

513

ROD/PISTON SEAL

*Single-Acting
TPU/TPE with O-Ring Energizer*

DESIGN

The Hallite 513 is a standard profile loaded U-cup with precision trimmed sealing lips manufactured in either a polyurethane or polyester shell energised by a high quality O-ring and designed for common North American grooves. The sealing lips are trimmed at an angle to give optimal rod sealing performance. In most cases, the deep profile of the Hallite 513 provides extra stability needed to resist rolling in the groove. Together these features result in improved life and sealing.

At zero or low pressure, the O-ring helps to increase the sealing force preventing any bypass. Under most conditions as the pressure rises, the sealing force increases and the O-ring ensures complete lip actuation.

The symmetry of the Hallite 513 makes it ideally suited for single-acting rod and piston applications. However, the Hallite 513 is not recommended for use in back-to-back double-acting applications.



FEATURES

- Excellent resistance to abrasion
- Deep profile for stability
- Positive lip actuation
- Easy to install
- Precision trimmed lips

MATERIALS

This product comes in a number of material options to extend operating conditions. Contact your local Hallite technical team to decide which is best for your application. Use the part designator in the table below as the last digit of the part number to specify material choice when ordering. For further material details, please refer to the Hallite Material Table.

MATERIAL OPTIONS	Name	Seal Type	Seal Color	Part Designator
Standard	Hythane® 221-NBR	TPU-EU	Black	10
Optional	TPE 121-NBR	TPE	Orange	11
Optional	TPE 121-FKM	TPE	Orange	12
Optional	Hythane® 361-NBR	TPU-AU	Orange	16

TECHNICAL DETAILS

OPERATING CONDITIONS	METRIC	INCH
Maximum Speed	0.5 m/sec	1.5 ft/sec
Temperature Range	-40°C +110°C	-40°F +230°F
Maximum Pressure	350 bar	5000 psi

NOTE

Data given are maximum values and can apply depending on specific application. Maximum ratings of temperature, pressure, or operating speeds are dependent on fluid medium, surface, gap value, and other variables such as dynamic or static service. Maximum values are not intended for use together at the same time, e.g. max temperature and max pressure. Please contact your Hallite technical representative for application support.

MAXIMUM EXTRUSION GAP 1/4 SECTION AND ABOVE			
Pressure bar	160	250	350
Maximum Gap mm	0.60	0.50	0.40
Pressure psi	2400	3750	6000
Maximum Gap in	0.024	0.020	0.016

NOTE

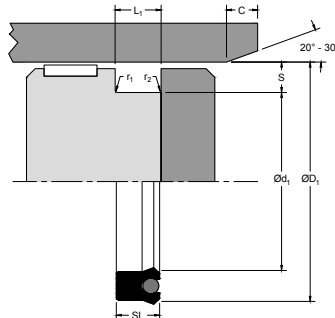
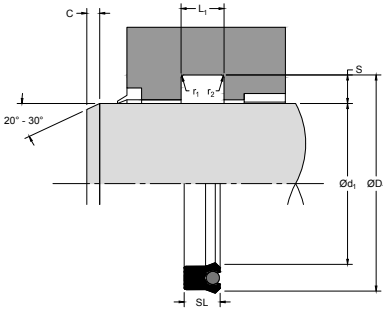
Figures show the maximum permissible gap all on one side, for rod seals using minimum rod \varnothing and maximum clearance \varnothing and for piston seals using the minimum clearance \varnothing and maximum bore \varnothing . Refer to Housing Design section.

SURFACE ROUGHNESS	μmRa	μmRz	μmRt	μinRa	μinRz	μinRt
Dynamic Sealing Face $\varnothing d_1$ - Rod	0.1 - 0.4	1.6 max	4 max	4 - 16	63 max	157 max
Static Sealing Face $\varnothing D_1$ - Rod	1.6 max	6.3 max	10 max	63 max	250 max	394 max
Dynamic Sealing Face $\varnothing D_1$ - Piston	0.1 - 0.4	1.6 max	4 max	4 - 16	63 max	157 max
Static Sealing Face $\varnothing d_1$ - Piston	1.6 max	6.3 max	10 max	63 max	250 max	394 max
Static Housing Faces L_1	3.2 max	10 max	16 max	125 max	394 max	630 max

RADII						
Groove Section $\leq S$ in	0.125	0.187	0.250	0.312	0.375	0.500
Min Chamfer C in	0.093	0.093	0.125	0.156	0.187	0.187
Max Fillet Rad r_1 in	0.008	0.008	0.016	0.032	0.032	0.032
Max Fillet Rad r_2 in	0.016	0.016	0.032	0.047	0.047	0.047

NOTE

Please refer to specified tolerances in the introduction page of the Hallite 500 Series.



