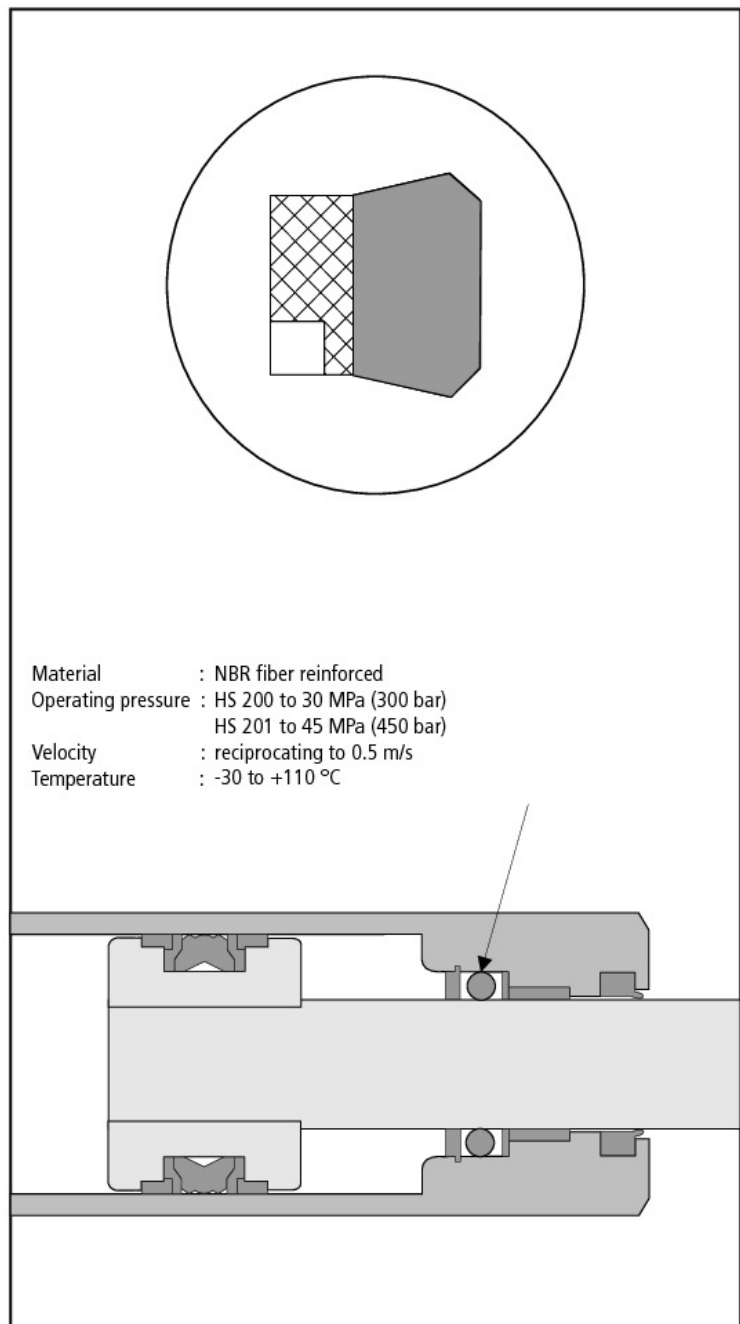


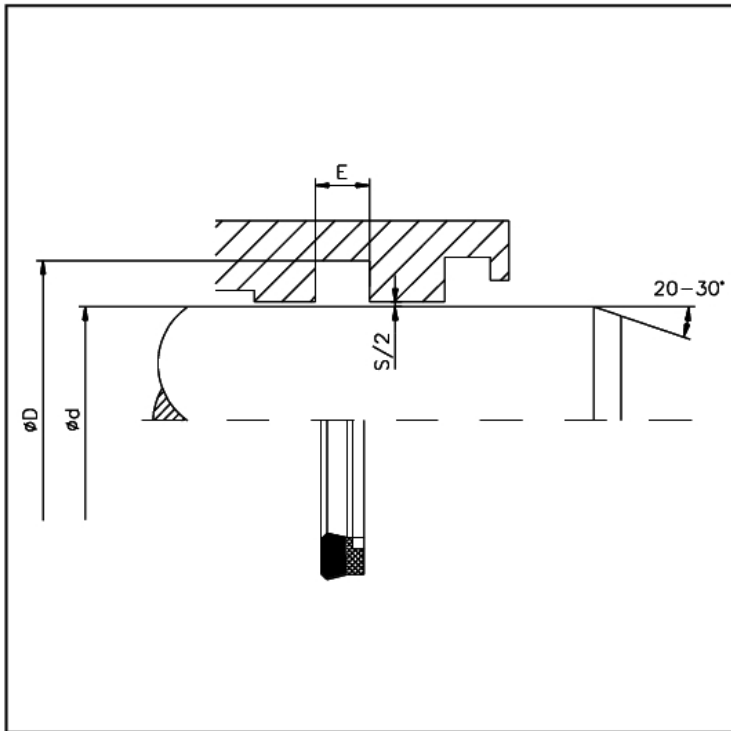
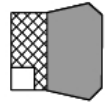
Compact rod seals in the HS 200 and HS 201 series are meant for a versatile range of hydraulics applications. The rubber-fabric combination has been successfully used for many years, specifically for Bio Oil. Radially pre-stressed sealing edges guarantee good sealing even with impact pressures and high pressure fluctuations in addition to low pressure zones.

The design HS 201 with thrust ring enhances operational security against split extrusion at high pressure surges.

### Special Features:

- Lowest stick-slip tendency due to NBR fabric material combination
- Very good dynamic and static sealing
- Extrusion protection due to fabric reinforcement
- High pressure absorption possible due to separate thrust ring
- All dimensions (in HS 201 as 40 mm onward) in closed grooves
- Separate slide-in bands are available for the HS 201 due to larger permissible diameter clearances.





### Limitations on Use

Operating pressure :	HS 200 up to 30 MPa (300 bar) HS 201 up to 45 MPa (450 bar)
Velocity :	reciprocating to 0.5 m/s
Temperature :	-30 to +110 °C

### Media for Use

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

### Surface Finish

Surfaces	Rz	Ra
Faces	2,0 $\mu$ m	0,3 $\mu$ m
Groove root	4,0 $\mu$ m	0,8 $\mu$ m
Groove flanks	8,0 $\mu$ m	1,8 $\mu$ m

### Diameter Clearance

Max. Diameter Clearance S [mm]	Max. Pressure [bar]	
