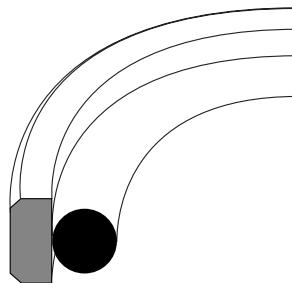
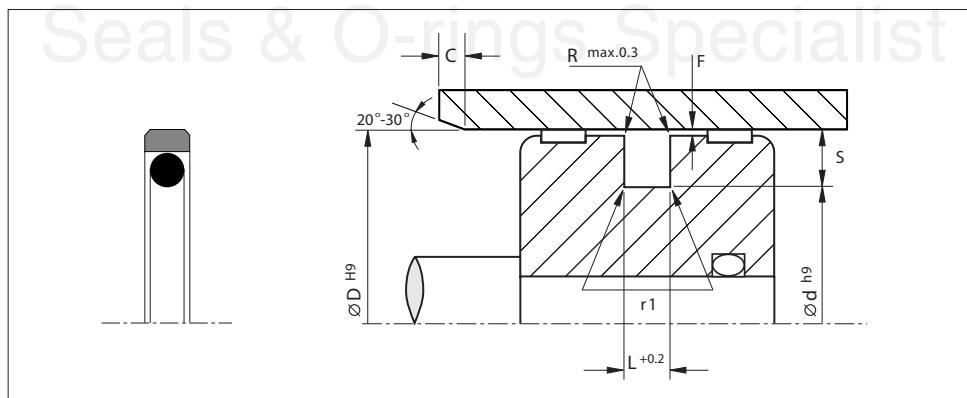


Piston Seals (Double Acting)**SP-55-211****(Metric & Imperial Size)****SP-55-211**

Material	Pressure (Bar)	Temp. (°c)	Speed (m/s)
PTFE+Bronze - O Ring	400	-40 +200	15

- No stick-slip effect.
- Suitable for non lubricating fluids depending on seal material.
- High wear resistance.
- Suitable for most hydraulic fluids.
- Available for all cylinder diameters up to 2.500 mm.

Installation Recommendation

Surface roughness	R _a	R _t	Chamfers	
Sliding surface	≤ 0.3 µm	≤ 4 µm	D	C
Surface of housing	≤ 1.8 µm	≤ 10 µm	< 3.75	2.0
Sides of housing	≤ 3.0 µm	≤ 16 µm	5.50	3.0
			7.75	4.0
			10.50	5.5
			12.25	7.0

PTFE Seal - 211

Installation Dimensions

Series No.	Bore Dia. D			Groove Dia.	Groove Width.	Radius	Radial Clearance F max.*			O-Ring Cross-Section
	Standard Application	Light Application	Heavy-Duty Application				d	L	r1	
A	8 - 14.9	15 - 39.9	-	D - 4.9	2.2	0.4	0.30	0.20	0.15	1.78
B	15 - 39.9	40 - 79.9	-	D - 7.5	3.2	0.6	0.40	0.25	0.15	2.62
C	40 - 79.9	80 - 132.9	15 - 39.9	D - 11.0	4.2	1.0	0.40	0.25	0.20	3.53
D	80 - 132.9	133 - 329.9	40 - 79.9	D - 15.5	6.3	1.3	0.50	0.30	0.20	5.33
E	133 - 329.9	330 - 669.9	80 - 132.9	D - 21.0	8.1	1.8	0.60	0.35	0.25	7.00
F	330 - 669.9	670 - 999.9	133 - 329.9	D - 24.5	8.1	1.8	0.60	0.35	0.25	7.00
G	670 - 999.9	-	330 - 669.9	D - 28.0	9.5	2.5	0.70	0.50	0.30	8.40
H	> 1000			D - 38.0	13.8	3.0	1.00	0.70	0.60	12.00

(Metric & Imperial Size)