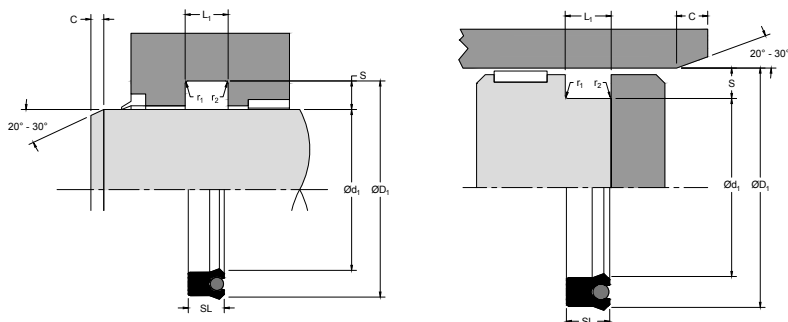
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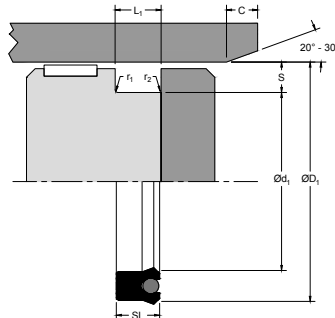
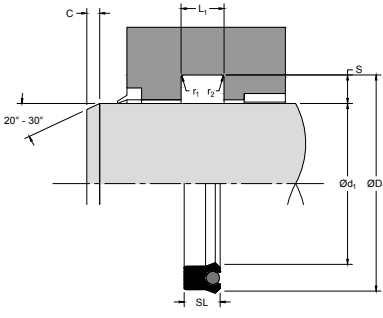
PART NUMBER RANGE

INCH					
Ød ₁	ØD ₁	SL	L ₁	Standard Reference	PART No.
1/8 CROSS SECTION					
0.125	0.375	0.250	0.275	12500125-250B	8922910
0.188	0.438	0.250	0.275	12500188-250B	8923010
0.250	0.500	0.125	0.138	12500250-125B	8933610
0.250	0.500	0.188	0.207	12500250-188B	8845910
0.250	0.500	0.250	0.275	12500250-250B	8878510
0.313	0.563	0.125	0.138	12500313-125B	8923310
0.313	0.563	0.250	0.275	12500313-250B	8923510
0.375	0.625	0.125	0.138	12500375-125B	8908610
0.375	0.625	0.188	0.207	12500375-188B	8923610
0.375	0.625	0.250	0.275	12500375-250B	8823810
0.438	0.688	0.125	0.138	12500438-125B	8902510
0.438	0.688	0.250	0.275	12500438-250B	8846910
0.500	0.750	0.125	0.138	12500500-125B	8907910
0.500	0.750	0.250	0.275	12500500-250B	8834010
0.563	0.813	0.125	0.138	12500563-125B	8923710
0.625	0.875	0.125	0.138	12500625-125B	8906210
0.625	0.875	0.188	0.207	12500625-188B	8848710
0.625	0.875	0.250	0.275	12500625-250B	8834110
0.750	1.000	0.125	0.138	12500750-125B	8905310
0.750	1.000	0.250	0.275	12500750-250B	8834210
0.813	1.063	0.125	0.138	12500813-125B	8924110
0.813	1.063	0.250	0.275	12500813-250B	8924210
0.875	1.125	0.125	0.138	12500875-125B	8924310
0.875	1.125	0.250	0.275	12500875-250B	8845310
0.938	1.188	0.125	0.138	12500937-125B	8924610
0.938	1.188	0.250	0.275	12500937-250B	8900910
1.000	1.250	0.125	0.138	12501000-125B	8924810
1.000	1.250	0.188	0.207	12501000-188B	8860110
1.000	1.250	0.250	0.275	12501000-250B	8834410
1.063	1.313	0.125	0.138	12501063-125B	8925210
1.063	1.313	0.250	0.275	12501063-250B	8845710