	HS 200	HS 201
0,40	100	200
0,30	150	250
0,20	200	350
0,10	300	450

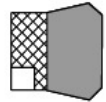
d f8/h9	D H10	E +0,2	Part N° HS 200	Part N° HS 201
5,00	12,00	6,50	HS200 0050-01-100	
6,00	13,00	6,50	HS200 0060-01-100	
8,00	15,00	6,50	HS200 0080-01-100	
12,00	19,00	6,50	HS200 0120-01-100	
12,00	23,00	7,50		HS201 0120-01-100
14,00	22,00	6,50	HS200 0140-01-100	
14,00	22,00	7,00	HS200 0140-02-100	
15,00	23,00	6,30	HS200 0150-01-100	
15,00	27,00	7,00	HS200 0150-02-100	HS201 0150-01-100
16,00	24,00	6,40	HS200 0160-01-100	
16,00	24,00	7,00	HS200 0160-02-100	HS201 0160-01-100
16,00	28,00	7,50		HS201 0160-02-100
18,00	25,00	6,00		HS201 0180-01-100
18,00	26,00	6,50	HS200 0180-01-100	
18,00	26,00	7,00	HS200 0180-02-100	
18,00	28,00	6,30	HS200 0180-03-100	HS201 0180-02-100
18,00	30,00	7,50		HS201 0180-03-100
20,00	27,00	6,50	HS200 0200-01-100	HS201 0200-01-100
20,00	28,00	6,30	HS200 0200-02-100	HS201 0200-02-100
20,00	28,00	7,00	HS200 0200-03-100	HS201 0200-03-100
20,00	30,00	6,50	HS200 0200-04-100	
20,00	30,00	8,50	HS200 0200-05-100	HS201 0200-04-100
20,00	32,00	9,50		HS201 0200-05-100
20,00	32,00	10,00		HS201 0200-06-100
20,00	35,00	11,50	HS200 0200-06-100	
22,00	30,00	7,00	HS200 0220-01-100	
22,00	34,00	9,50	HS200 0220-02-100	HS201 0220-01-100
22,00	35,00	10,00	HS200 0220-03-100	HS201 0220-02-100
24,00	34,00	6,50	HS200 0240-01-100	
25,00	33,00	6,40		HS201 0250-01-100
25,00	35,00	8,50		HS201 0250-02-100