Bore Dia.	Groove Dia.	Groove Width.	O-RING No.	Reference (For order processing)	Reference		Reference
					D	d	
8.0	3.1	2.2	006	SP-55-211-0080	S55044-0080		ER-39-820-8
10.0	5.1	2.2	009	SP-55-211-0100	S55044-0100		ER-39-820-10
12.0	7.1	2.2	011	SP-55-211-0120	S55044-0120		ER-39-820-12
15.0	7.5	3.2	109	SP-55-211-0150	S55044-0150		ER-39-820-15
16.0	8.5	3.2	109	SP-55-211-0160	S55044-0160		ER-39-820-16
18.0	10.5	3.2	111	SP-55-211-0180	S55044-0180		ER-39-820-18
20.0	12.5	3.2	112	SP-55-211-0200	S55044-0200		ER-39-820-20
22.0	14.5	3.2	113	SP-55-211-0220	S55044-0220		ER-39-820-22
24.0	16.5	3.2	114	SP-55-211-0240	S55044-0240		ER-39-820-24
25.0	17.5	3.2	115	SP-55-211-0250	S55044-0250		ER-39-820-25
25.4	17.9	3.2	115	SP-55-211-0254	S55044-0254		ER-39-820-25.4
28.0	20.5	3.2	117	SP-55-211-0280	S55044-0280		ER-39-820-28
28.5	21.0	3.2	117	SP-55-211-0285	S55044-0285		ER-39-820-28.5
30.0	22.5	3.2	118	SP-55-211-0300	S55044-0300		ER-39-820-30
31.7	24.2	3.2	119	SP-55-211-0317	S55044-0317		ER-39-820-31.7
32.0	24.5	3.2	119	SP-55-211-0320	S55044-0320		ER-39-820-32
35.0	27.5	3.2	121	SP-55-211-0350	S55044-0350		ER-39-820-35
36.0	28.5	3.2	122	SP-55-211-0360	S55044-0360		ER-39-820-36
38.0	30.5	3.2	123	SP-55-211-0380	S55044-0380		ER-39-820-38
39.0	31.5	3.2	124	SP-55-211-0390	S55044-0390		ER-39-820-39
40.0	29.0	4.2	216	SP-55-211-0400	S55044-0400		ER-39-820-40
42.0	31.0	4.2	217	SP-55-211-0420	S55044-0420		ER-39-820-42
44.5	33.5	4.2	219	SP-55-211-0445	S55044-0445		ER-39-820-44.5
45.0	34.0	4.2	219	SP-55-211-0450	S55044-0450		ER-39-820-45
48.0	37.0	4.2	221	SP-55-211-0480	S55044-0480		ER-39-820-48

(Metric & Imperial Size)

Bore Dia.	Groove Dia.	Groove Width.	O-RING No.	Reference (For order processing)	Reference	Reference
D	d	L				
50.0	39.0	4.2	222	SP-55-211-0500	S55044-0500	ER-39-820-50
50.8	39.8	4.2	222	SP-55-211-0508	S55044-0508	ER-39-820-50.8
52.0	41.0	4.2	223	SP-55-211-0520	S55044-0520	ER-39-820-52
55.0	44.0	4.2	224	SP-55-211-0550	S55044-0550	ER-39-820-55
57.1	46.1	4.2	224	SP-55-211-0571	S55044-0571	ER-39-820-57.1
60.0	49.0	4.2	225	SP-55-211-0600	S55044-0600	ER-39-820-60
63.0	52.0	4.2	226	SP-55-211-0630	S55044-0630	ER-39-820-63
63.5	52.5	4.2	226	SP-55-211-0635	S55044-0635	ER-39-820-63.5
64.0	53.0	4.2	226	SP-55-211-0640	S55044-0640	ER-39-820-64
65.0	54.0	4.2	227	SP-55-211-0650	S55044-0650	ER-39-820-65
69.8	58.8	4.2	228	SP-55-211-0698	S55044-0698	ER-39-820-69.8
70.0	59.0	4.2	228	SP-55-211-0700	S55044-0700	ER-39-820-70
70.0	54.5	6.3	330	SP-55-211-0700D	S55042-0700	ER-39-819-70
75.0	64.0	4.2	230	SP-55-211-0750	S55044-0750	ER-39-820-75
76.2	65.2	4.2	230	SP-55-211-0762	S55044-0762	ER-39-820-76.2
80.0	64.5	6.3	333	SP-55-211-0800	S55044-0800	ER-39-820-80
80.0	59.0	8.1	58*7	SP-55-211-0800E	S55042-0800	ER-39-819-80
82.5	67.0	6.3	334	SP-55-211-0825	S55044-0825	ER-39-820-82.5
85.0	69.5	6.3	335	SP-55-211-0850	S55044-0850	ER-39-820-85
85.0	64.0	8.1	64*7	SP-55-211-0850E	S55042-0850	ER-39-819-85
89.0	73.5	6.3	336	SP-55-211-0890	S55044-0890	ER-39-820-89
90.0	74.5	6.3	336	SP-55-211-0900	S55044-0900	ER-39-820-90
90.0	69.0	8.1	68*7	SP-55-211-0900E	S55042-0900	ER-39-819-90
95.0	79.5	6.3	338	SP-55-211-0950	S55044-0950	ER-39-820-95
95.0	74.0	8.1	73*7	SP-55-211-0950E	S55042-0950	ER-39-819-95
100.0	84.5	6.3	339	SP-55-211-1000	S55044-1000	ER-39-820-100
100.0	79.0	8.1	79*7	SP-55-211-1000E	S55042-1000	ER-39-819-100
101.6	86.1	6.3	340	SP-55-211-1016	S55044-1016	ER-39-820-101.6
105.0	89.5	6.3	341	SP-55-211-1050	S55044-1050	ER-39-820-105
105.0	84.0	8.1	83*7	SP-55-211-1050E	S55042-1050	ER-39-819-105
110.0	94.5	6.3	343	SP-55-211-1100	S55044-1100	ER-39-820-110
110.0	89.0	8.1	89*7	SP-55-211-1100E	S55042-1100	ER-39-819-110
114.3	98.8	6.3	344	SP-55-211-1143	S55044-1143	ER-39-820-114.3
115.0	99.5	6.3	344	SP-55-211-1150	S55044-1150	ER-39-820-115
115.0	94.0	8.1	94*7	SP-55-211-1150E	S55042-1150	ER-39-819-115
120.0	104.5	6.3	346	SP-55-211-1200	S55044-1200	ER-39-820-120
120.0	99.0	8.1	99*7	SP-55-211-1200E	S55042-1200	ER-39-819-120
125.0	109.5	6.3	347	SP-55-211-1250	S55044-1250	ER-39-820-125
125.0	104.0	8.1	101*7	SP-55-211-1250E	S55042-1250	ER-39-819-125
127.0	111.5	6.3	348	SP-55-211-1270	S55044-1270	ER-39-820-127

