

## Piston Seals

### Technical details

#### Metric

#### Inch

#### Operating conditions

Maximum Speed	2.0 m/sec
Temperature Range	-30°C +100°C
Maximum Pressure	350 bar

6.0 ft/sec
-22°F +212°F
5000 p.s.i.



#### Maximum extrusion gap

Figures show the maximum permissible gap all on one side using minimum clearance  $\emptyset$  and maximum bore  $\emptyset$ .

Pressure p.s.i.	1500	2400	3750	5250
Maximum Gap in	0.024	0.020	0.018	0.014

#### Surface roughness

	$\mu\text{mRa}$	$\mu\text{mRt}$	$\mu\text{inCLA}$	$\mu\text{inRMS}$
Dynamic Sealing Face $\emptyset D_1$	0.1 <-> 0.4	4 max	4 <-> 16	5 <-> 18
Static Sealing Face $\emptyset d_1$	1.6 max	10 max	63 max	70 max
Static Housing Faces $L_1$	3.2 max	16 max	125 max	140 max

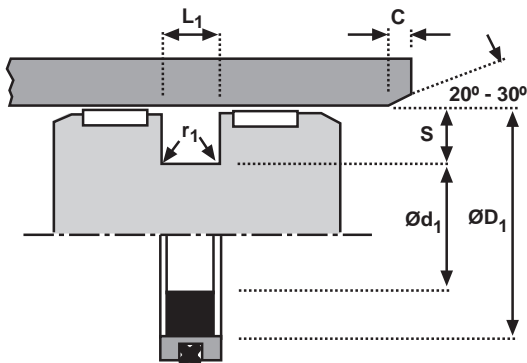
#### Chamfers & Radii

Groove Section $\leq S$ in	0.147	0.216	0.305	0.413	0.483
Min Chamfer C in	0.093	0.125	0.156	0.187	0.305
Max Fillet Rad $r_1$ in	0.016	0.016	0.032	0.032	0.032

#### Tolerances

$\emptyset D_1$	$\emptyset d_1$	$L_1$
H10	f8	+0.008 -0

INCH GPS



### Design

The Grooved Piston Seal (GPS) is a three-piece assembly consisting of an elastomeric energizer, a filled PTFE grooved cap ring, and an elastomeric quad-ring. The seal combines low friction and positive sealing.

Grooved Piston Seals are available in inch and metric sizes.

### Features

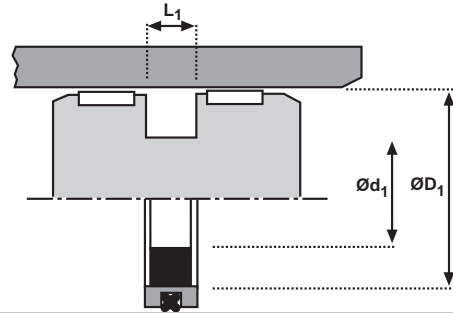
- Low friction - no stick slip
- High strength precision machined PTFE cap ring
- Wide range of materials available for special applications
- Stable design prevents rolling

### ORDERING INFORMATION

Example: Rod Diameter 3.5 in

Product code	GPS	- 3 -	03500	X	702	X
Cross Section Series						
Bore Diameter (XXX.Xmm)						
Energizer Material	N = NBR, F = FKM X = Customer Supplied					
Cap Ring Material	702 PTFE 15% Glass 741 PTFE 40% Bronze					
Quad Ring Material	N = NBR, F = FKM X = Customer Supplied					

# GPS



CROSS SECTION SERIES	ØD <sub>1</sub> RANGE H10	Ød <sub>1</sub> f8	L <sub>1</sub> +0.008 - 0	S	SQUARE RING SERIES	QUAD RING SERIES
3	2.000 - 5.525	ØD1 - 0.616	0.288	0.308	300	100
4	5.375 - 14.000	ØD1 - 0.840	0.375	0.420	400	200

Custom sizes are available, please consult your local Hallite sales office.

