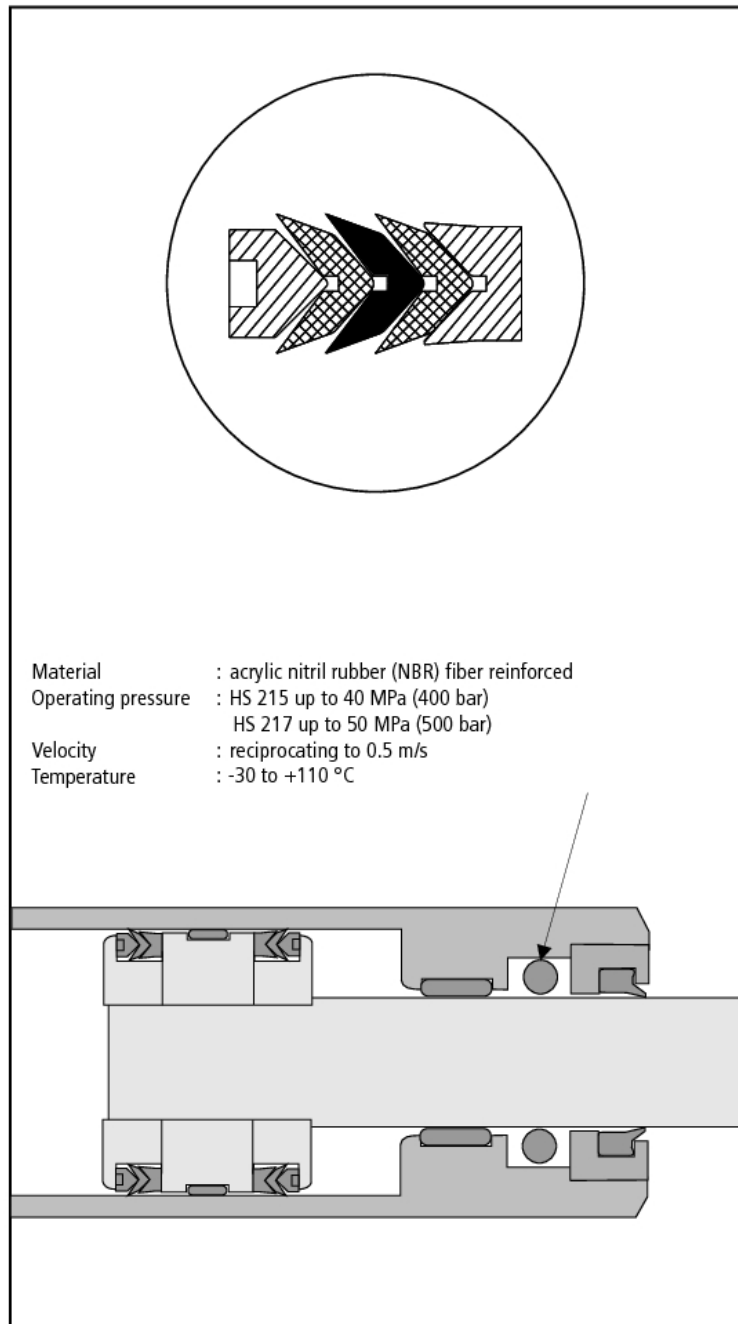
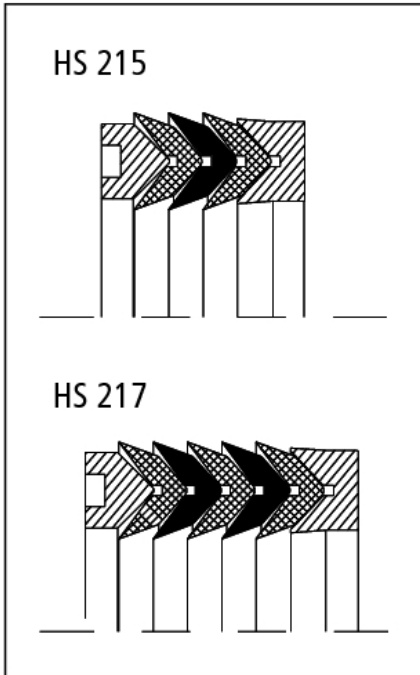


Gland seals excel in ultra-heavy duty application. Dirty pistons/rods and high temperatures are usually not a problem for them. Applications include light hydraulics where attack of dirt is involved, also heavy hydraulics such as presses and rollers.