PTFE Seal - 211

(Metric & Imperial Size)

Bore Dia.	Groove Dia.	Groove Width.	O-RING No.	Reference (For order processing)	Reference	Reference
						D d L
130.0	114.5	6.3	349	SP-55-211-1300	S55044-1300	ER-39-820-130
130.0	109.0	8.1	106*7	SP-55-211-1300E	S55042-1300	ER-39-819-130
132.0	116.5	6.3	350	SP-55-211-1320	S55044-1320	ER-39-820-132
133.0	112.0	8.1	425	SP-55-211-1330	S55044-1330	ER-39-820-133
135.0	114.0	8.1	425	SP-55-211-1350	S55044-1350	ER-39-820-135
140.0	119.0	8.1	426	SP-55-211-1400	S55044-1400	ER-39-820-140
145.0	124.0	8.1	428	SP-55-211-1450	S55044-1450	ER-39-820-145
150.0	129.0	8.1	430	SP-55-211-1500	S55044-1500	ER-39-820-150
154.0	133.0	8.1	431	SP-55-211-1540	S55044-1540	ER-39-820-154
155.0	134.0	8.1	431	SP-55-211-1550	S55044-1550	ER-39-820-155
160.0	139.0	8.1	433	SP-55-211-1600	S55044-1600	ER-39-820-160
165.0	144.0	8.1	434	SP-55-211-1650	S55044-1650	ER-39-820-165
170.0	149.0	8.1	436	SP-55-211-1700	S55044-1700	ER-39-820-170
175.0	154.0	8.1	437	SP-55-211-1750	S55044-1750	ER-39-820-175
180.0	159.0	8.1	438	SP-55-211-1800	S55044-1800	ER-39-820-180
190.0	169.0	8.1	439	SP-55-211-1900	S55044-1900	ER-39-820-190
200.0	179.0	8.1	441	SP-55-211-2000	S55044-2000	ER-39-820-200
210.0	189.0	8.1	443	SP-55-211-2100	S55044-2100	ER-39-820-210
220.0	199.0	8.1	444	SP-55-211-2200	S55044-2200	ER-39-820-220
230.0	209.0	8.1	445	SP-55-211-2300	S55044-2300	ER-39-820-230
240.0	219.0	8.1	446	SP-55-211-2400	S55044-2400	ER-39-820-240
250.0	229.0	8.1	447	SP-55-211-2500	S55044-2500	ER-39-820-250
260.0	239.0	8.1	447	SP-55-211-2600	S55044-2600	ER-39-820-260
270.0	249.0	8.1	448	SP-55-211-2700	S55044-2700	ER-39-820-270
280.0	259.0	8.1	449	SP-55-211-2800	S55044-2800	ER-39-820-280
290.0	269.0	8.1	450	SP-55-211-2900	S55044-2900	ER-39-820-290
300.0	279.0	8.1	451	SP-55-211-3000	S55044-3000	ER-39-820-300
310.0	289.0	8.1	451	SP-55-211-3100	S55044-3100	ER-39-820-310
320.0	299.0	8.1	452	SP-55-211-3200	S55044-3200	ER-39-820-320
330.0	305.5	8.1	453	SP-55-211-3300	S55044-3300	ER-39-820-330
340.0	315.5	8.1	453	SP-55-211-3400	S55044-3400	ER-39-820-340
350.0	325.5	8.1	454	SP-55-211-3500	S55044-3500	ER-39-820-350
360.0	335.5	8.1	455	SP-55-211-3600	S55044-3600	ER-39-820-360
370.0	345.5	8.1	456	SP-55-211-3700	S55044-3700	ER-39-820-370
380.0	355.5	8.1	457	SP-55-211-3800	S55044-3800	ER-39-820-380
390.0	365.5	8.1	457	SP-55-211-3900	S55044-3900	ER-39-820-390
400.0	375.5	8.1	458	SP-55-211-4000	S55044-4000	ER-39-820-400
410.0	385.5	8.1	459	SP-55-211-4100	S55044-4100	ER-39-820-410
420.0	395.5	8.1	460	SP-55-211-4200	S55044-4200	ER-39-820-420
430.0	405.5	8.1	461	SP-55-211-4300	S55044-4300	ER-39-820-430

