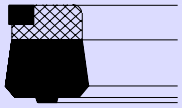
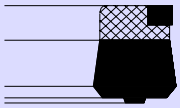


Single Acting Piston Seal
CPE
Metric



Design

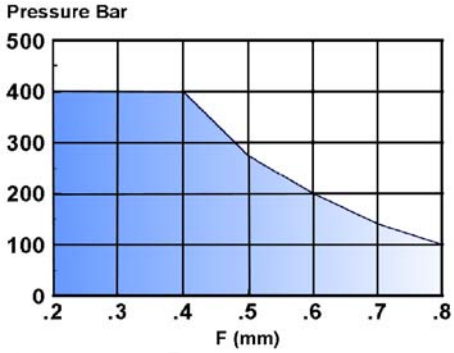
CLARON STYLE CPE is designed for use as a single acting Piston seal. The seal is a precision moulded Nitrile rubber sealing element with a fabric reinforced base to resist extrusion. Style CPE also has the added benefit of a clip on POM anti-extrusion ring. Designed with initial radial interference to effect low pressure sealing, at higher pressures the seal is energised thus increasing the sealing force. Rubberised fabric has the advantage of retaining the sealing media within it's surface, thus reducing friction and wear. Style CP is produced with radial grooves incorporated into the top of the seal on the pressure side. This innovative design ensures a rapid energisation of the seal without excessive end float and resultant wear. Style CP is an effective design over a wide range of applications.

Operating Conditions

Maximum	Pressure
Max Speed	Temp. Range
m/s	-30°C to 100°C
0.50	250 Bar
0.15	400 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.



Continuous operating temperature for various fluids

NBR Rubber		
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%	55
HFA S	Synthetic oil in water. Water content 80-95%	55
HFB	Emulsions of water in mineral oil. Water content 40%	60
HFC	Aqueous polymer solutions. Water content 35%	60
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	NS

Maximum Diametral Clearance F

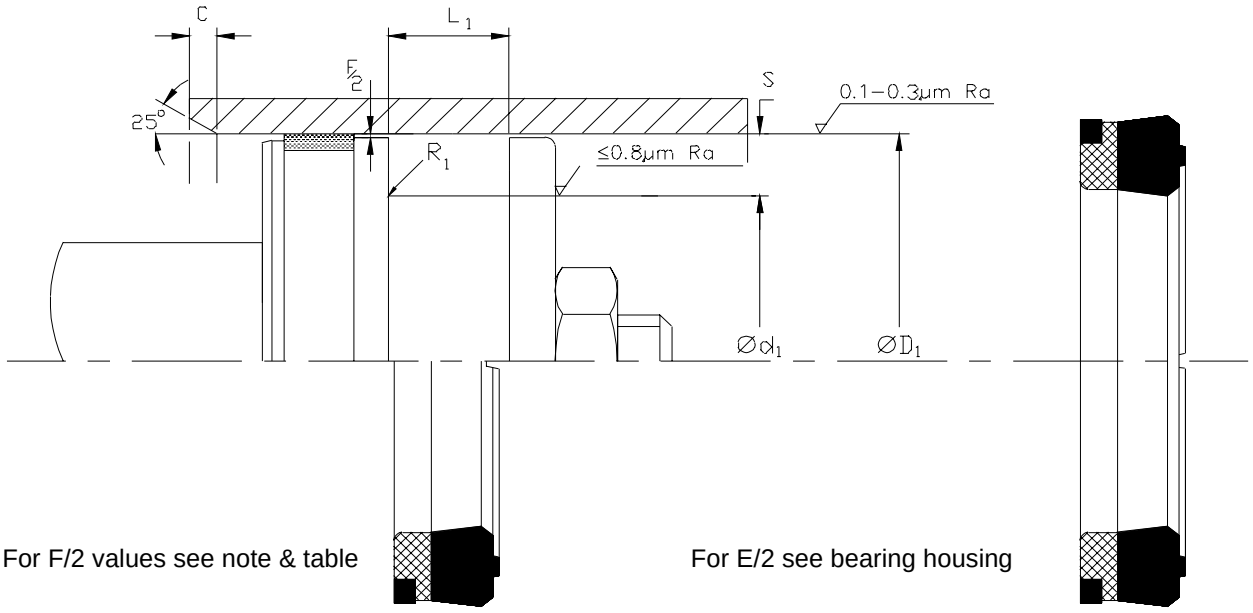
Note: Clearance gap F is the maximum permissable. i.e. gap completely on one side, in the temperature range of -30°C to 100°C
The use of a suitably selected Claron bearing ring will effectively reduce the clearance gap F max. to a value closer to F/2 thus increasing the pressure capability of the seal.

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.
For Rod application see section C.

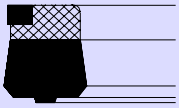
Fitting

Style CPE is designed to be fitted onto a spit and may be used together with Claron Style PSR retainer.
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.



For F/2 values see note & table

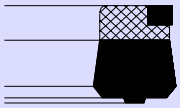
For E/2 see bearing housing



Single Acting Piston Seal

CPE

Metric



Nominal Dimensions & Machining Tolerances

Claron Part Number	H 10 $ØD_1$	js 11 $Ød_1$	+0.25 -0.00 L_1	Nominal S	Min C	Max R_1
CPE 157110	40.00	28.00	9.00	6.00	3.00	0.40
CPE 196149	50.00	38.00	9.40	6.00	3.00	0.40
CPE 236177	60.00	45.00	10.50	7.50	4.00	0.40
CPE 314236	80.00	60.00	14.50	10.00	5.00	0.40
CPE 393314	100.00	80.00	14.00	10.00	5.00	0.40