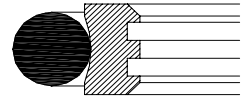


Claron Polyseal

# Double Acting Rotary Rod Seals RRS Style



## Design

Claron RRS Style Rod Seals are designed for slow rotating and spiralling movements in high pressure / heavy duty applications. Where space allows, the design incorporates grooves in the sealing face to reduce surface contact, increase radial load and retain lubrication.

## Materials

Standard materials are CF(Carbon Fibre) and CD(Carbon Graphite) with a Nitrile O-Ring energiser but both the sealing element and the energiser are available in a wide range of high performance materials, including VM (modified Virgin P.T.F.E.) and B (Bronze filled P.T.F.E.) to suit a variety of applications. The application parameters should be carefully considered prior to selection of suitable materials from the tables in Appendix 2. Consult Claron for further advice.

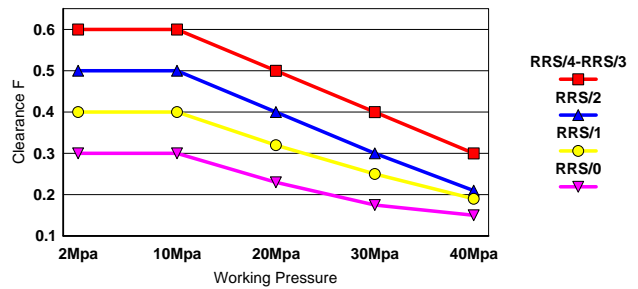
## Operating Range

Temperature -54°C to +180°C dependant upon media and O-Ring material.  
Pressure upto 300bar  
Velocity upto 2m/sec

These range parameters are maximum conditional values. Optimum services conditions are affected by sealing media, working surface and extrusion gaps. Refer to Appendix 1 for further information.

Diametrical Clearance F shown in the graph to the right is calculated as the maximum permissible extrusion gap allowing for movement due to side load, for various pressures and temperatures upto 80°C. The use of a suitably selected Claron bearing ring will effectively reduce the Radial clearance to a value nearer to F/2 thus increasing the pressure capability of the seal. The maximum seal extrusion gap should be calculated allowing for all tolerances, movement and cylinder expansion.

For pressures >300bar, the seal extrusion gap should be reduced by utilising smaller tolerances. e.g H8 for cylinder bore, f8 for piston diameter.



Series Ref	Standard Range	Extended Range	D1 H9 Groove Dia	L1 +0.2 Groove Width	R1 Rad Max	C' Chfr Min	No Grooves In Sleeve	Min Rod Dia for Closed Grooves
RRS/0	6 - 18.9	6 - 130	d1 + 4.9	2.20	0.3	2.0	0	20
RRS/1	19 - 37.9	10 - 245	d1 + 7.5	3.20	0.5	2.5	1	30
RRS/2	38 - 199.9	19 - 455	d1 + 11.0	4.20	0.8	3.5	1	40
RRS/3	200 - 255.9	38 - 500	d1 + 15.5	6.30	1.2	5.0	2	60
RRS/4	256 - 500	120 - 500	d1 + 21.0	8.10	1.5	6.5	3	

## How To Order

95mm Rod Material Carbon Fibre P.T.F.E./ Nitrile O-Ring RRS/2/0950/CF

Light Duty 95mm Rod RRS/1/0950/CF (3.2 Width Groove)

Heavy Duty 95mm Rod RRS/3/0950/CF (6.3 width Groove)

eg. For sizes in the extended range use the series number applicable

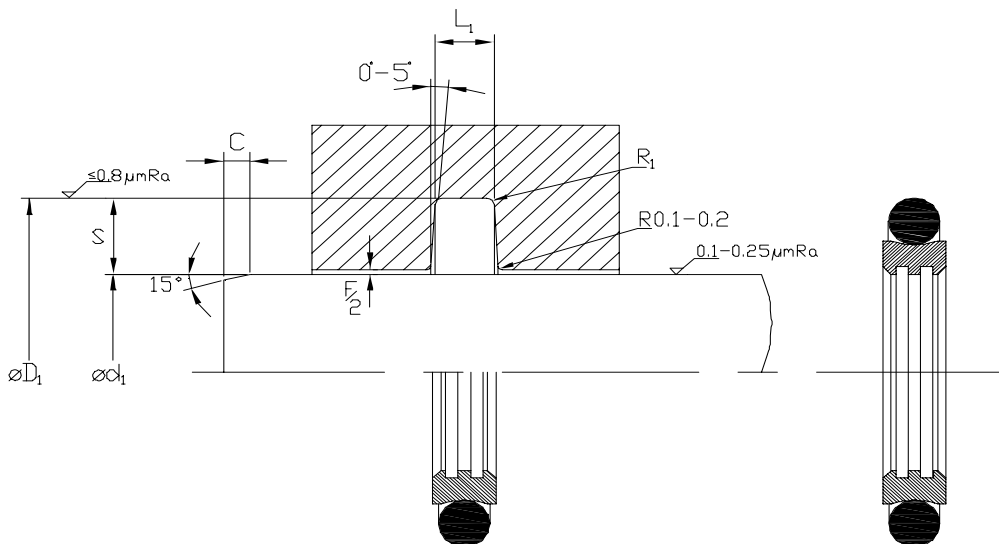
For O-Ring Energiser materials other than Nitrile, use suffix shown in Material Table, Appendix 2

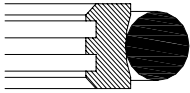
eg. Fluorocarbon Material (FKM) RRS/3/0950/CF/FKM

Style	Series	4Digit Size Code	PTFE Material Code
RRS/	2/	0950/	CF
RRS/	1/	0950/	CF
RRS/	3/	0950/	CF

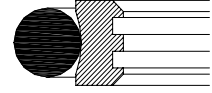
## Housing

For housing dimensions, leading chamfers and tolerances refer to the table above and Appendix 4 for the value of tolerance symbols.





