Single Acting Rod Seal
HBI
Metric

Design

Claron style HBI is a single acting seal for gland applications using the same housing designs as Style CS6. The sealing element is manufactured in Polyurethane, with an Acetal anti-extrusion ring. Designed as a high pressure, low friction seal for use in second generation tandem sealing arrangements. The HBI seal is used on the pressure side, and a 'low leak' but higher friction seal on the non-pressure side to collect the oil film during the positive stroke. This type of arrangement is used where both low friction and low leakage are required. The seals high pressure resistance makes it suitable for use in heavy duty applications where shock loads and pressure spikes occur, as found in mobile plant equipment.

Operating Conditions

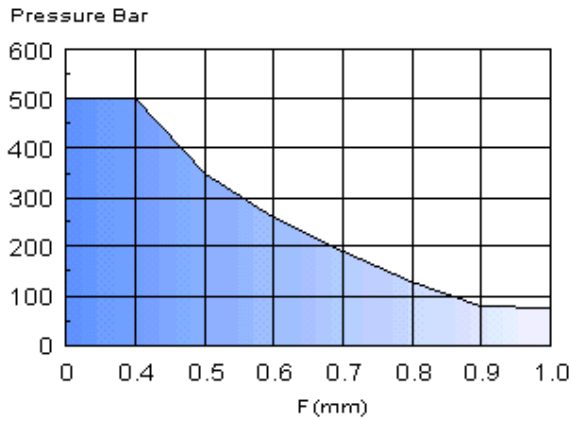
Maximum Pressure		
Max Speed	Temp. Range	Temp. Range
m/s	-40°C to 80°C	-40°C to 110°C
0.50	350 Bar	300 Bar
0.15	500 Bar	450 Bar

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

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

Maximum Diametral Clearance F



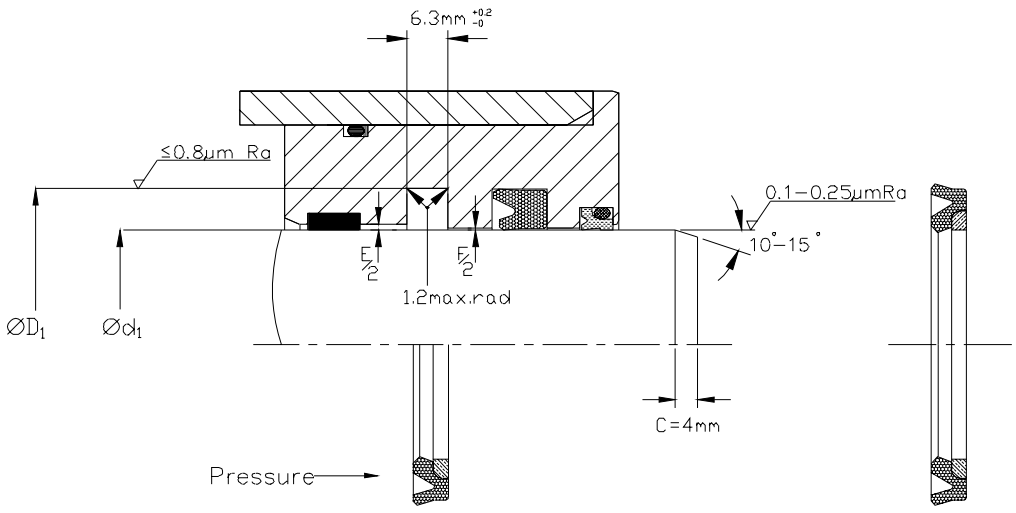
Note: Clearance gap F is the maximum permissable. i.e. gap completely on one side, in the temperature range of -30°C to 100°C The use of a suitably selected Claron bearing ring will effectively reduce the clearance gap F max. to a value closer to F/2 thus increasing the pressure capability of the seal.

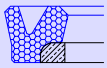
Housing

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.

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.





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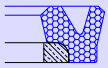

Nominal Dimensions & Machining Tolerances

Claron Part Number	f8 $Ød_1$	H9 $ØD_1$	+0.20 -0.00 L_1	Nominal C
HBI 065	65	80.5	6.3	4
HBI 070	**70**	**85.5**	**6.3**	**4**
HBI 075	75	90.5	6.3	4
HBI 080	**80**	**95.5**	**6.3**	**4**
HBI 085	85	100.5	6.3	4
HBI 090	**90**	**105.5**	**6.3**	**4**
HBI 095	95	110.5	6.3	4
HBI 100	**100**	**115.5**	**6.3**	**4**
HBI 140	140	155.5	6.3	4

Items in **BOLD** are to suit ISO7425-2 housings.