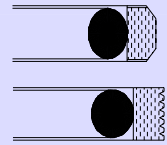


CS5

841

Double Acting Piston Seal

Metric



CS5

841

Design

Claron Composite Seals Style CS5 and Style 841 are designed as high pressure, low friction Double-acting piston seals for use in heavy duty hydraulic and pneumatic cylinders.

Claron Composite Seals Style 841 is specifically designed for minimum leakage and slow rotary applications using the same housing designs as Style CS5

The inclusion of radial grooves on the P.T.F.E. element, from 20mm diameter onwards, allows rapid response to bi-directional pressure changes.

Materials

Standard materials are Bronze filled P.T.F.E with a Nitrile O-Ring Energiser but both the outer sealing element and the energiser are available in a wide range of high performance materials to suit a variety of applications . The application parameters should be carefully considered prior to selecting suitable materials from the tables in Appendix 2. Consult Claron for further advice.

Operating Range

Temp -54°C to 200°C Dependent upon O-Ring Material used

Pressure upto 800 bar

Velocity upto 15m/s

These range parameters are maximum conditional values

Optimum service conditions are affected by temperature, speed pressure, surface finish and extrusion gaps.

Refer to Appendix 1 for further information.

Operating Conditions

Maximum Working Pressure for “Standard” seal applications using specified tolerances.

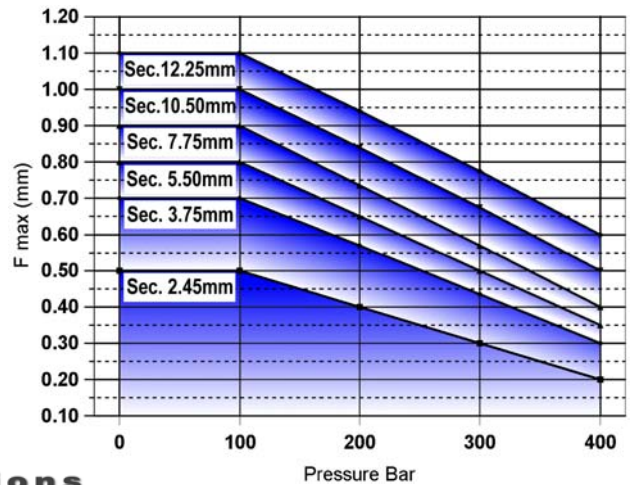
Temp. range
-30°C to 80°C
400bar

Temp. range
80°C to 120°C
350 bar

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.

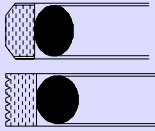
For pressures > 400 bar, the seal extrusion gap should be reduced by utilising smaller tolerances. e.g H8 for Cylinder bore, f8 for piston diameter.



Range Of Installation Dimensions

The full range of diameters applicable to the “Standard”, “Light” and “Heavy” Duty Sections are shown in the table below

Housing		Cylinder Bore		
Section	Width	Standard	Light (/1)	Heavy (/2)
2.50	2.20	8 to 14.9	15 to 39.9	
3.75	3.20	15 to 39.9	40 to 79.9	
5.50	4.20	40 to 79.9	80 to 132.9	15 to 39.9
7.75	6.30	80 to 132.9	133 to 329.9	40 to 79.9
10.50	8.10	133 to 329.9	330 to 580	80 to 132.9
12.25	8.10	330 to 580		133 to 329.9
14.00	9.50			330 to 580

