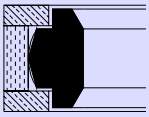
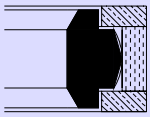


Double Acting Piston Seal

SPW

Metric



Design

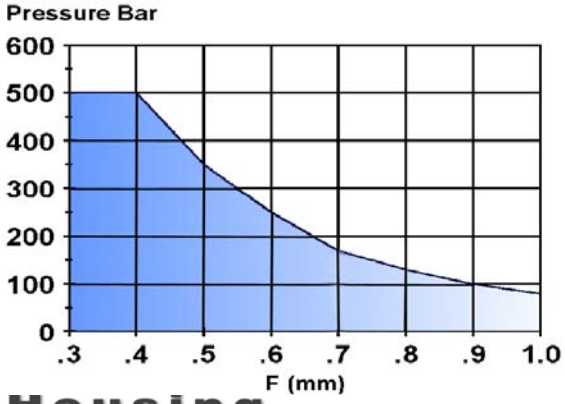
Designed for use on one piece pistons, the seal assembly consists of a filled PTFE high performance outer sleeve, pre loaded and pressure energised by a precision moulded NBR element. These two components are protected from extrusion at either side by the fitting of two low friction plastic anti-extrusion rings making the seal highly resistant to shock loads as found in heavy duty mobile equipment. The housing dimensions are those used in standard metric J.I.S. cylinders.

Operating Conditions

Maximum Pressure		
Max Speed	Temp. Range	Temp. Range
m/s	-30°C to 80°C	-30°C to 100°C
4	350 Bar	280 Bar
2	500 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 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

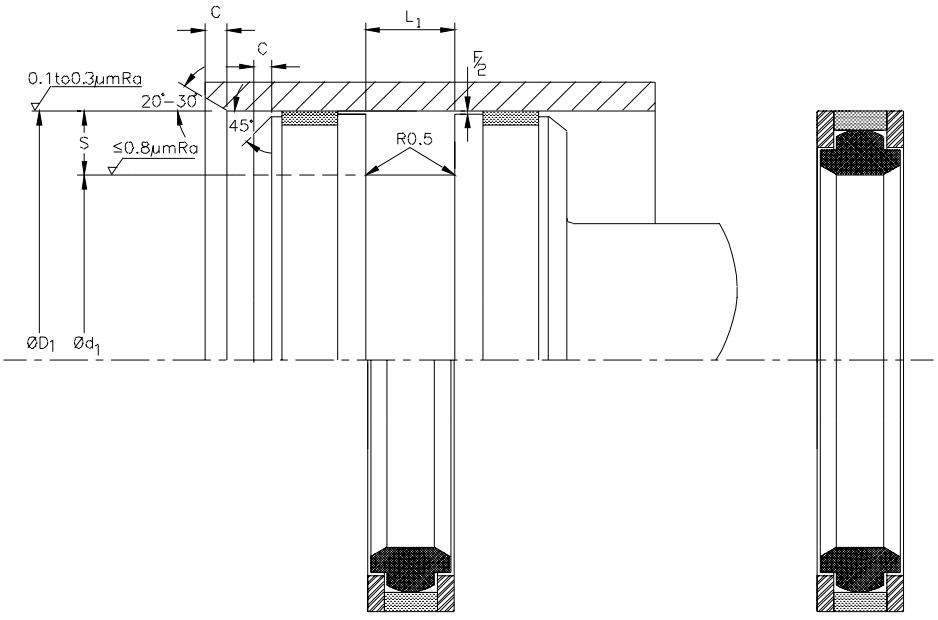
Note: Clearance gap F is the maximum permissable. i.e. gap completely on one side, in the temperature range of -30°C to 100°C The use of a suitably selected Claron bearing ring will effectively reduce the clearance gap F max. to a value closer to F/2 thus increasing the pressure capability of the seal.

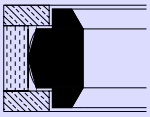
Housing

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.

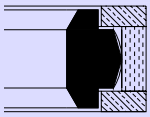




Double Acting Piston Seal

SPW

Metric



Nominal Dimensions & Machining Tolerances

Claron Part Number	H9 $ØD_1$	+0.00 -0.20 $Ød_1$	+0.20 -0.00 L_1	Nominal C
SPW 050	50	36	9.0	4.0
SPW 060	60	46	9.0	4.0
SPW 065	65	50	11.0	5.0
SPW 070	70	55	11.0	5.0
SPW 075	75	60	11.0	5.0
SPW 080	80	65	11.0	5.0
SPW 085	85	70	11.0	5.0
SPW 090	90	75	11.0	5.0
SPW 095	95	80	11.0	5.0
SPW 100	100	85	12.5	5.0
SPW 105	105	90	12.5	5.0
SPW 108	108	93	12.5	5.0
SPW 110	110	95	12.5	5.0
SPW 115	115	100	12.5	6.5
SPW 120	120	105	12.5	6.5
SPW 125	125	102	16.0	6.5
SPW 130	130	107	16.0	6.5
SPW 135	135	112	16.0	6.5
SPW 140	140	117	16.0	6.5
SPW 145	145	122	16.0	6.5
SPW 150	150	127	16.0	6.5
SPW 160	160	137	16.0	6.5
SPW 165	165	142	16.0	6.5
SPW 170	170	147	16.0	6.5
SPW 180	180	157	16.0	6.5
SPW 185	185	162	16.0	6.5
SPW 190	190	167	16.0	6.5
SPW 200	200	177	16.0	6.5
SPW 210	210	187	16.0	6.5
SPW 220	220	197	16.0	6.5
SPW 225	225	202	16.0	6.5
SPW 250	250	222	17.5	7.5