d f8/h9	D H10	E +0,2	Part N° HS 200	Part N° HS 201
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25,00	37,00	10,50		HS201 0250-04-100
25,00	38,00	10,00	HS200 0250-02-100	HS201 0250-05-100
25,00	38,00	10,50		HS201 0250-06-100
25,00	44,00	12,50	HS200 0250-03-100	
26,00	40,00	10,00	HS200 0260-01-100	
27,00	35,00	6,50	HS200 0270-01-100	
28,00	36,00	6,40	HS200 0280-01-100	
28,00	38,00	8,00	HS200 0280-02-100	HS201 0280-01-100
28,00	38,00	8,50		HS201 0280-02-100
28,00	40,00	9,50	HS200 0280-03-100	HS201 0280-03-100
28,00	41,00	10,00	HS200 0280-04-100	
30,00	38,00	6,40	HS200 0300-01-100	HS201 0300-01-100
30,00	40,00	7,50	HS200 0300-02-100	HS201 0300-02-100
30,00	40,00	9,00		HS201 0300-03-100
30,00	40,00	10,50		HS201 0300-04-100
30,00	40,00	11,00		HS201 0300-05-100
30,00	42,00	10,50		HS201 0300-06-100
30,00	45,00	9,00	HS200 0300-03-100	HS201 0300-07-100
30,00	45,00	9,50		HS201 0300-08-100
30,00	45,00	11,00		HS201 0300-09-100
30,00	50,00	14,50	HS200 0300-04-100	HS201 0300-10-100
32,00	40,00	6,40	HS200 0320-01-100	
32,00	40,00	9,00	HS200 0320-02-100	HS201 0320-01-100
32,00	42,00	8,50		HS201 0320-02-100
32,00	44,00	11,50	HS200 0320-03-100	HS201 0320-03-100
32,00	45,00	10,00		HS201 0320-04-100
32,00	46,00	10,50		HS201 0320-05-100
34,92	50,80	11,60	HS200 0349-01-100	
35,00	43,00	6,50	HS200 0350-01-100	HS201 0350-01-100
35,00	45,00	7,00		HS201 0350-02-100



