

## Material

The 227 Series piston seal features a robust NBR elastomer, a profile ring in PTFE-Bronze compound and back-up rings in high-strength polyacetal (POM).

Material	Code
Polyurethane H-PU / POM	P30
Polyurethane TPU / POM	M51

## Operating Parameters

Temperature	°C	°F
hydraulic oil	-20...+115	-5...+240
water oil emulsions (HFA)	+5... +55	+40... +130
water-glycol fluids (HFC)	-20... +55	-5... +130
polyol esters (HFD)	-	-
water	+5... +55	+40... +130

Speed	0.5 m/s (1.6 ft/sec)
Pressure	400 bar (6000psi)

Note: for other materials or fluids please contact our engineering department

## Description

The 227 Series piston seal is comprised of a polyurethane profile ring and a POM back-up ring. It is designed for single acting applications, where a piston has pressure on both sides and the back-up rings activate to ensure excellent sealing protection and extrusion prevention.

## Product Benefits

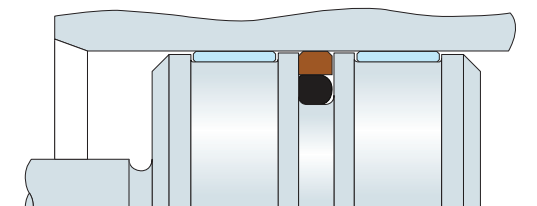
- High temperature and pressure resistance
- High strength protection against extrusion

## Applications

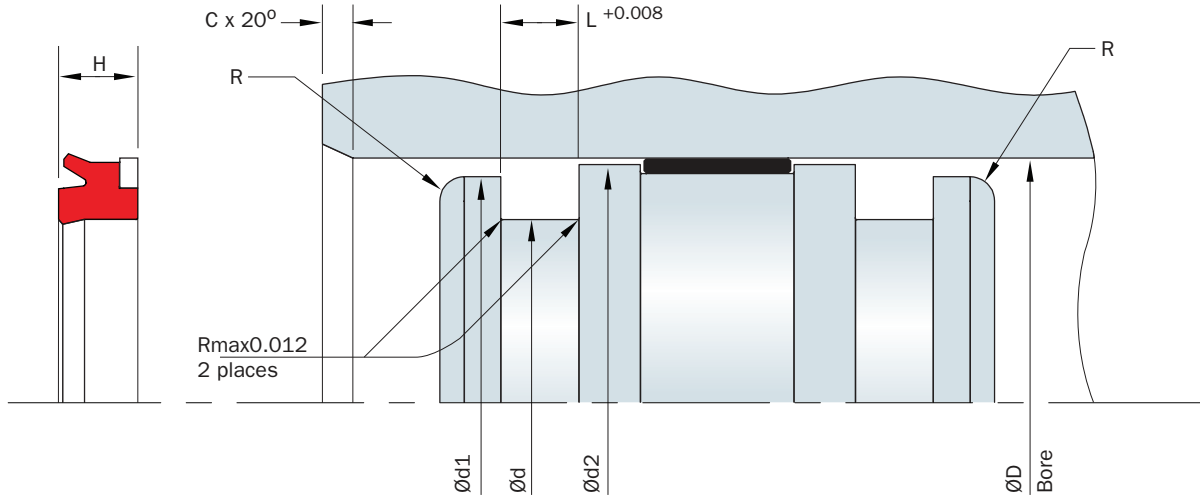
Typical applications include::

- Heavy duty excavation equipment
- Scrap shears

## Installation Drawing



## Design Guidelines



### Metric Series

	B	d	L	C	d1	d2 <250	R	R1
Series 1	7.50 mm	D - 15.00	9.50	4.00	D - 5.00	D - 0.70	0.40	4.00
Series 2	10.00 mm	D - 20.00	12.50	5.00	D - 6.00	D - 1.00	0.40	4.00
Series 3	12.50 mm	D - 25.00	15.50	6.50	D - 8.00	D - 1.00	0.40	4.00
Series 4	15.00 mm	D - 30.00	18.60	7.50	D - 10.00	D - 1.00	0.40	4.00

