



**Design**

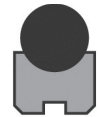
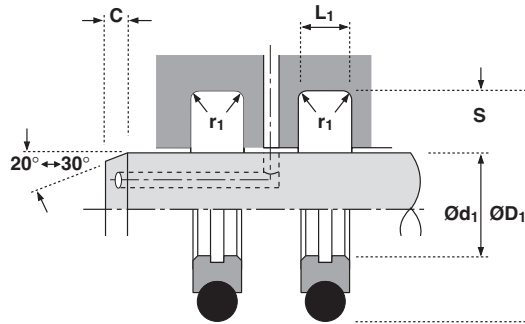
The Hallite 310 rotary pressure seal is designed specifically for use in hydraulic swivel joints. The seal assembly consists of a carbon filled PTFE seal ring energised by an NBR O ring. For aggressive media an FKM O ring can be substituted. The face material and design provides high abrasion resistance and low friction to allow running at low rotational speeds with minimal stick-slip. The low friction is helped by the groove in the sliding face, which provides an oil reservoir. The groove also reduces the contact area with the rotating counterface and allows a higher contact pressure. The circular recess in the outer diameter increases the contact of the face with the O ring and minimises the possibility of the sealing components rotating relative to each other.

**NB:** Part numbers suffixed by “±” indicate housing sizes to meet ISO7425-2.

**Note:** When the Hallite 310 is used as an end seal, it is recommended that it is protected with a wiper.

**Features**

- Minimal stick-slip
- Very low friction
- Can be mounted into one piece housings (over 30mm rod diameter)
- High temperature capability
- Low counterface wear
- Good extrusion resistance
- Compact housings - small installation space



**Technical details**

**Operating conditions**

Maximum Speed	0.5 m/sec
Maximum Temperature	-30°C + 100°C
Maximum Pressure	300 bar
Limiting PV Value Lubricated	40 bar m/sec

**Inch**

1.5 ft/sec
-22°F +212°F
4,500 p.s.i.
1900 p.s.i ft/sec

**Maximum extrusion gap**

Pressure bar	100	200	350
Maximum gap L <sub>1</sub> =4.2mm	0.20	0.10	H7/f7 fit
Maximum gap L <sub>1</sub> =6.3mm	0.30	0.25	H7/f7 fit

Figures show the maximum permissible gap all on one side using minimum rod Ø and maximum clearance Ø. Refer to Housing Design section.

**Surface roughness**

Dynamic Sealing Face Ød <sub>1</sub>	µmRa	µmRt	µinCLA	µinRMS
Static Sealing Face ØD <sub>1</sub>	0.5 < > 0.2	2.5 max	2 < > 8	2 < > 9
Static Housing Faces L <sub>1</sub>	1.6 max	10 max	63 max	70 max
	2.5 max	16 max	100 max	110 max

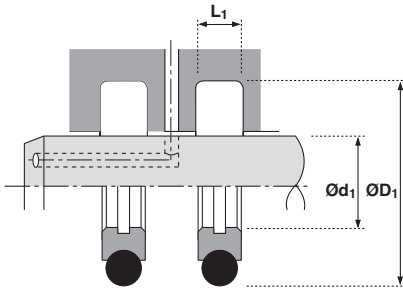
**Chamfers & Radii**

Groove Section ≤ S mm	5.5	7.75
Min Chamfer C mm	3.0	5.0
Max Fillet Rad r <sub>1</sub> mm	0.8	1.2

**Tolerances**

Ød <sub>1</sub>	ØD <sub>1</sub>	L <sub>1</sub> mm
f9	H11	+0.2 -0





Ød <sub>1</sub>	TOL f9	ØD <sub>1</sub>	TOL H11	L <sub>1</sub> +0.2 -0	PART No.
40	-0.025 -0.087	51.0	+0.19 +0.00	4.2	8679710‡
45	-0.025 -0.087	56.0	+0.19 +0.00	4.2	8679810‡
50	-0.025 -0.087	61.0	+0.19 +0.00	4.2	8679910‡
56	-0.030 -0.104	67.0	+0.19 +0.00	4.2	8680010‡
60	-0.030 -0.104	71.0	+0.19 +0.00	4.2	8680110
63	-0.030 -0.104	74.0	+0.19 +0.00	4.2	8680210‡
70	-0.030 -0.104	81.0	+0.22 +0.00	4.2	8680310
75	-0.030 -0.104	86.0	+0.22 +0.00	4.2	8680410
80	-0.030 -0.104	91.0	+0.22 +0.00	4.2	8680510
90	-0.036 -0.123	101.0	+0.22 +0.00	4.2	8680610
100	-0.036 -0.123	111.0	+0.22 +0.00	4.2	8680710
110	-0.036 -0.123	121.0	+0.25 +0.00	4.2	8680810
115	-0.036 -0.123	126.0	+0.25 +0.00	4.2	8680910

Ød <sub>1</sub>	TOL f9	ØD <sub>1</sub>	TOL H11	L <sub>1</sub> +0.2 -0	PART No.
120	-0.036 -0.123	131.0	+0.25 +0.00	4.2	8681010
125	-0.043 -0.143	136.0	+0.25 +0.00	4.2	8681110
130	-0.043 -0.143	141.0	+0.25 +0.00	4.2	8681210
140	-0.043 -0.143	151.0	+0.25 +0.00	4.2	8681310
150	-0.043 -0.143	161.0	+0.25 +0.00	4.2	8681410
160	-0.043 -0.143	171.0	+0.25 +0.00	4.2	8681510
170	-0.043 -0.143	181.0	+0.29 +0.00	4.2	8681610
180	-0.043 -0.143	191.0	+0.29 +0.00	4.2	8681710
190	-0.050 -0.165	201.0	+0.29 +0.00	4.2	8681810
200	-0.050 -0.165	215.5	+0.29 +0.00	6.3	8681910
210	-0.050 -0.165	225.5	+0.29 +0.00	6.3	8682010
220	-0.050 -0.165	235.5	+0.29 +0.00	6.3	8682110
250	-0.050 -0.165	265.5	+0.32 +0.00	6.3	8682210

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