Special Features:

- Five part composition comprising of pressure ring, two fabric V-rings, one NBR V-ring and base ring
- Seven part composition comprising of one pressure ring, three fabric V-rings, two NBR V-rings and one base ring
- Highly wear resistant cotton used in V-rings
- Good results even with rod vibrations or stop-ping
- Can be safely used for larger tolerances
- Three or five fold sealing lips
- Sealing sets glands also available in FPM
- Many sizes interchangeable with compact seal type PSE
- Supply possible up to $d = 950$ mm
- Gland sealing sets also delivered in total fabric design





Detailed Information

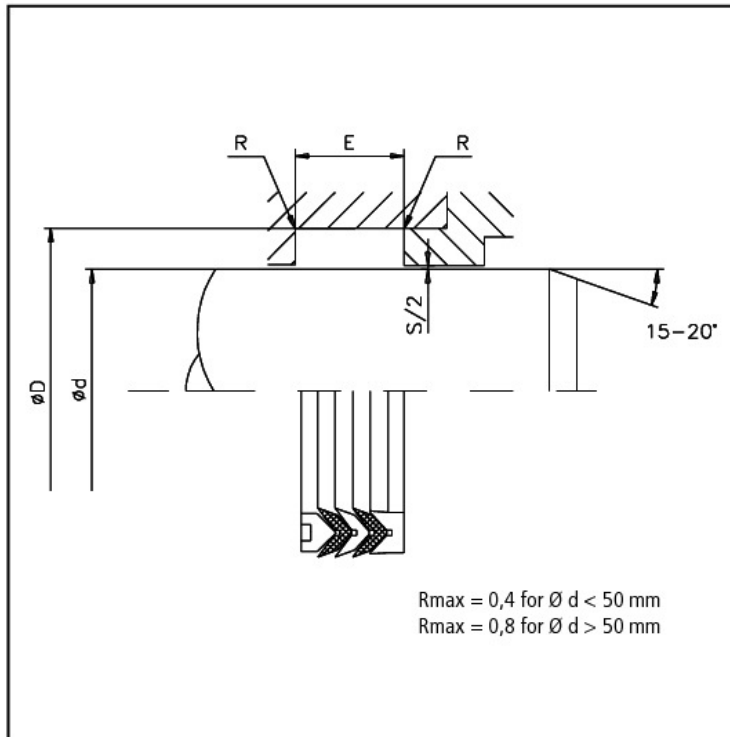
Adjoining drawing shows arrangement of various V-rings, i.e. thrust and pressure rings for the five part as well as for the seven part models.

It is also possible to increase the number of individual V-rings in fabric design or NBR if needed.

It must be noted, however, that, in contrast to the so called compact rod seals, friction between individual V-rings significantly increases under pressure.

This kind of rod seals also provide good results for water hydraulics.

All these designs and sizes are also available in FPM.