d f8/h9	D H10	E +0,2	Part N° HS 200	Part N° HS 201
35,00	45,00	8,00	HS200 0350-02-100	HS201 0350-03-100
35,00	45,00	10,50		HS201 0350-04-100
35,00	45,00	11,00		HS201 0350-05-100
35,00	45,00	13,50	HS200 0350-03-100	
35,00	50,00	11,00		HS201 0350-06-100
35,00	50,00	11,50	HS200 0350-04-100	
35,00	50,00	12,00		HS201 0350-07-100
36,00	43,00	6,50	HS200 0360-01-100	HS201 0360-01-100
36,00	44,00	6,50	HS200 0360-02-100	
36,00	46,00	8,50	HS200 0360-03-100	HS201 0360-02-100
36,00	48,00	9,50	HS200 0360-04-100	HS201 0360-03-100
37,72	50,80	9,00	HS200 0377-01-100	
38,00	50,00	9,50	HS200 0380-01-100	
38,00	55,00	11,00		HS201 0380-01-100
40,00	48,00	6,50		HS201 0400-01-100
40,00	50,00	8,00	HS200 0400-01-100	HS201 0400-02-100
40,00	50,00	10,00	HS200 0400-02-100	HS201 0400-03-100
40,00	50,00	10,50		HS201 0400-04-100
40,00	50,00	11,00		HS201 0400-05-100
40,00	50,00	13,50	HS200 0400-03-100	
40,00	52,00	9,50		HS201 0400-06-100
40,00	52,00	11,00		HS201 0400-07-100
40,00	55,00	7,50	HS200 0400-04-100	
40,00	55,00	8,00		HS201 0400-08-100
40,00	55,00	11,00	HS200 0400-05-100	HS201 0400-09-100
40,00	60,00	10,50		HS201 0400-10-100
40,00	60,00	11,00		HS201 0400-11-100
40,00	60,00	14,50		HS201 0400-12-100
42,00	50,00	6,50	HS200 0420-01-100	
43,00	53,00	9,00	HS200 0430-01-100	
44,45	60,32	11,60	HS200 0444-01-100	
45,00	52,00	10,50	HS200 0450-01-100	
45,00	53,00	6,50	HS200 0450-02-100	
45,00	53,00	8,50		HS201 0450-01-100
45,00	53,00	11,00		HS201 0450-02-100
45,00	55,00	8,00	HS200 0450-03-100	HS201 0450-03-100
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45,00	60,00	11,00		HS201 0450-06-100
45,00	63,00	11,00	HS200 0450-05-100	HS201 0450-07-100
45,00	65,00	14,50		HS201 0450-08-100
46,00	54,00	8,00	HS200 0460-01-100	
46,00	56,00	8,00	HS200 0460-02-100	
48,00	60,00	7,00	HS200 0480-01-100	
48,00	60,00	11,00		HS201 0480-01-100
50,00	58,00	12,50	HS200 0500-01-100	
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50,00	60,00	10,00		HS201 0500-02-100
50,00	60,00	10,50		HS201 0500-03-100
50,00	62,00	9,50		HS201 0500-04-100
50,00	62,00	10,00		HS201 0500-05-100
50,00	65,00	11,00		HS201 0500-06-100
50,00	70,00	14,50		HS201 0500-07-100
50,80	66,67	11,50	HS200 0508-01-100	
53,44	63,50	7,00	HS200 0534-01-100	
54,00	66,00	9,50	HS200 0540-01-100	
55,00	65,00	8,00	HS200 0550-01-100	HS201 0550-01-100
55,00	65,00	11,00	HS200 0550-02-100	HS201 0550-02-100
55,00	65,00	13,50		HS201 0550-03-100
55,00	70,00	10,50		HS201 0550-04-100
55,00	75,00	14,50		HS201 0550-05-100

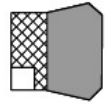
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56,00	71,00	10,50	HS200 0560-02-100	HS201 0560-02-100
56,00	71,00	12,50		HS201 0560-03-100
56,00	76,00	14,50	HS200 0560-03-100	
57,00	67,00	8,00	HS200 0570-01-100	
57,15	69,85	10,00	HS200 0571-01-100	
60,00	68,00	12,50	HS200 0600-01-100	
60,00	69,50	7,00	HS200 0600-02-100	
60,00	70,00	8,00	HS200 0600-03-100	
60,00	70,00	10,00		HS201 0600-01-100
60,00	70,00	11,00		HS201 0600-02-100
60,00	70,00	13,00		HS201 0600-03-100
60,00	72,00	10,00	HS200 0600-04-100	HS201 0600-04-100
60,00	75,00	13,00		HS201 0600-05-100
60,00	80,00	14,50		HS201 0600-06-100
61,00	69,00	8,50	HS200 0610-01-100	
63,00	75,00	11,00	HS200 0630-01-100	
63,00	78,00	10,50		HS201 0630-01-100
63,00	83,00	14,50	HS200 0630-02-100	HS201 0630-02-100
65,00	75,00	13,50	HS200 0650-01-100	HS201 0650-01-100
65,00	77,00	9,60	HS200 0650-02-100	
65,00	80,00	11,50		HS201 0650-02-100
65,00	80,00	12,50		HS201 0650-03-100
65,00	85,00	14,50		HS201 0650-04-100
68,00	79,40	10,00	HS200 0680-01-100	
70,00	80,00	8,00	HS200 0700-01-100	
70,00	80,00	13,00		HS201 0700-01-100
70,00	82,00	9,60	HS200 0700-02-100	
70,00	84,00	12,50	HS200 0700-03-100	HS201 0700-02-100
70,00	85,00	12,00		HS201 0700-03-100
70,00	85,00	12,50		HS201 0700-04-100
70,00	90,00	14,50		HS201 0700-05-100
72,00	84,00	6,00	HS200 0720-01-100	
75,00	85,00	8,00	HS200 0750-01-100	
75,00	85,00	12,50		HS201 0750-01-100
75,00	87,00	10,00	HS200 0750-02-100	
75,00	90,00	11,50	HS200 0750-03-100	HS201 0750-02-100
75,00	95,00	14,50		HS201 0750-03-100
76,00	84,00	8,50	HS200 0760-01-100	
77,00	87,00	8,00	HS200 0770-01-100	
78,00	90,00	12,00	HS200 0780-01-100	
78,00	90,00	12,50		HS201 0780-01-100
80,00	90,00	8,00	HS200 0800-01-100	
80,00	90,00	13,00		HS201 0800-01-100
80,00	92,00	9,60	HS200 0800-02-100	
80,00	95,00	10,50		HS201 0800-02-100
80,00	95,00	12,00		HS201 0800-03-100
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80,00	100,00	12,00		HS201 0800-06-100
80,00	100,00	12,50		HS201 0800-07-100
80,00	100,00	14,50		HS201 0800-08-100
84,00	94,00	8,00	HS200 0840-01-100	
85,00	95,00	8,00	HS200 0850-01-100	
85,00	97,00	9,60	HS200 0850-02-100	
85,00	100,00	12,00	HS200 0850-03-100	HS201 0850-01-100
85,00	100,00	12,50		HS201 0850-02-100
85,00	105,00	14,80		HS201 0850-03-100
85,72	104,77	14,80	HS200 0857-01-100	
88,90	107,95	12,70	HS200 0889-01-100	