Claron Polyseal  
**Double Acting Rotary Rod Seals**  
**RRS Style**



**Nominal Dimensions & Machining Tolerances**

Series Ref	Size Ref	Ød1 h9	ØD1 H9	L1 +0.2 / -0.0	Series Ref	Size Ref	Ød1 h9	ØD1 H9	L1 +0.2 / -0.0
RRS/0/	<b>0060</b>	<b>6.0</b>	10.9	2.2	RRS/2/	1270	127.0	138.0	4.2
	<b>0080</b>	<b>8.0</b>	12.9	2.2		1300	130.0	141.0	4.2
	<b>0100</b>	<b>10.0</b>	14.9	2.2		1350	135.0	146.0	4.2
	<b>0120</b>	<b>12.0</b>	16.9	2.2		<b>1400</b>	<b>140.0</b>	<b>151.0</b>	4.2
	<b>0140</b>	<b>14.0</b>	<b>18.9</b>	2.2		1450	145.0	156.0	4.2
	0150	15.0	19.9	2.2		1500	150.0	161.0	4.2
RRS/1/	<b>0160</b>	<b>16.0</b>	20.9	2.2	1524	152.4	163.4	4.2	
	<b>0180</b>	<b>18.0</b>	22.9	2.2	<b>1600</b>	<b>160.0</b>	<b>171.0</b>	<b>4.2</b>	
	0200	20.0	27.5	3.2	1700	170.0	181.0	4.2	
	<b>0220</b>	<b>22.0</b>	29.5	3.2	1778	177.8	188.8	4.2	
	<b>0250</b>	<b>25.0</b>	32.5	3.2	<b>1800</b>	<b>180.0</b>	<b>191.0</b>	4.2	
	0254	25.4	32.9	3.2					1900
RRS/2/	<b>0280</b>	<b>28.0</b>	35.5	3.2	RRS/3/	<b>2000</b>	<b>200.0</b>	<b>215.5</b>	<b>6.3</b>
	0300	30.0	37.5	3.2		2032	203.2	218.7	6.3
	<b>0320</b>	<b>32.0</b>	39.5	3.2		2100	210.0	225.5	6.3
	0350	35.0	42.5	3.2		<b>2200</b>	<b>220.0</b>	<b>235.5</b>	6.3
	0360	36.0	43.5	3.2		2300	230.0	245.5	6.3
	RRS/2/	0380	38.0	49.0		4.2	2400	240.0	255.5
<b>0400</b>		<b>40.0</b>	<b>51.0</b>	<b>4.2</b>	<b>2500</b>	<b>250.0</b>	265.5	6.3	
<b>0450</b>		<b>45.0</b>	56.0	4.2	2540	254.0	269.5	6.3	
<b>0500</b>		<b>50.0</b>	61.0	4.2	RRS/4/	2600	260.0	281.0	8.1
0508		50.8	61.8	4.2		<b>2800</b>	<b>280.0</b>	<b>301.0</b>	8.1
0550		55.0	66.0	4.2		3000	300.0	321.0	8.1
<b>0560</b>		<b>56.0</b>	67.0	4.2		3048	304.8	325.8	8.1
0600		60.0	71.0	4.2		<b>3200</b>	<b>320.0</b>	341.0	8.1
<b>0630</b>		<b>63.0</b>	74.0	4.2		3300	330.0	351.0	8.1
0650		65.0	76.0	4.2	3500	350.0	371.0	8.1	
<b>0700</b>		<b>70.0</b>	81.0	4.2	<b>3600</b>	<b>360.0</b>	<b>381.0</b>	8.1	
0750		75.0	86.0	4.2	3800	380.0	401.0	8.1	
0762	76.2	87.2	4.2	<b>4000</b>	<b>400.0</b>	421.0	8.1		
<b>0800</b>	<b>80.0</b>	<b>91.0</b>	4.2	4200	420.0	441.0	8.1		
0850	85.0	96.0	4.2	4500	450.0	471.0	8.1		
<b>0900</b>	<b>90.0</b>	<b>101.0</b>	4.2	4800	480.0	501.0	8.1		
0950	95.0	106.0	4.2	<b>5000</b>	<b>500.0</b>	521.0	8.1		
<b>1000</b>	<b>100.0</b>	<b>111.0</b>	4.2	All intermediate sizes, including imperial can be supplied within the extended range of sizes listed, see 'How To Order'					
1016	101.6	112.6	4.2						
1050	105.0	116.0	4.2						
<b>1100</b>	<b>110.0</b>	<b>121.0</b>	4.2						
1143	114.3	125.3	4.2						
1150	115.0	126.0	4.2						
1200	120.0	131.0	4.2						
<b>1250</b>	<b>125.0</b>	136.0	4.2						

The Rod diameters in BOLD conform to the requirements of ISO3320  
Housing sizes in BOLD conform to the requirements of ISO7425-2

**Fitting**

For the seal to function correctly, it is important that care is taken during fitment, For a detailed checklist, refer to Appendix 3.