Limitations on Use	
Operating pressure	: HS 215 up to 40 MPa (400 bar)
Velocity	: HS 217 up to 50 MPa (500 bar)
Temperature	: reciprocating to 0.5 m/s : -30 to +110 °C (material NBR) : -10 to +150 °C (material FPM)

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

Surface Finish		
Surfaces	Rz	Ra
Faces	1,2 μ m	0,3 μ m
Groove root	6,3 μ m	1,8 μ m
Groove flanks	10,0 μ m	3,2 μ m

Diameter Clearance		
Max. Diameter Clearance S [mm]	Max. Pressure [bar]	
	HS 215	HS 217
0,40	150	200
0,30	225	300
0,20	300	400
0,15	400	500

Construction HS 215

d f8/h9	D H10	E +0,3	Part N°
10,00	20,00	11,00	HS215 0100-01-100
12,00	25,00	14,35	HS215 0120-01-100
16,00	29,00	14,35	HS215 0160-01-100
18,00	31,00	14,32	HS215 0180-01-100
20,00	30,00	21,50	HS215 0200-01-100
20,00	31,50	17,50	HS215 0200-02-100
20,00	33,00	14,35	HS215 0200-03-100
22,00	32,00	18,15	HS215 0220-01-100
25,00	35,00	17,30	HS215 0250-01-100
25,00	40,00	19,85	HS215 0250-02-100
25,00	42,00	25,40	HS215 0250-03-100
26,00	45,00	29,40	HS215 0260-01-100
28,00	40,00	17,00	HS215 0280-01-100
28,00	44,00	17,65	HS215 0280-02-100
30,00	40,00	21,80	HS215 0300-01-100
30,00	42,00	20,00	HS215 0300-02-100
30,00	45,00	22,20	HS215 0300-03-100
30,00	50,00	29,37	HS215 0300-04-100
32,00	42,00	17,30	HS215 0320-01-100
35,00	45,00	21,78	HS215 0350-01-100
35,00	50,00	22,50	HS215 0350-02-100
36,00	52,00	17,60	HS215 0360-01-100
38,00	55,00	28,00	HS215 0380-01-100
40,00	50,00	17,30	HS215 0400-01-100
40,00	55,00	22,60	HS215 0400-02-100
40,00	55,00	26,20	HS215 0400-03-100
40,00	56,00	17,63	HS215 0400-04-100
40,00	60,00	30,00	HS215 0400-05-100
40,00	65,00	35,75	HS215 0400-06-100
45,00	55,00	17,50	HS215 0450-01-100

Construction HS 217

d f8/h9	D H10	E +0,3	Part N°
8,00	18,00	18,50	HS217 0080-01-100
10,00	20,00	18,50	HS217 0100-01-100
12,00	22,00	18,50	HS217 0120-01-100
14,00	24,00	18,50	HS217 0140-01-100
14,00	25,00	18,50	HS217 0140-02-100
16,00	26,00	18,50	HS217 0160-01-100
18,00	28,00	18,50	HS217 0180-01-100
20,00	30,00	18,50	HS217 0200-01-100
20,00	32,00	22,50	HS217 0200-02-100
22,00	32,00	18,50	HS217 0220-01-100
22,00	34,00	22,50	HS217 0220-02-100
25,00	37,00	22,50	HS217 0250-01-100
25,00	40,00	22,50	HS217 0250-02-100
28,00	40,00	22,50	HS217 0280-01-100
28,00	43,00	22,50	HS217 0280-02-100
30,00	42,00	22,50	HS217 0300-01-100
30,00	45,00	22,50	HS217 0300-02-100
32,00	44,00	22,50	HS217 0320-01-100
32,00	47,00	22,50	HS217 0320-02-100
35,00	47,00	22,50	HS217 0350-01-100
36,00	48,00	22,50	HS217 0360-01-100
36,00	51,00	22,50	HS217 0360-02-100
40,00	52,00	22,50	HS217 0400-01-100
40,00	55,00	22,50	HS217 0400-02-100
42,00	54,00	22,50	HS217 0420-01-100
42,00	57,00	22,50	HS217 0420-02-100
45,00	60,00	22,50	HS217 0450-01-100
45,00	65,00	27,50	HS217 0450-02-100
50,00	65,00	22,50	HS217 0500-01-100
50,00	70,00	30,00	HS217 0500-02-100