PART NUMBER RANGE

INCH					
$\text{Ø}d_1$	$\text{Ø}D_1$	SL	L_1	Standard Reference	PART No.
1.125	1.375	0.125	0.138	12501125-125B	8899910
1.125	1.375	0.188	0.207	12501125-188B	8855510
1.125	1.375	0.250	0.275	12501125-250B	8855610
1.125	1.375	0.313	0.344	12501125-313B	8848810
1.188	1.438	0.250	0.275	12501188-250B	8848910
1.250	1.500	0.125	0.138	12501250-125B	8925510
1.250	1.500	0.188	0.207	12501250-188B	8860210
1.250	1.500	0.250	0.275	12501250-250B	8834710
1.313	1.563	0.125	0.138	12501313-125B	8926010
1.375	1.625	0.125	0.138	12501375-125B	8926210
1.375	1.625	0.188	0.207	12501375-188B	8860310
1.375	1.625	0.250	0.275	12501375-250B	8834910
1.438	1.688	0.125	0.138	12501438-125B	8926510
1.438	1.688	0.250	0.275	12501438-250B	8849010
1.500	1.750	0.125	0.138	12501500-125B	8926610
1.500	1.750	0.250	0.275	12501500-250B	8835210
1.625	1.875	0.125	0.138	12501625-125B	8926910
1.625	1.875	0.188	0.207	12501625-188B	8849110
1.625	1.875	0.250	0.275	12501625-250B	8873110
1.750	2.000	0.125	0.138	12501750-125B	8927210
1.750	2.000	0.250	0.275	12501750-250B	8835610
1.875	2.125	0.188	0.207	12501875-188B	8845810
1.875	2.125	0.250	0.275	12501875-250B	8845410
2.000	2.250	0.188	0.207	12502000-188B	8860410
2.000	2.250	0.250	0.275	12502000-250B	8873210
2.125	2.375	0.250	0.275	12502125-250B	8908910
2.250	2.500	0.250	0.275	12502250-250B	8908810
2.500	2.750	0.125	0.138	12502500-125B	8928610
2.500	2.750	0.250	0.275	12502500-250B	8902210
2.875	3.125	0.250	0.275	12502875-250B	8847410
3.875	4.125	0.250	0.275	12503875-250B	8845510
4.000	4.250	0.125	0.138	12504000-125B	8930010
4.875	5.125	0.250	0.275	12504875-250B	8845610



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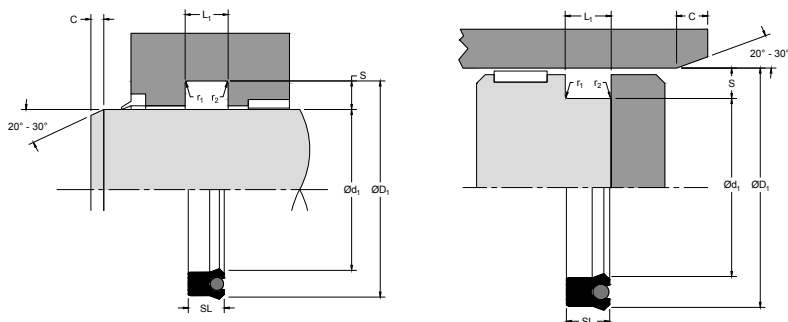
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PART NUMBER RANGE