(Metric & Imperial Size)

Bore Dia.	Groove Dia.	Groove Width.	O-RING No.	Reference (For order processing)	Reference	Reference
D	d	L				
440.0	415.5	8.1	461	SP-55-211-4400	S55044-4400	ER-39-820-440
450.0	425.5	8.1	462	SP-55-211-4500	S55044-4500	ER-39-820-450
460.0	435.5	8.1	463	SP-55-211-4600	S55044-4600	ER-39-820-460
470.0	445.5	8.1	464	SP-55-211-4700	S55044-4700	ER-39-820-470
480.0	455.5	8.1	464	SP-55-211-4800	S55044-4800	ER-39-820-480
490.0	465.5	8.1	465	SP-55-211-4900	S55044-4900	ER-39-820-490
500.0	475.5	8.1	466	SP-55-211-5000	S55044-5000	ER-39-820-500
510.0	485.5	8.1	467	SP-55-211-5100	S55044-5100	ER-39-820-510
520.0	495.5	8.1	468	SP-55-211-5200	S55044-5200	ER-39-820-520
530.0	505.5	8.1	468	SP-55-211-5300	S55044-5300	ER-39-820-530
540.0	515.5	8.1	469	SP-55-211-5400	S55044-5400	ER-39-820-540
550.0	525.5	8.1	469	SP-55-211-5500	S55044-5500	ER-39-820-550
560.0	535.5	8.1	470	SP-55-211-5600	S55044-5600	ER-39-820-560
570.0	545.5	8.1	545.47*7	SP-55-211-5700	S55044-5700	ER-39-820-570
580.0	555.5	8.1	545.47*7	SP-55-211-5800	S55044-5800	ER-39-820-580
590.0	565.5	8.1	471	SP-55-211-5900	S55044-5900	ER-39-820-590
600.0	575.5	8.1	471	SP-55-211-6000	S55044-6000	ER-39-820-600
610.0	585.5	8.1	472	SP-55-211-6100	S55044-6100	ER-39-820-610
620.0	595.5	8.1	472	SP-55-211-6200	S55044-6200	ER-39-820-620
630.0	605.5	8.1	596.27*7	SP-55-211-6300	S55044-6300	ER-39-820-630
640.0	615.5	8.1	473	SP-55-211-6400	S55044-6400	ER-39-820-640
650.0	625.5	8.1	473	SP-55-211-6500	S55044-6500	ER-39-820-650
660.0	635.5	8.1	474	SP-55-211-6600	S55044-6600	ER-39-820-660
670.0	642.0	9.5	640*8.4	SP-55-211-6700	S55044-6700	ER-39-820-670
680.0	652.0	9.5	650*8.4	SP-55-211-6800	S55044-6800	ER-39-820-680
690.0	662.0	9.5	660*8.4	SP-55-211-6900	S55044-6900	ER-39-820-690
700.0	672.0	9.5	670*8.4	SP-55-211-7000	S55044-7000	ER-39-820-700
710.0	682.0	9.5	680*8.4	SP-55-211-7100	S55044-7100	ER-39-820-710

Select the material of seal ring and o-ring from Compounds for Fluid Technology (page 8)

Order No.	SP-55 - 21 1 - 0080
Seal ring material code	
Seal profile	
O ring material code	
Bore diameter x 10-	