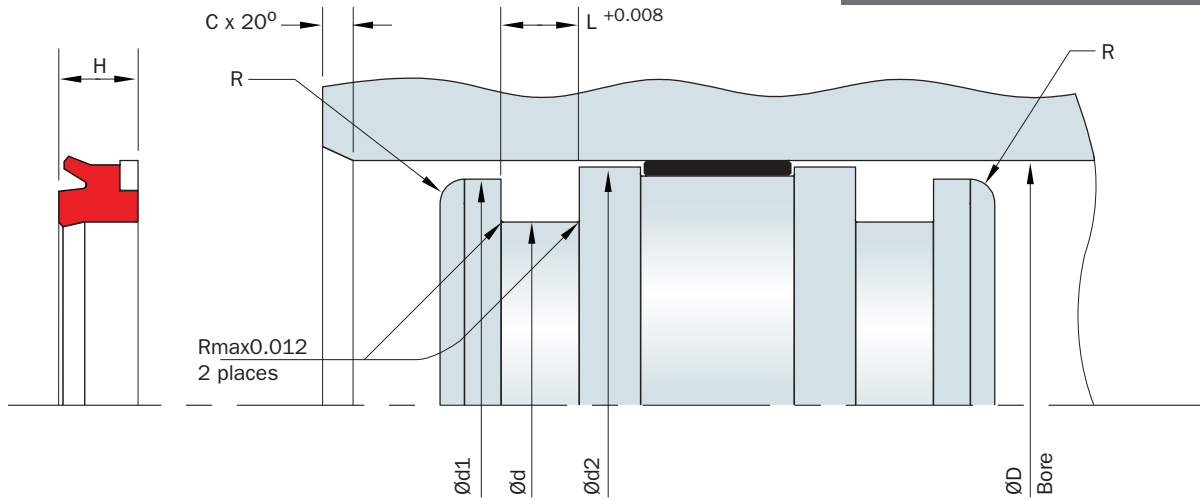
### Inch Series

	B	d	L	C	d1	d2	R	R1
Series 1	.295 inches	D - 0.591	0.374	0.157	D - 0.197	D - 0.028	0.016	0.157
Series 2	.394 inches	D - 0.787	0.492	0.197	D - 0.236	D - 0.039	0.016	0.157
Series 3	.492 inches	D - 0.984	0.610	0.256	D - 0.315	D - 0.039	0.016	0.157
Series 4	.591 inches	D - 1.811	0.732	0.295	D - 0.394	D - 0.039	0.016	0.157

For higher pressures or temperatures, please consult our engineering department for guidance.