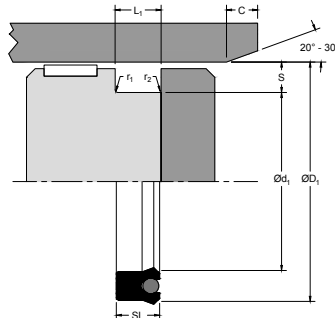
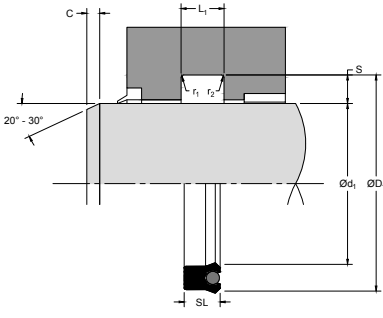
INCH					
Ød ₁	ØD ₁	SL	L ₁	Standard Reference	PART No.
5/32 CROSS SECTION					
1.000	1.313	0.156	0.172	15601000-156B	8925010
1.375	1.688	0.156	0.172	15601375-156B	8926410
3/16 CROSS SECTION					
0.188	0.563	0.188	0.207	18700188-188B	8923110
0.250	0.625	0.188	0.207	18700250-188B	8923210
0.313	0.688	0.188	0.207	18700313-188B	8923410
0.375	0.750	0.156	0.172	18700375-156B	8901410
0.500	0.875	0.250	0.275	18700500-250B	8848010
0.500	0.875	0.313	0.344	18700500-313B	8852910
0.625	1.000	0.188	0.207	18700625-188B	8923810
0.625	1.000	0.313	0.344	18700625-313B	8902710
0.750	1.125	0.188	0.207	18700750-188B	8849810
0.750	1.125	0.250	0.275	18700750-250B	8846010
0.750	1.125	0.313	0.344	18700750-313B	8834310
0.750	1.125	0.375	0.413	18700750-375B	8855810
0.875	1.250	0.188	0.207	18700875-188B	8924410
0.875	1.250	0.313	0.344	18700875-313B	8900210
0.938	1.313	0.313	0.344	18700938-313B	8924710
1.000	1.375	0.188	0.207	18701000-188B	8806110
1.000	1.375	0.250	0.275	18701000-250B	8860510
1.000	1.375	0.281	0.310	18701000-281B	8925110
1.000	1.375	0.313	0.344	18701000-313B	8834510
1.063	1.438	0.313	0.344	18701063-313B	8850010
1.125	1.500	0.188	0.207	18701125-188B	8907710
1.125	1.500	0.250	0.275	18701125-250B	8844910
1.125	1.500	0.313	0.344	18701125-313B	8834610
1.188	1.563	0.188	0.207	18701188-188B	8925410
1.188	1.563	0.313	0.344	18701188-313B	8902310
1.250	1.625	0.188	0.207	18701250-188B	8925610
1.250	1.625	0.250	0.275	18701250-250B	8860610
1.250	1.625	0.313	0.344	18701250-313B	8834810

PART NUMBERS ON THIS PAGE ARE LISTED IN THE STANDARD MATERIAL OPTION. FOR MATERIAL VARIATIONS OR FOR CUSTOM SIZES, MATERIALS, OR SEAL DESIGNS, PLEASE CONTACT YOUR LOCAL HALLITE REPRESENTATIVE.



PART NUMBER RANGE

INCH					
$\varnothing d_1$	$\varnothing D_1$	SL	L_1	Standard Reference	PART No.
1.250	1.625	0.375	0.413	18701250-375B	8860710
1.313	1.688	0.313	0.344	18701313-313B	8925910
1.375	1.750	0.188	0.207	18701375-188B	8926110
1.375	1.750	0.250	0.275	18701375-250B	8844710
1.375	1.750	0.313	0.344	18701375-313B	8835010
1.375	1.750	0.375	0.413	18701375-375B	8835110
1.500	1.875	0.188	0.207	18701500-188B	8851510
1.500	1.875	0.250	0.275	18701500-250B	8835310
1.500	1.875	0.313	0.344	18701500-313B	8849710
1.500	1.875	0.375	0.413	18701500-375B	8835410
1.500	1.875	0.406	0.447	18701500-406B	8848110
1.625	2.000	0.188	0.207	18701625-188B	8926810
1.625	2.000	0.250	0.275	18701625-250B	8868410
1.625	2.000	0.313	0.344	18701625-313B	8864210
1.625	2.000	0.375	0.413	18701625-375B	8835510
1.750	2.125	0.188	0.207	18701750-188B	8927010
1.750	2.125	0.230	0.250	18701750-230B	8852010
1.750	2.125	0.250	0.275	18701750-250B	8927110
1.750	2.125	0.313	0.344	18701750-313B	8865410
1.750	2.125	0.375	0.413	18701750-375B	8835710
1.875	2.250	0.188	0.207	18701875-188B	8927310
1.875	2.250	0.375	0.413	18701875-375B	8835810
2.000	2.375	0.188	0.207	18702000-188B	8927410
2.000	2.375	0.230	0.250	18702000-230B	8806210
2.000	2.375	0.250	0.275	18702000-250B	8868110
2.000	2.375	0.266	0.292	18702000-266B	8927710
2.000	2.375	0.313	0.344	18702000-313B	8860810
2.000	2.375	0.375	0.413	18702000-375B	8835910
2.125	2.500	0.188	0.207	18702125-188B	8908110
2.125	2.500	0.250	0.275	18702125-250B	8845010
2.125	2.500	0.375	0.413	18702125-375B	8836010
2.250	2.625	0.188	0.207	18702250-188B	8927910



