6,30	95,00	98,00	HK100 1000-02-100
100,00	82,00	22,50	3,60	96,00	99,00	HK100 1000-03-100
100,00	85,00	20,00	5,00	96,00	98,50	HK100 1000-04-100
100,00	86,00	20,00	5,00	96,00	98,50	HK100 1000-05-100
100,00	86,00	22,50	5,20	96,00	99,40	HK100 1000-06-100
105,00	80,00	22,40	6,35	98,10	103,00	HK100 1050-01-100
110,00	85,00	22,40	6,35	103,10	108,00	HK100 1100-01-100
110,00	85,00	25,40	6,35	103,10	108,00	HK100 1100-02-100
110,00	90,00	25,30	6,40	104,10	108,30	HK100 1100-03-100
110,00	92,00	22,50	3,60	106,00	109,00	HK100 1100-04-100
110,00	95,00	20,00	5,00	105,00	108,00	HK100 1100-05-100
110,00	96,00	22,50	5,20	106,00	109,40	HK100 1100-06-100
115,00	90,00	22,40	6,35	108,10	113,00	HK100 1150-01-100
115,00	97,00	22,50	3,60	111,00	114,00	HK100 1150-02-100
120,00	95,00	22,40	6,35	113,10	118,00	HK100 1200-01-100
120,00	106,00	22,50	5,20	116,00	119,40	HK100 1200-02-100
125,00	100,00	25,40	6,35	118,10	123,00	HK100 1250-01-100
125,00	100,00	32,00	10,00	119,00	123,00	HK100 1250-02-100
125,00	103,00	26,50	5,10	121,00	124,00	HK100 1250-03-100