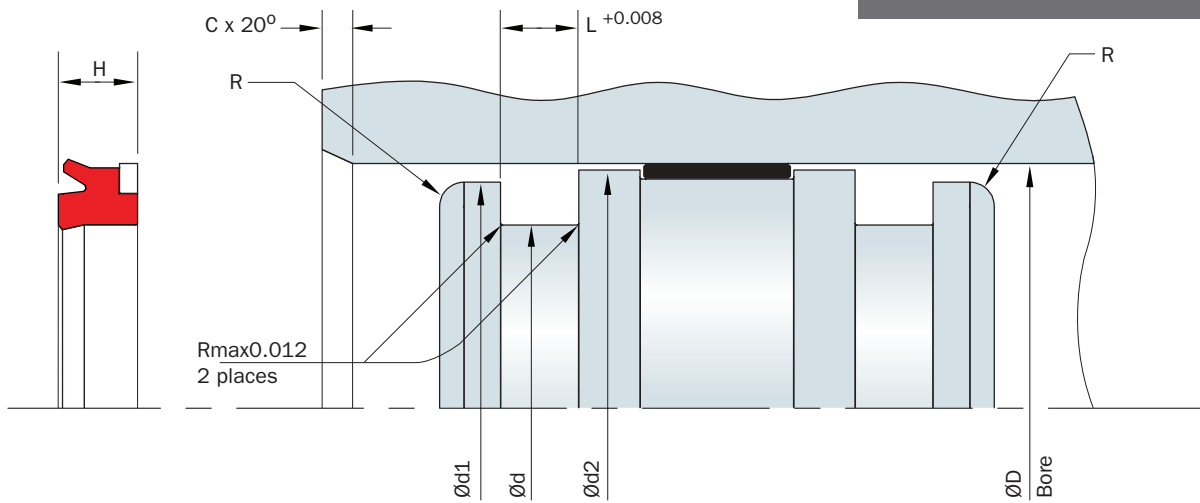
### Surface Finish

Surface roughness	Ra	Rt	RMS
Sliding surface	≤0.3 μm	≤3 μm	8 RMS
Surface of groove I.D.	≤1.8 μm	≤10 μm	64 RMS
Sides of groove	≤3 μm	≤16 μm	125 RMS



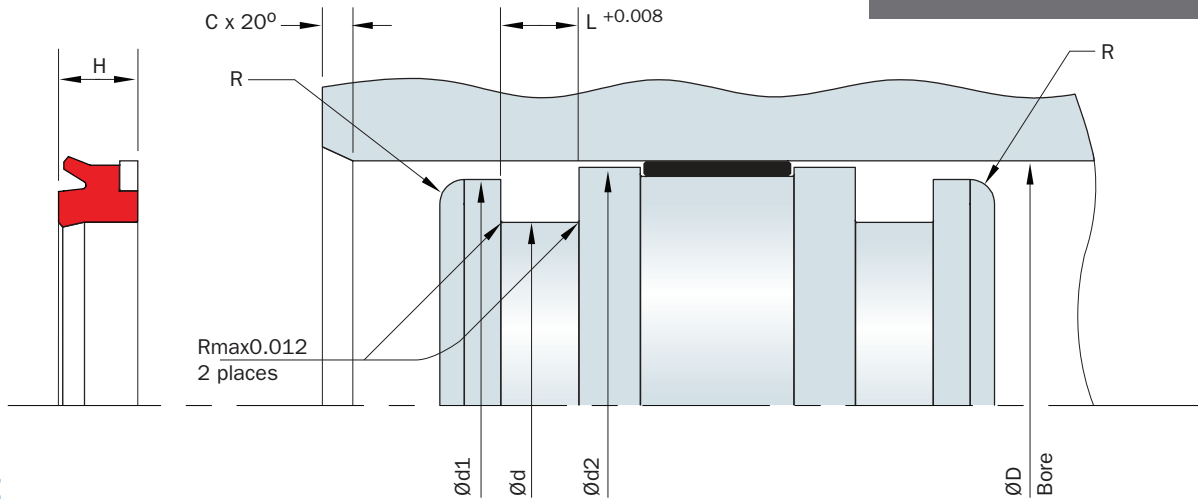
Parts List

ØD	Ød	B	L	H	D1	P30 - HPU
40.00	25.00	7.50	9.50	9.30	35.00	227.91828
40.00	25.00	7.50	10.00	9.30	35.00	227.91847
45.00	30.00	7.50	9.50	9.30	40.00	227.92183
45.00	30.00	7.50	10.00	9.30	40.00	227.92060
50.00	35.00	7.50	9.50	9.30	45.00	227.92161
50.00	35.00	7.50	10.00	9.30	45.00	227.92399
55.00	40.00	7.50	9.50	9.30	50.00	227.92517
55.00	40.00	7.50	10.00	9.30	50.00	227.92039
60.00	45.00	7.50	9.50	9.30	55.00	227.92415
60.00	45.00	7.50	10.00	9.30	55.00	227.92088
63.00	48.00	7.50	9.50	9.30	58.00	227.92420
63.00	48.00	7.50	10.00	9.30	58.00	227.92003
65.00	50.00	7.50	9.50	9.30	60.00	227.91804
65.00	50.00	7.50	10.00	9.30	60.00	227.91836
70.00	50.00	10.00	12.50	12.20	64.00	227.92107
70.00	50.00	10.00	13.00	12.20	64.00	227.91765
70.00	55.00	7.50	9.50	9.30	64.00	227.92625
75.00	55.00	10.00	12.50	12.20	69.00	227.91767
80.00	60.00	10.00	12.50	12.20	74.00	227.91840
80.00	60.00	10.00	13.00	12.20	74.00	227.92006
80.00	65.00	7.50	9.50	9.30	75.00	227.92482
85.00	70.00	7.50	9.50	9.30	80.00	227.92468
90.00	70.00	10.00	12.50	12.20	84.00	227.92633
90.00	70.00	10.00	13.00	12.20	84.00	227.92467
90.00	75.00	7.50	9.50	9.30	85.00	227.91701
100.00	80.00	10.00	12.50	12.20	94.00	227.92665
100.00	80.00	10.00	13.00	12.20	94.00	227.91952
100.00	85.00	7.50	9.50	9.30	95.00	227.92384
105.00	85.00	10.00	13.00	12.20	99.00	227.92497
110.00	90.00	10.00	12.50	12.20	104.00	227.92136
110.00	90.00	10.00	13.00	12.20	104.00	227.92146