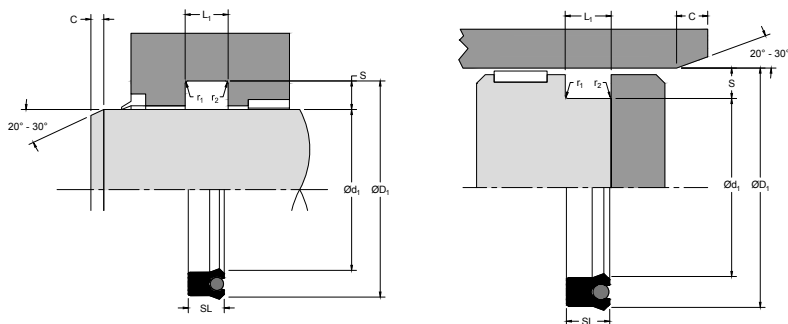
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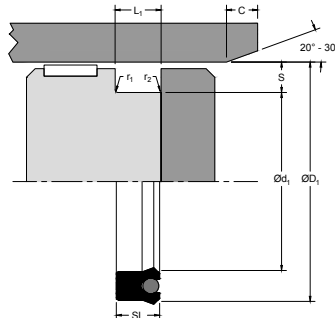
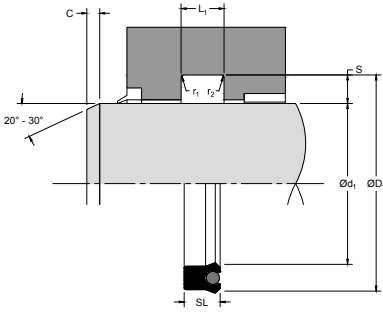
PART NUMBER RANGE

INCH					
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2.250	2.625	0.313	0.344	18702250-313B	8860910
2.250	2.625	0.375	0.413	18702250-375B	8873310
2.375	2.750	0.188	0.207	18702375-188B	8928110
2.375	2.750	0.280	0.308	18702375-280B	8903010
2.375	2.750	0.375	0.413	18702375-375B	8861010
2.500	2.875	0.188	0.207	18702500-188B	8928410
2.500	2.875	0.250	0.275	18702500-250B	8908310
2.500	2.875	0.375	0.413	18702500-375B	8836210
2.625	3.000	0.188	0.207	18702625-188B	8928710
2.625	3.000	0.250	0.275	18702625-250B	8868510
2.625	3.000	0.313	0.344	18702625-313B	8864310
2.625	3.000	0.375	0.413	18702625-375B	8836310
2.750	3.125	0.188	0.207	18702750-188B	8849910
2.750	3.125	0.313	0.344	18702750-313B	8846110
2.750	3.125	0.375	0.413	18702750-375B	8836410
2.875	3.250	0.250	0.275	18702875-250B	8861120
2.875	3.250	0.280	0.308	18702875-280B	8903110
2.875	3.250	0.375	0.413	18702875-375B	8861110
3.000	3.375	0.188	0.207	18703000-188B	8806710
3.000	3.375	0.250	0.275	18703000-250B	8868210
3.000	3.375	0.313	0.344	18703000-313B	8861210
3.000	3.375	0.375	0.413	18703000-375B	8836510
3.125	3.500	0.188	0.207	18703125-188B	8908710
3.125	3.500	0.250	0.275	18703125-250B	8845110
3.125	3.500	0.375	0.413	18703125-375B	8836610
3.250	3.625	0.313	0.344	18703250-313B	8861310
3.250	3.625	0.375	0.413	18703250-375B	8873410
3.375	3.750	0.188	0.207	18703375-188B	8932910
3.375	3.750	0.250	0.275	18703375-250B	8836720
3.375	3.750	0.280	0.308	18703375-280B	8903210
3.375	3.750	0.375	0.413	18703375-375B	8836710
3.500	3.875	0.188	0.207	18703500-188B	8929510