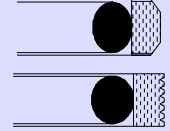


CS5

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How To Order

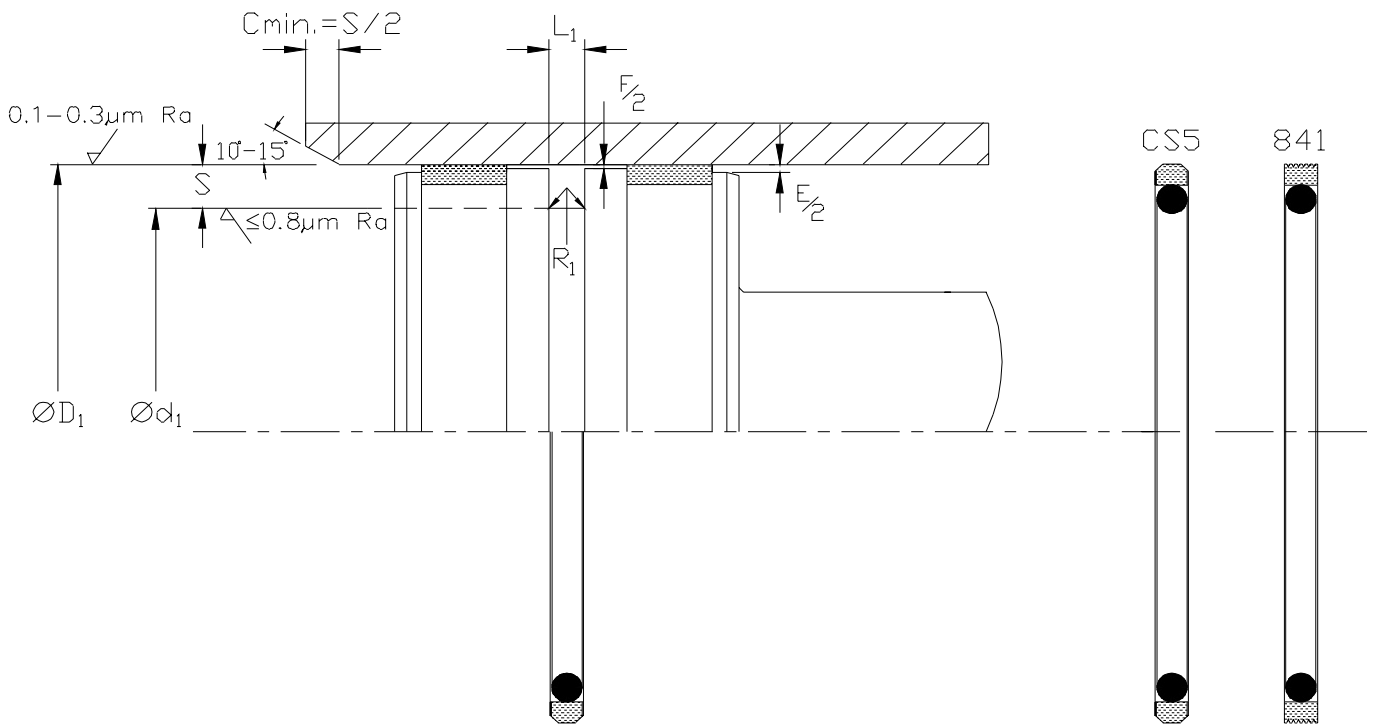
When ordering, prefix the size reference with the style required and use the suffix shown in the material application tables Appendix 2.

- e.g. CS5 Standard section in Bronze filled material for 70mm diameter **CS50700/B**
- CS5 Light duty section in Glass filled material for 70 mm diameter **CS50700/1G**
- 841 Heavy duty section in Carbon filled material for 70 mm diameter **841-0700/2C**

For O-Ring energiser materials other than Nitrile, use suffix shown in material table, Appendix 2.
e.g. Fluorocarbon material (FKM), **CS50700/B/FKM**

Housing

For surface finish and lead in chamfers refer to the illustration below. For Housing dimensions and tolerances refer to the table of recommended sizes, and Appendix 4 for value of tolerance symbols.

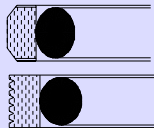


For F/2 values see note & tables

For E/2 refer to Guide Tape page

Fitting

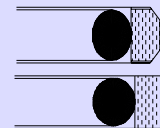
For the seal to function correctly it is important that care is taken during fitting. For details refer to Appendix 3



CS5

Double Acting Piston Seal

Metric



841

CS5

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Nominal Dimensions & Machining Tolerances