Construction HS 215

Construction HS 217

d f8/h9	D H10	E +0,3	Part N°
45,00	60,00	22,20	HS215 0450-02-100
45,00	65,00	28,00	HS215 0450-03-100
48,00	60,00	25,00	HS215 0480-01-100
48,00	62,00	22,22	HS215 0480-02-100
50,00	65,00	24,60	HS215 0500-01-100
50,00	70,00	21,95	HS215 0500-02-100
50,00	70,00	30,00	HS215 0500-03-100
51,00	69,00	28,00	HS215 0510-01-100
55,00	67,00	25,00	HS215 0550-01-100
55,00	70,00	26,50	HS215 0550-02-100
55,00	75,00	30,00	HS215 0550-03-100
55,00	75,00	38,50	HS215 0550-04-100
60,00	75,00	19,00	HS215 0600-01-100
60,00	76,00	29,00	HS215 0600-02-100
60,00	77,00	27,00	HS215 0600-03-100
60,00	80,00	32,15	HS215 0600-04-100
63,00	83,00	32,00	HS215 0630-01-100
63,50	80,00	28,00	HS215 0635-01-100
64,00	80,00	25,80	HS215 0640-01-100
65,00	77,00	21,00	HS215 0650-01-100
65,00	85,00	29,00	HS215 0650-02-100
70,00	85,00	28,00	HS215 0700-01-100
70,00	90,00	22,00	HS215 0700-02-100
70,00	90,00	30,00	HS215 0700-03-100
75,00	90,00	22,50	HS215 0750-01-100
75,00	95,00	30,00	HS215 0750-02-100
75,00	100,00	37,50	HS215 0750-03-100
80,00	95,00	17,50	HS215 0800-01-100
80,00	100,00	30,00	HS215 0800-02-100
90,00	105,00	31,75	HS215 0900-01-100
90,00	110,00	25,00	HS215 0900-02-100
90,00	110,00	26,90	HS215 0900-03-100
90,00	115,00	27,41	HS215 0900-04-100
95,00	110,00	24,00	HS215 0950-01-100
100,00	115,00	25,30	HS215 1000-01-100
100,00	120,00	28,00	HS215 1000-02-100
100,00	125,00	27,40	HS215 1000-03-100
100,00	125,00	36,90	HS215 1000-04-100
104,00	130,00	37,00	HS215 1040-01-100
105,00	120,00	25,00	HS215 1050-01-100
105,00	125,00	29,76	HS215 1050-02-100
110,00	130,00	30,00	HS215 1100-01-100
110,00	132,00	36,50	HS215 1100-02-100
114,00	130,00	25,80	HS215 1140-01-100
115,00	140,00	37,12	HS215 1150-01-100
120,00	140,00	30,00	HS215 1200-01-100
120,00	150,00	44,00	HS215 1200-02-100
125,00	145,00	29,60	HS215 1250-01-100
125,00	150,00	27,40	HS215 1250-02-100
130,00	150,00	29,76	HS215 1300-01-100
130,00	160,00	41,50	HS215 1300-02-100
135,00	155,00	30,55	HS215 1350-01-100
140,00	160,00	28,50	HS215 1400-01-100
140,00	165,00	41,95	HS215 1400-02-100
140,00	170,00	32,97	HS215 1400-03-100
145,00	170,00	38,10	HS215 1450-01-100
150,00	170,00	30,55	HS215 1500-01-100
150,00	180,00	40,00	HS215 1500-02-100
157,00	182,00	30,25	HS215 1570-01-100
160,00	190,00	33,00	HS215 1600-01-100