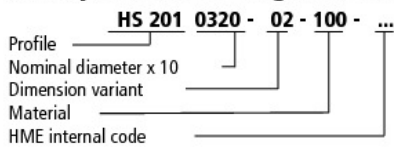
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88,90	114,30	19,50	HS200 0889-02-100	
90,00	100,00	10,50	HS200 0900-01-100	HS201 0900-01-100
90,00	102,00	9,60	HS200 0900-02-100	
90,00	105,00	12,50		HS201 0900-02-100
90,00	106,20	10,80	HS200 0900-03-100	
90,00	110,00	12,50		HS201 0900-03-100
90,00	110,00	14,50		HS201 0900-04-100
91,00	99,00	8,50	HS200 0910-01-100	
95,00	105,00	11,00	HS200 0950-01-100	HS201 0950-01-100
95,00	107,00	12,50	HS200 0950-02-100	
95,00	115,00	14,50		HS201 0950-02-100
95,25	114,30	13,50	HS200 0952-01-100	
96,00	105,00	11,50	HS200 0960-01-100	
98,00	107,50	7,00	HS200 0980-01-100	
100,00	113,00	13,50		HS201 1000-01-100
100,00	115,00	11,50	HS200 1000-01-100	
100,00	115,00	12,50		HS201 1000-02-100
100,00	120,00	12,00		HS201 1000-03-100
100,00	120,00	14,50		HS201 1000-04-100
100,00	125,00	13,30	HS200 1000-02-100	
104,00	120,00	11,20	HS200 1040-01-100	
105,00	115,00	11,00	HS200 1050-01-100	HS201 1050-01-100
105,00	120,00	12,00	HS200 1050-02-100	
105,00	120,00	13,50		HS201 1050-02-100
105,00	120,00	15,50		HS201 1050-03-100
105,00	125,00	12,50	HS200 1050-03-100	HS201 1050-04-100
107,95	133,35	19,50	HS200 1079-01-100	
110,00	120,00	11,00		HS201 1100-01-100
110,00	125,00	12,00		HS201 1100-02-100
110,00	130,00	10,50		HS201 1100-03-100
110,00	130,00	12,50		HS201 1100-04-100
110,00	130,00	15,50		HS201 1100-05-100
110,00	135,00	15,50	HS200 1100-01-100	HS201 1100-06-100
114,30	139,70	19,50	HS200 1143-01-100	
115,00	125,00	8,00	HS200 1150-01-100	
115,00	130,00	12,50	HS200 1150-02-100	
115,00	135,00	15,50		HS201 1150-01-100
115,00	135,00	16,00		HS201 1150-02-100
118,00	130,00	12,50	HS200 1180-01-100	
120,00	130,00	11,00		HS201 1200-01-100
120,00	130,00	12,50		HS201 1200-02-100
120,00	135,00	12,50	HS200 1200-01-100	
120,00	140,00	12,50		HS201 1200-03-100
120,00	140,00	16,00		HS201 1200-04-100
120,00	145,00	18,80	HS200 1200-02-100	
121,20	150,00	14,50		HS201 1212-01-100
125,00	140,00	12,50	HS200 1250-01-100	HS201 1250-01-100
125,00	150,00	14,50		HS201 1250-02-100
125,00	150,00	15,50		HS201 1250-03-100
130,00	140,00	8,00	HS200 1300-01-100	
130,00	145,00	9,50		HS201 1300-01-100
130,00	145,00	13,00		HS201 1300-02-100
130,00	145,00	15,00	HS200 1300-02-100	
130,00	150,00	16,00	HS200 1300-03-100	HS201 1300-03-100
130,00	155,00	18,80	HS200 1300-04-100	
135,00	150,00	9,50		HS201 1350-01-100