Nominal Dimensions & Machining Tolerances

Claron	ØD ₁ H9	Ød ₁ h9	L ₁ +0.2 -0.0	S Nom Sec	R ₁ MAX	F/2 MAX
CS50100/B	10.00	5.00	2.20	2.50	0.30	0.20
CS50120/B	12.00	7.00	2.20	2.50	0.30	0.20
CS50140/B	14.00	9.00	2.20	2.50	0.30	0.20
CS50150/B	15.00	7.50	3.20	3.75	0.50	0.30
CS50160/1B	16.00	11.00	2.20	2.50	0.30	0.20
CS50160/B	16.00	8.50	3.20	3.75	0.50	0.30
CS50180/B	18.00	10.50	3.20	3.75	0.50	0.30
CS50200/1B	20.00	15.00	2.20	2.50	0.30	0.20
CS50200/B	20.00	12.50	3.20	3.75	0.50	0.30
CS50220/B	22.00	14.50	3.20	3.75	0.50	0.30
CS50250/B	25.00	17.50	3.20	3.75	0.50	0.30
CS50250/2B	25.00	14.00	4.20	5.50	0.80	0.35
CS50254/B	25.40	17.90	3.20	3.75	0.50	0.30
CS50280/B	28.00	20.50	3.20	3.75	0.50	0.30
CS50300/B	30.00	22.50	3.20	3.75	0.50	0.30
CS50320/2B	32.00	21.00	4.20	5.50	0.80	0.35
CS50320/B	32.00	24.50	3.20	3.75	0.50	0.30
CS50350/B	35.00	27.50	3.20	3.75	0.50	0.30
CS50360/B	36.00	28.50	3.20	3.75	0.50	0.30
CS50381/B	38.10	30.60	3.20	3.75	0.50	0.30
CS50400/1B	40.00	32.50	3.20	3.75	0.50	0.30
CS50400/B	40.00	29.00	4.20	5.50	0.80	0.35
CS50420/B	42.00	31.00	4.20	5.50	0.80	0.35
CS50450/B	45.00	34.00	4.20	5.50	0.80	0.35
CS50480/B	48.00	37.00	4.20	5.50	0.80	0.35
CS50500/1B	50.00	42.50	3.20	3.75	0.50	0.30
CS50500/2B	50.00	34.50	6.30	7.75	1.20	0.40
CS50500/B	50.00	39.00	4.20	5.50	0.80	0.35
CS50508/B	50.80	39.80	4.20	5.50	0.80	0.35
CS50520/B	52.00	41.00	4.20	5.50	0.80	0.35
CS50550/B	55.00	44.00	4.20	5.50	0.80	0.35
CS50600/B	60.00	49.00	4.20	5.50	0.80	0.35
CS50630/1B	63.00	55.50	3.20	3.75	0.50	0.30
CS50630/2B	63.00	47.50	6.30	7.75	1.20	0.40
CS50630/B	63.00	52.00	4.20	5.50	0.80	0.35
CS50635/B	63.50	52.50	4.20	5.50	0.80	0.35
CS50650/B	65.00	54.00	4.20	5.50	0.80	0.35
CS50700/2B	70.00	54.50	6.30	7.75	1.20	0.40
CS50700/B	70.00	59.00	4.20	5.50	0.80	0.35
CS50750/B	75.00	64.00	4.20	5.50	0.80	0.35
CS50800/1B	80.00	69.00	4.20	5.50	0.80	0.35
CS50800/2B	80.00	59.00	8.10	10.50	1.50	0.50
CS50800/B	80.00	64.50	6.30	7.75	1.20	0.40
CS50850/2B	85.00	64.00	8.10	10.50	1.50	0.50
CS50850/B	85.00	69.50	6.30	7.75	1.20	0.40
CS50900/2B	90.00	69.00	8.10	10.50	1.50	0.50
CS50900/B	90.00	74.50	6.30	7.75	1.20	0.40
CS50950/2B	95.00	74.00	8.10	10.50	1.50	0.50
CS50950/B	95.00	79.50	6.30	7.75	1.20	0.40
CS51000/1B	100.00	89.00	4.20	5.50	0.80	0.35
CS51000/2B	100.00	79.00	8.10	10.50	1.50	0.50
CS51000/B	100.00	84.50	6.30	7.75	1.20	0.40
CS51016/B	101.60	86.10	6.30	7.75	1.20	0.40
CS51050/2B	105.00	84.00	8.10	10.50	1.50	0.50
CS51050/B	105.00	89.50	6.30	7.75	1.20	0.40