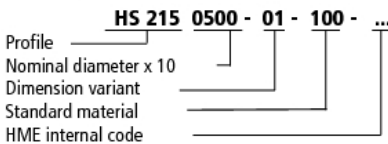
d f8/h9	D H10	E +0,3	Part N°
55,00	70,00	22,50	HS217 0550-01-100
56,00	71,00	22,50	HS217 0560-01-100
56,00	76,00	37,00	HS217 0560-02-100
60,00	75,00	22,50	HS217 0600-01-100
60,00	80,00	37,00	HS217 0600-02-100
63,00	78,00	22,50	HS217 0630-01-100
63,00	83,00	37,00	HS217 0630-02-100
65,00	80,00	22,50	HS217 0650-01-100
65,00	85,00	40,00	HS217 0650-02-100
70,00	85,00	22,50	HS217 0700-01-100
70,00	90,00	40,00	HS217 0700-02-100
75,00	90,00	22,50	HS217 0750-01-100
75,00	95,00	40,00	HS217 0750-02-100
80,00	95,00	22,50	HS217 0800-01-100
80,00	100,00	40,00	HS217 0800-02-100
85,00	100,00	22,50	HS217 0850-01-100
85,00	105,00	40,00	HS217 0850-02-100
90,00	105,00	22,50	HS217 0900-01-100
90,00	110,00	40,00	HS217 0900-02-100
100,00	115,00	30,00	HS217 1000-01-100
100,00	120,00	40,00	HS217 1000-02-100
110,00	125,00	30,00	HS217 1100-01-100
110,00	130,00	40,00	HS217 1100-02-100
115,00	130,00	30,00	HS217 1150-01-100
115,00	140,00	46,00	HS217 1150-02-100
125,00	140,00	34,00	HS217 1250-01-100
125,00	150,00	46,00	HS217 1250-02-100
140,00	155,00	34,00	HS217 1400-01-100
140,00	165,00	46,00	HS217 1400-02-100
150,00	170,00	40,00	HS217 1500-01-100
150,00	180,00	60,00	HS217 1500-02-100
160,00	180,00	40,00	HS217 1600-01-100
160,00	190,00	60,00	HS217 1600-02-100
170,00	200,00	60,00	HS217 1700-01-100
180,00	200,00	40,00	HS217 1800-01-100
180,00	210,00	60,00	HS217 1800-02-100
190,00	220,00	60,00	HS217 1900-01-100
200,00	220,00	40,00	HS217 2000-01-100
200,00	230,00	60,00	HS217 2000-02-100
220,00	250,00	66,00	HS217 2200-01-100
240,00	270,00	64,00	HS217 2400-01-100

Construction HS 215

d f8/h9	D H10	E +0,3	Part N°
170,00	195,00	37,50	HS215 1700-01-100
175,00	200,00	42,00	HS215 1750-01-100
180,00	210,00	33,00	HS215 1800-01-100
200,00	220,00	30,00	HS215 2000-01-100
200,00	230,00	32,97	HS215 2000-02-100
205,00	225,00	19,50	HS215 2050-01-100
210,00	240,00	42,10	HS215 2100-01-100
220,00	250,00	52,00	HS215 2200-01-100
224,00	254,00	32,97	HS215 2240-01-100
240,00	270,00	45,00	HS215 2400-01-100
250,00	280,00	33,00	HS215 2500-01-100
280,00	315,00	38,45	HS215 2800-01-100
290,00	320,00	50,80	HS215 2900-01-100
300,00	320,00	32,00	HS215 3000-01-100
310,00	330,00	30,00	HS215 3100-01-100
315,00	350,00	38,45	HS215 3150-01-100
320,00	360,00	54,00	HS215 3200-01-100
320,00	365,00	55,00	HS215 3200-02-100
340,00	380,00	60,00	HS215 3400-01-100
350,00	390,00	60,00	HS215 3500-01-100
360,00	400,00	60,00	HS215 3600-01-100
369,00	400,00	45,00	HS215 3690-01-100
400,00	440,00	54,00	HS215 4000-01-100
463,00	500,00	55,00	HS215 4630-01-100

These sizes also available in FPM.
Futher sizes/measurements and emperial sizes available on request.

Example for ordering Rod Seal:



Material Key:

100 - NBR
120 - FPM

Issue

01 05

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.