d f8/h9	D H10	E +0,2	Part N° HS 200	Part N° HS 201
140,00	150,00	10,00	HS200 1400-01-100	
140,00	150,00	11,00		HS201 1400-01-100
140,00	150,00	12,50		HS201 1400-02-100
140,00	155,00	13,00	HS200 1400-02-100	
140,00	160,00	12,50		HS201 1400-03-100
140,00	160,00	14,50		HS201 1400-04-100
140,00	160,00	16,00	HS200 1400-03-100	
140,00	165,00	15,50		HS201 1400-05-100
145,00	157,70	10,00	HS200 1450-01-100	
150,00	165,00	13,00		HS201 1500-01-100
150,00	170,00	14,50		HS201 1500-02-100
150,00	170,00	16,00	HS200 1500-01-100	
150,00	180,00	14,00	HS200 1500-02-100	
155,00	170,00	9,50	HS200 1550-01-100	
160,00	175,00	16,00	HS200 1600-01-100	
160,00	180,00	14,50		HS201 1600-01-100
160,00	180,00	16,00	HS200 1600-02-100	
160,00	185,00	15,50		HS201 1600-02-100
165,10	177,80	10,00	HS200 1651-01-100	
170,00	182,70	10,00	HS200 1700-01-100	HS201 1700-01-100
170,00	200,00	23,50	HS200 1700-02-100	
180,00	200,00	14,50		HS201 1800-01-100
180,00	200,00	16,00	HS200 1800-01-100	
180,00	210,00	20,50	HS200 1800-02-100	
184,15	215,90	25,80	HS200 1841-01-100	
188,00	203,00	13,00	HS200 1880-01-100	
190,00	210,00	14,50	HS200 1900-01-100	
190,00	210,00	15,00		HS201 1900-01-100
196,85	228,60	25,80	HS200 1968-01-100	
198,00	208,00	12,00	HS200 1980-01-100	
200,00	220,00	14,50		HS201 2000-01-100
200,00	220,00	16,00	HS200 2000-01-100	
200,00	230,00	19,50	HS200 2000-02-100	
210,00	240,00	22,50	HS200 2100-01-100	
214,00	229,00	13,00	HS200 2140-01-100	
220,00	245,00	15,50		HS201 2200-01-100
220,00	250,00	20,50	HS200 2200-01-100	
225,00	255,00	22,50	HS200 2250-01-100	
230,00	260,00	19,50	HS200 2300-01-100	
238,00	258,00	15,50	HS200 2380-01-100	
238,00	268,00	21,00	HS200 2380-02-100	
250,00	285,00	16,50	HS200 2500-01-100	
250,00	290,00	25,50	HS200 2500-01-100	
260,00	290,00	20,00	HS200 2600-01-100	
280,00	320,00	22,50	HS200 2800-01-100	
290,00	310,00	15,00	HS200 2900-01-100	
290,00	320,00	20,50	HS200 2900-02-100	
310,00	330,00	16,50	HS200 3100-01-100	
320,00	360,00	25,50	HS200 3200-01-100	
340,00	380,00	25,50		HS201 3400-01-100
350,00	385,00	25,50	HS200 3500-01-100	
360,00	400,00	33,80	HS200 3600-01-100	
381,00	419,10	38,80	HS200 3810-01-100	
400,00	425,00	19,00	HS200 4000-01-100	
535,00	580,00	40,00	HS200 5350-01-100	
558,80	609,60	45,50	HS200 5588-01-100	
630,00	678,00	60,00	HS200 6300-01-100	

These sizes also available in FPM. Further sizes/measurements and imperial sizes available on request.



### Example for ordering Rod Seal:



### Material Key:

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.