D H9	d h9	E +0,2	H +0,1	d1 h9	d2 h11	Part N°.
125,00	105,00	25,40	6,35	119,10	123,30	HK100 1250-05-100
125,00	108,00	26,50	7,20	121,00	124,40	HK100 1250-06-100
130,00	105,00	25,40	6,35	123,10	128,00	HK100 1300-01-100
130,00	105,00	25,40	9,50	122,60	127,50	HK100 1300-02-100
130,00	110,00	25,40	6,35	124,10	128,30	HK100 1300-03-100
135,00	110,00	25,40	6,35	128,10	133,00	HK100 1350-01-100
135,00	110,00	25,40	9,50	127,60	132,50	HK100 1350-02-100
140,00	115,00	25,40	6,35	133,00	138,00	HK100 1400-01-100
140,00	115,00	25,40	9,50	132,60	137,50	HK100 1400-02-100
140,00	118,00	26,50	5,10	136,00	139,00	HK100 1400-03-100
140,00	120,00	25,00	6,35	135,00	138,00	HK100 1400-04-100
140,00	123,00	26,50	7,20	136,00	139,40	HK100 1400-05-100
145,00	120,00	25,40	6,35	138,30	142,95	HK100 1450-01-100
145,00	120,00	25,40	9,50	137,60	142,50	HK100 1450-02-100
150,00	125,00	25,40	6,35	143,00	148,00	HK100 1500-01-100
150,00	125,00	25,40	9,50	142,60	147,50	HK100 1500-02-100
150,00	128,00	26,50	5,10	146,00	149,00	HK100 1500-03-100
150,00	130,00	25,40	6,35	144,10	148,30	HK100 1500-04-100
150,00	133,00	26,50	7,20	146,00	149,40	HK100 1500-05-100
155,00	130,00	25,40	6,35	148,00	153,00	HK100 1550-01-100
155,00	130,00	25,40	9,50	147,60	152,50	HK100 1550-02-100
160,00	130,00	25,40	9,50	152,60	157,50	HK100 1600-01-100
160,00	130,00	25,40	6,35	153,00	157,50	HK100 1600-02-100
160,00	135,00	25,40	9,50	152,60	157,50	HK100 1600-03-100
160,00	135,00	32,00	10,00	154,00	158,00	HK100 1600-04-100
160,00	138,00	26,50	5,10	156,00	159,00	HK100 1600-05-100
160,00	140,00	25,00	6,30	155,00	158,00	HK100 1600-06-100
160,00	143,00	26,50	7,20	156,00	159,40	HK100 1600-07-100
165,00	140,00	25,40	9,50	157,60	162,50	HK100 1650-01-100
170,00	145,00	25,40	12,70	161,70	167,10	HK100 1700-01-100
170,00	148,00	26,50	5,10	166,00	169,00	HK100 1700-02-100
175,00	150,00	25,40	12,70	166,70	172,10	HK100 1750-01-100
180,00	150,00	35,40	6,35	172,95	177,87	HK100 1800-01-100
180,00	155,00	25,40	12,70	171,70	177,10	HK100 1800-02-100
180,00	158,00	26,50	5,10	176,00	179,00	HK100 1800-03-100
180,00	163,00	26,50	7,20	176,00	179,40	HK100 1800-04-100
185,00	160,00	25,40	12,70	176,70	182,10	HK100 1850-01-100
190,00	165,00	25,40	12,70	181,70	187,00	HK100 1900-01-100
195,00	170,00	25,40	12,70	186,70	192,00	HK100 1950-01-100
200,00	170,00	35,40	6,35	193,00	198,00	HK100 2000-01-100
200,00	170,00	36,00	6,35	192,00	197,00	HK100 2000-02-100
200,00	175,00	25,40	12,70	191,60	197,00	HK100 2000-03-100
200,00	175,00	31,50	6,60	196,00	199,00	HK100 2000-04-100
200,00	180,00	31,50	9,20	196,00	199,40	HK100 2000-05-100
200,00	170,00	35,40	6,35	193,00	198,00	HK100 2000-06-100
210,00	185,00	25,40	12,70	201,60	207,00	HK100 2100-01-100
220,00	190,00	35,40	6,35	212,70	217,90	HK100 2200-01-100
220,00	195,00	25,40	12,70	211,60	217,00	HK100 2200-02-100
220,00	200,00	31,50	9,20	216,00	219,40	HK100 2200-03-100
225,00	200,00	25,40	12,70	216,62	222,00	HK100 2250-01-100
225,00	200,00	31,50	6,60	221,00	224,00	HK100 2250-02-100
230,00	205,00	25,40	12,70	221,60	227,00	HK100 2300-01-100
240,00	215,00	25,40	12,70	231,60	237,00	HK100 2400-01-100
250,00	220,00	35,40	6,35	242,90	247,85	HK100 2500-01-100
250,00	220,00	36,00	12,50	242,00	247,00	HK100 2500-02-100
250,00	225,00	25,40	12,70	241,60	247,00	HK100 2500-03-100
250,00	225,00	31,50	6,60	246,00	249,00	HK100 2500-04-100
250,00	230,00	31,50	9,20	246,00	249,40	HK100 2500-05-100
260,00	235,00	25,40	12,70	252,90	257,00	HK100 2600-01-100

D H9	d h9	E +0,2	H +0,1	d1 h9	d2 h11	Part N°.
275,00	250,00	31,50	6,60	271,00	274,00	HK100 2750-01-100
280,00	250,00	35,40	9,52	272,90	277,85	HK100 2800-01-100
300,00	275,00	31,50	6,60	296,00	299,00	HK100 3000-01-100
320,00	290,00	35,40	9,52	312,40	317,50	HK100 3200-01-100
320,00	290,00	36,00	12,50	312,00	317,00	HK100 3200-02-100

Further dimensions and imperial equivalents are available on request. Dimensions in bold face correspond to DIN ISO 6547.

Example for ordering Piston Seal :



Material Key:

Gasket
100 - NBR
120 - FPM

Issue

01	05
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WARNING: Limits of application stated herein are standard values. They could be individually transgressed with due consideration to respective service conditions. In the event of a large duty cycle, pulsating operation and other complex operational conditions, simultaneous transgression of these values is not recommended. Due to a large variety of service conditions that may arise in course of actual use, the company does not take responsibility of or guarantee the functional accuracy of the individual components. Rights for changes are reserved.