Claron	ØD ₁ H9	Ød ₁ h9	L ₁ +0.2 -0.0	S Nom Sec	R ₁ MAX	F/2 MAX
CS51100/2B	110.00	89.00	8.10	10.50	1.50	0.50
CS51100/B	110.00	94.50	6.30	7.75	1.20	0.40
CS51143/B	114.30	98.80	6.30	7.75	1.20	0.40
CS51150/2B	115.00	94.00	8.10	10.50	1.50	0.50
CS51150/B	115.00	99.50	6.30	7.75	1.20	0.40
CS51200/2B	120.00	99.00	8.10	10.50	1.50	0.50
CS51200/B	120.00	104.50	6.30	7.75	1.20	0.40
CS51250/2B	125.00	104.00	8.10	10.50	1.50	0.50
CS51250/B	125.00	109.50	6.30	7.75	1.20	0.40
CS51270/B	127.00	111.50	6.30	7.75	1.20	0.40
CS51300/2B	130.00	109.00	8.10	10.50	1.50	0.50
CS51300/B	130.00	114.50	6.30	7.75	1.20	0.40
CS51350/B	135.00	114.00	8.10	10.50	1.50	0.50
CS51400/B	140.00	119.00	8.10	10.50	1.50	0.50
CS51500/B	150.00	129.00	8.10	10.50	1.50	0.50
CS51524/B	152.40	131.40	8.10	10.50	1.50	0.50
CS51600/1B	160.00	144.50	6.30	7.75	1.20	0.40
CS51600/2B	160.00	135.50	8.10	12.25	1.50	0.60
CS51600/B	160.00	139.00	8.10	10.50	1.50	0.50
CS51700/B	170.00	149.00	8.10	10.50	1.50	0.50
CS51800/B	180.00	159.00	8.10	10.50	1.50	0.50
CS51900/B	190.00	169.00	8.10	10.50	1.50	0.50
CS52000/1B	200.00	184.50	6.30	7.75	1.20	0.40
CS52000/2B	200.00	175.50	8.10	12.25	1.50	0.60
CS52000/B	200.00	179.00	8.10	10.50	1.50	0.50
CS52100/B	210.00	189.00	8.10	10.50	1.50	0.50
CS52200/B	220.00	199.00	8.10	10.50	1.50	0.50
CS52250/B	225.00	204.00	8.10	10.50	1.50	0.50
CS52300/B	230.00	209.00	8.10	10.50	1.50	0.50
CS52400/B	240.00	219.00	8.10	10.50	1.50	0.50
CS52500/2B	250.00	225.50	8.10	12.25	1.50	0.50
CS52500/B	250.00	229.00	8.10	10.50	1.50	0.50
CS52600/B	260.00	239.00	8.10	10.50	1.50	0.50
CS52800/B	280.00	259.00	8.10	10.50	1.50	0.50
CS53000/B	300.00	279.00	8.10	10.50	1.50	0.50
CS53200/2B	320.00	295.50	8.10	12.25	1.50	0.60
CS53200/B	320.00	299.00	8.10	10.50	1.50	0.50
CS53500/B	350.00	325.50	8.10	12.25	1.50	0.60
CS53600/B	360.00	335.50	8.10	12.25	1.50	0.60
CS53800/B	380.00	355.50	8.10	12.25	1.50	0.60
CS54000/B	400.00	375.50	8.10	12.25	1.50	0.60
CS54200/B	420.00	395.50	8.10	12.25	1.50	0.60
CS54500/B	450.00	425.50	8.10	12.25	1.50	0.60
CS54800/B	480.00	455.50	8.10	12.25	1.50	0.60
CS55000/B	500.00	475.50	8.10	12.25	1.50	0.60

Dimensions in bold type conform to ISO 7425-1 : 1988

Intermediate sizes upto 580mm are available, incl. Imperial