Double Acting Piston Seal

CSPGI

Metric

Design

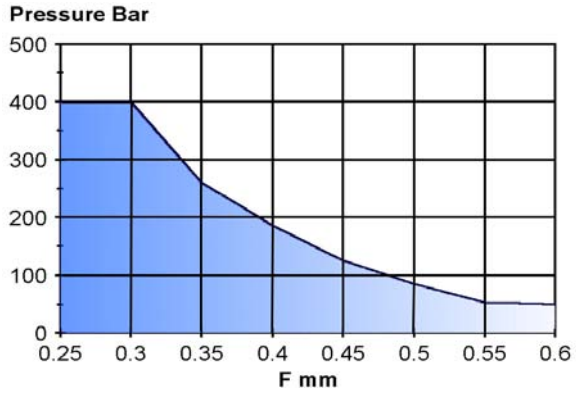
Designed for use on one piece pistons. The seal consists of a precision moulded high performance 98°Shore Polyurethane outer sleeve, pre loaded and pressure energised by a square section NBR 80°Shore rubber element. The compact design allows smaller width pistons to be used. The seal offers excellent wear resistance on a wide range of surface finishes. Sizes conform to standard Japanese housings.

Operating Conditions

Maximum Pressure		
Max Speed	Temp. Range	Temp. Range
m/s	-30°C to 80°C	-30°C to 100°C
1.0	280 Bar	250 Bar
0.5	450 Bar	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.

Maximum Diametral Clearance F



Continuous operating temperature for variuos fluids

Polyurethane / Nitrile Composite		
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	NS

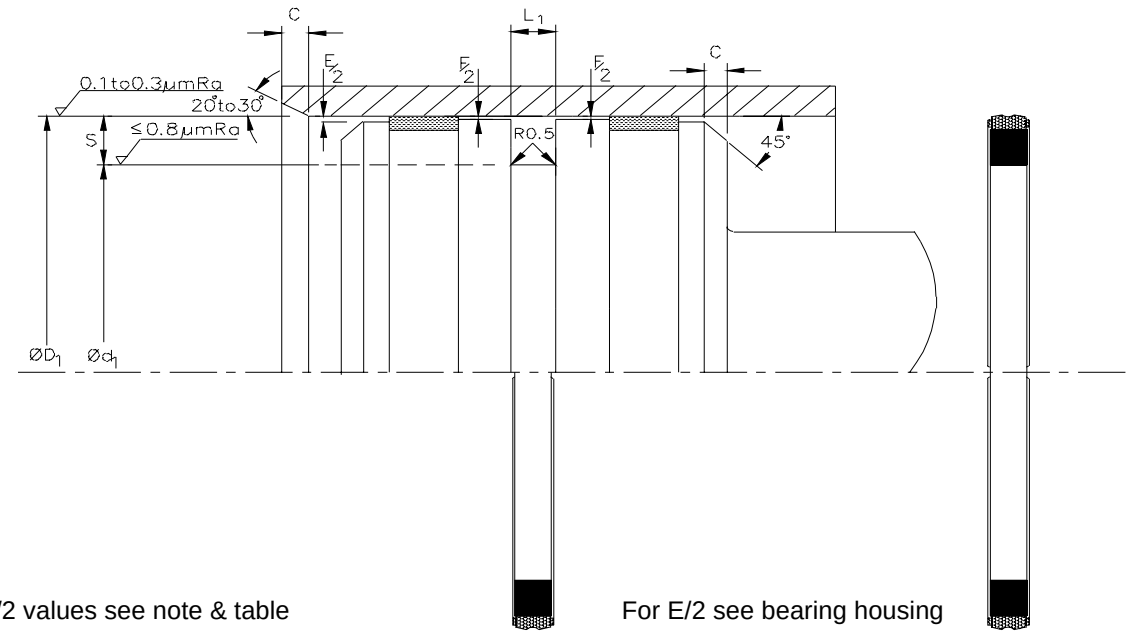
Note: Clearance gap F is the maximum permissable. i.e. gap completely on one side, in the temperature range of -30°C to 100°C
The use of a suitably selected Claron bearing ring will effectively reduce the clearance gap F max. to a value closer to F/2 thus increasing the pressure capability of the seal.

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.



For F/2 values see note & table

For E/2 see bearing housing

Double Acting Piston Seal CSPGI Metric

Nominal Dimensions & Machining Tolerances

Claron Part Number	H9 $ØD_1$	h9 $Ød_1$	+0.20 -0.00 L_1	Nominal S	Nominal C
CSPGI 030	30.0	20.5	4.5	4.75	2.0
CSPGI 031.5	31.5	22.0	4.5	4.75	3.5
CSPGI 032	32.0	22.5	4.5	4.75	3.5
CSPGI 040	40.0	30.0	4.5	5.0	3.5
CSPGI 050	50.0	40.0	4.5	5.0	4.0
CSPGI 060	60.0	50.0	4.5	5.0	4.0
CSPGI 063	63.0	48.0	7.5	7.5	4.0
CSPGI 065	65.0	50.0	7.5	7.5	4.0
CSPGI 070	70.0	55.0	7.5	7.5	4.0
CSPGI 075	75.0	60.0	7.5	7.5	4.0
CSPGI 080	80.0	65.0	7.5	7.5	5.0
CSPGI 090	90.0	75.0	7.5	7.5	5.0
CSPGI 100	100.0	85.0	7.5	7.5	5.0
CSPGI 125	125.0	109.0	7.5	8.0	6.5
CSPGI 140	140.0	124.0	7.5	8.0	6.5
CSPGI 160	160.0	144.0	7.5	8.0	6.5
CSPGI 180	180.0	158.0	11.0	11.0	6.5
CSPGI 200	200.0	178.0	11.0	11.0	6.5
CSPGI 220	220.0	198.0	11.0	11.0	6.5
CSPGI 224	224.0	202.0	11.0	11.0	6.5
CSPGI 250	250.0	228.0	11.0	11.0	6.5