Single Acting Rod Seal Metric

CPS

Design

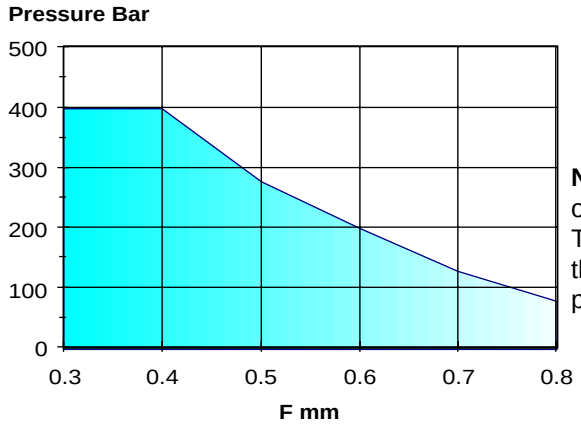
The Claron style CPS is a symmetrical profiled semi-solid seal designed for narrow section rod sealing and manufactured in a high performance grade of polyurethane. The sealing lips are machine trimmed to ensure dimensional consistency and good low pressure sealing whilst polyurethane exhibits outstanding abrasion and extrusion resistance providing a rod seal with a consistent operating performance.

Operating Conditions

Maximum Pressure		
Max Speed	Temp. Range	Temp. Range
m/s	-40°C to 80°C	-40°C to 110°C
0.50	280 Bar	250 Bar
0.15	400 Bar	350 Bar

These range perameters are Maximum simultaneous conditions. Optimum service conditions are affected by temperature, speed, pressure, surface finish and extrusion gaps.
Refer to Appendix 1 for further information.

Maximum Diametral Clearance F



Continuous operating temperature for various fluids

AU Polyurethane		
DIN	Hydraulic Fluid Description	°C
H	Mineral oil without additives	100
H-L	Mineral Fluid with anti corrosion and anti ageing additives	100
H-LP	Mineral oil as HL plus additives reducing wear, raising load	100
H-LPD	Mineral oil as H-LP but with detergents and dispersants	100
H-V	Mineral oil as H-LP plus improved viscosity temp.	100
HFA E	Emulsions of mineral oil in water. Water content 80-95%	40
HFA S	Synthetic oil in water. Water content 80-95%	40
HFB	Emulsions of water in mineral oil. Water content 40%	40
HFC	Aqueous polymer solutions. Water content 35%	ns
HFD R	Phosphoric acid ester based	ns
HFD S	Chlorinated hydrocarbon based	ns
HFD T	Mixtures of HFD R and HFD S	ns
HEPG	Polyglycol based	ns
HETG	Vegetable Oil based	60
HEES	Fully synthetic ester based	60

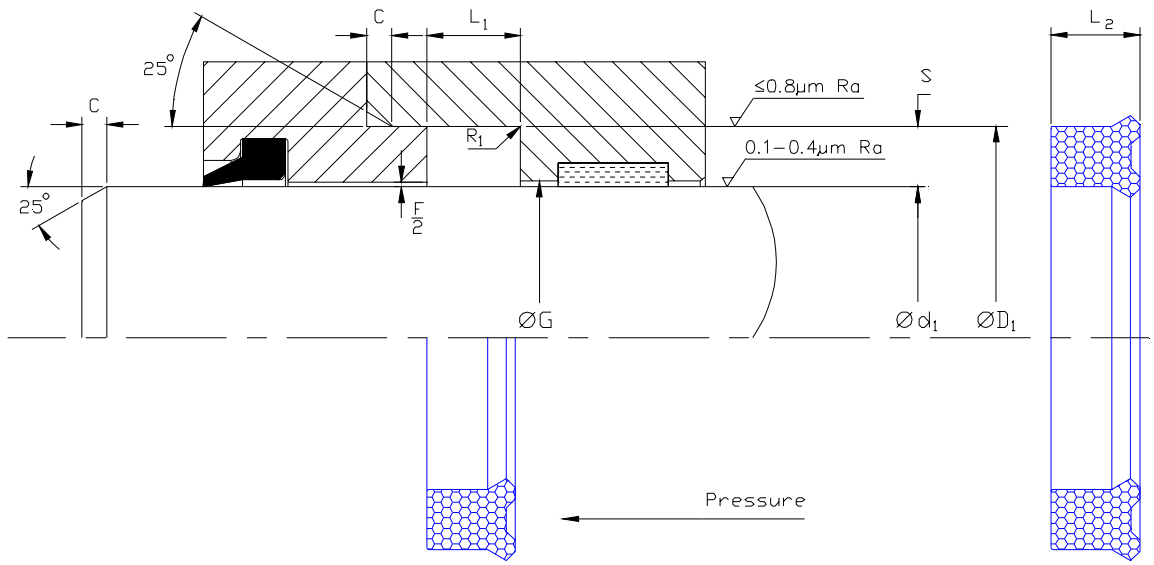
Note: Clearance gap F is the maximum permissable. i.e. gap completely on one side, in the temperature range of -30°C to 80°C
The use of a suitably selected Claron bearing ring will effectively reduce the clearance gap F max. to a value closer to F/2 thus increasing the pressure capability of the seal.

Housing

For surface finish and recommended lead in chamfers refer to the illustration below. For housing dimensions and machining tolerances refer to the catalogue page of selected seal. Refer to Appendix 4 for value of tolerance symbols.

Fitting

For the seal to function correctly, it is important that care be taken in fitting the seal within its housing.
For a detailed checklist, refer to Appendix 3.



Single Acting Rod Seal

CPS

Metric

Nominal Dimensions & Machining Tolerances

Claron Part Number	f8 H9 $Ød_1$ ØG	H10 $ØD_1$	+0.25 -0.00 L_1	Nominal L_2	Nominal S	Min C	Max. R_1
CPS 022028	22	28	5.5	4.5	3.0	3.0	0.20
CPS 030038	30	38	9.0	8.0	4.0	3.0	0.20
CPS 030043	30	43	11.0	10.0	6.5	3.0	0.20
CPS 030045	30	45	11.0	10.0	7.5	3.0	0.20
CPS 038045	38	45	7.0	6.0	3.5	3.0	0.20
CPS 045053	45	53	9.0	8.0	4.0	3.0	0.20
CPS 050058	50	58	9.0	8.0	4.0	3.0	0.20
CPS 060066	60	66	6.0	5.0	3.0	3.0	0.20

CPSG

CPSG are the same profile as CPS but with an extra sealing lip on the inside back edge.

CPSG 0450557	45	57.7	10.5	9.5	6.35	3.0	0.2

Imperial

CPSG 22502625	2.250	2.625	0.413	0.375	0.187	0.093	0.2