## Piston Seals

### Technical details

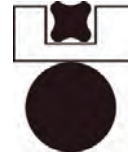
Metric

Inch

#### Operating conditions

Maximum Speed	2.0 m/sec
Temperature Range	-30°C +100°C
Maximum Pressure	350 bar

6.0 ft/sec
-22°F +212°F
5000 p.s.i.



#### Maximum extrusion gap

Pressure bar	100	160	250	350
Maximum Gap mm	0.60	0.50	0.45	0.35

Figures show the maximum permissible gap all on one side using minimum clearance  $\emptyset$  and maximum bore  $\emptyset$ .

#### Surface roughness

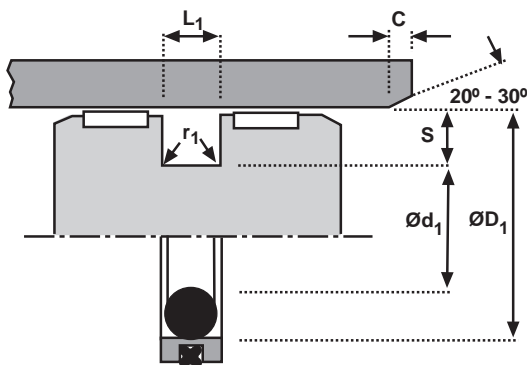
Dynamic Sealing Face $\emptyset D_1$	$\mu\text{mRa}$	$\mu\text{mRt}$	$\mu\text{inCLA}$	$\mu\text{inRMS}$
Static Sealing Face $\emptyset d_1$	0.1 <-> 0.4	4 max	4 <-> 16	5 <-> 18
Static Housing Faces $L_1$	1.6 max	10 max	63 max	70 max
	3.2 max	16 max	125 max	140 max

#### Chamfers & Radii

Groove Section $\leq S$ mm	3.75	5.50	7.75	10.50	12.25
Min Chamfer C mm	2.00	2.50	5.00	7.50	10.00
Max Fillet Rad $r_1$ mm	0.40	0.80	1.20	1.60	2.00

#### Tolerances

$\emptyset D_1$	$\emptyset d_1$	$L_1$
H10	f8	0.2 -0



### Design

The Grooved Piston Seal (GPS) is a three-piece assembly consisting of an elastomeric energizer, a filled PTFE grooved cap ring, and an elastomeric quad-ring. The seal combines low friction and positive sealing.

Grooved Piston Seals are available in inch and metric sizes.

### Features

- Low friction - no stick slip
- High strength precision machined PTFE cap ring
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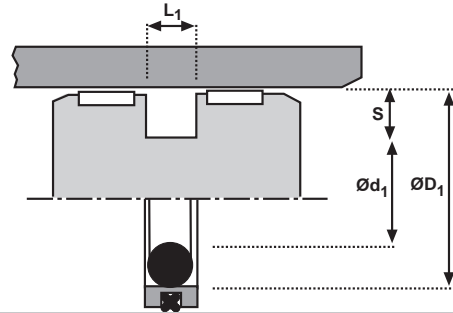
### ORDERING INFORMATION

Example: Rod Diameter 80mm

Product code	GPS	- 3M -	0800	X	702	X
Cross Section Series						
Bore Diameter (XXX,Xmm)						
Energizer Material	N = NBR, F = FKM					
	X = Customer Supplied					
Cap Ring Material	702 PTFE 15% Glass					
	741 PTFE 40% Bronze					
Quad Ring Material	N = NBR, F = FKM					
	X = Customer Supplied					

METRIC GPS

# GPS



CROSS SECTION SERIES	ØD <sub>1</sub> RANGE H10	Ød <sub>1</sub> f8	L <sub>1</sub> +0.2 - 0	S	Ø RING SERIES	QUAD RING SERIES
2M	40 - 79.9	ØD1 - 11	4.2	5.5	200	000
3M	80 - 132.9	ØD1 - 15.5	6.3	7.75	300	000
4M	133 - 252.9	ØD1 - 21	8.1	10.5	400	100

Custom sizes are available, please consult your local Hallite sales office.