Parts List

ØD	Ød	B	L	H	D1	P30 - HPU
114.00	94.00	10.00	12.50	12.20	108.00	227.91883
115.00	95.00	10.00	12.50	12.20	109.00	227.91941
115.00	95.00	10.00	13.00	12.20	109.00	227.91918
125.00	100.00	12.50	15.50	15.20	117.00	227.92274
125.00	100.00	12.50	16.00	15.20	117.00	227.92528
125.00	100.00	12.50	16.20	15.20	117.00	227.92535
125.00	105.00	10.00	12.50	12.20	119.00	227.92264
130.00	110.00	10.00	12.50	12.20	124.00	227.91738
140.00	115.00	12.50	15.50	15.20	132.00	227.92443
140.00	115.00	12.50	16.20	15.20	132.00	227.91906
140.00	120.00	10.00	12.50	12.20	134.00	227.92235
150.00	120.00	15.00	19.00	18.60	140.00	227.91815
150.00	120.00	15.00	19.80	18.60	140.00	227.92677
150.00	130.00	10.00	12.50	12.20	144.00	227.91712
160.00	130.00	15.00	19.00	18.60	150.00	227.92233
160.00	130.00	15.00	19.80	18.60	150.00	227.91865
160.00	140.00	10.00	12.50	12.20	154.00	227.91939
170.00	150.00	10.00	12.50	12.20	164.00	227.92412
180.00	150.00	15.00	19.00	18.60	170.00	227.92352
180.00	150.00	15.00	19.80	18.60	170.00	227.91814
180.00	160.00	10.00	12.50	12.20	174.00	227.92326
200.00	170.00	15.00	19.00	18.60	190.00	227.91744
200.00	170.00	15.00	19.80	18.60	190.00	227.92210
200.00	170.00	15.00	20.00	18.60	190.00	227.92176
200.00	175.00	12.50	16.00	15.70	192.00	227.92238
220.00	200.00	10.00	16.00	15.70	214.00	227.92410
225.00	195.00	15.00	19.00	18.60	215.00	227.92518
225.00	195.00	15.00	19.80	18.60	215.00	227.92225
250.00	220.00	15.00	19.00	18.60	240.00	227.92079
250.00	220.00	15.00	19.80	18.60	240.00	227.92085
250.00	220.00	15.00	20.00	18.60	240.00	227.91982



**Parts List**

ØD	Ød	B	L	H	D1	P30 - HPU
250.00	225.00	12.50	16.00	15.70	242.00	227.92365
280.00	250.00	15.00	19.00	18.60	270.00	227.92222
280.00	250.00	15.00	19.80	18.60	270.00	227.92072
300.00	270.00	15.00	19.00	18.60	290.00	227.92579
300.00	270.00	15.00	19.80	18.60	290.00	227.92592
320.00	290.00	15.00	20.00	18.60	310.00	227.91977