PART NUMBER RANGE

INCH					
$\text{Ø}d_1$	$\text{Ø}D_1$	SL	L_1	Standard Reference	PART No.
3.500	3.875	0.375	0.413	18703500-375B	8836810
3.625	4.000	0.188	0.207	18703625-188B	8929710
3.625	4.000	0.250	0.275	18703625-250B	8868610
3.625	4.000	0.313	0.344	18703625-313B	8864410
3.625	4.000	0.375	0.413	18703625-375B	8836910
3.750	4.125	0.188	0.207	18703750-188B	8850210
3.750	4.125	0.313	0.344	18703750-313B	8846210
3.750	4.125	0.375	0.413	18703750-375B	8837010
3.875	4.250	0.250	0.275	18703875-250B	8861420
3.875	4.250	0.280	0.308	18703875-280B	8903310
3.875	4.250	0.375	0.413	18703875-375B	8861410
4.000	4.375	0.188	0.207	18704000-188B	8820010
4.000	4.375	0.250	0.275	18704000-250B	8868310
4.000	4.375	0.313	0.344	18704000-313B	8861510
4.000	4.375	0.375	0.413	18704000-375B	8837110
4.125	4.500	0.250	0.275	18704125-250B	8845210
4.125	4.500	0.375	0.413	18704125-375B	8837210
4.250	4.625	0.313	0.344	18704250-313B	8861610
4.250	4.625	0.375	0.413	18704250-375B	8837310
4.375	4.750	0.280	0.308	18704375-280B	8903410
4.375	4.750	0.375	0.413	18704375-375B	8861710
4.500	4.875	0.375	0.413	18704500-375B	8837510
4.625	5.000	0.250	0.275	18704625-250B	8868710
4.625	5.000	0.313	0.344	18704625-313B	8864510
4.625	5.000	0.375	0.413	18704625-375B	8837610
4.750	5.125	0.375	0.413	18704750-375B	8846610
4.875	5.250	0.280	0.308	18704875-280B	8903510
4.875	5.250	0.375	0.413	18704875-375B	8861810
5.000	5.375	0.375	0.413	18705000-375B	8842510
5.500	5.875	0.375	0.413	18705500-375B	8905710



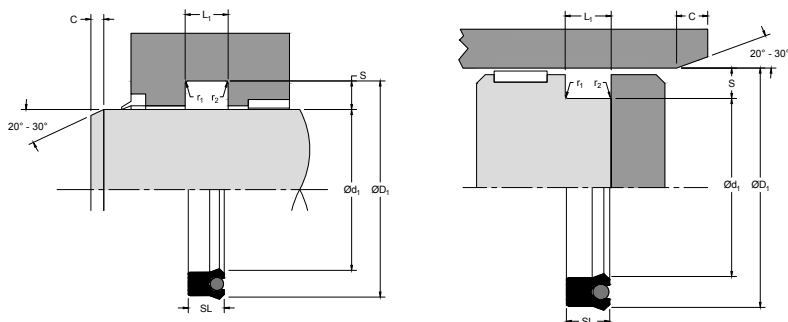
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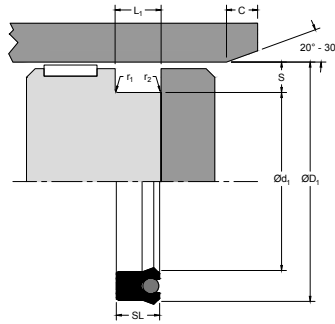
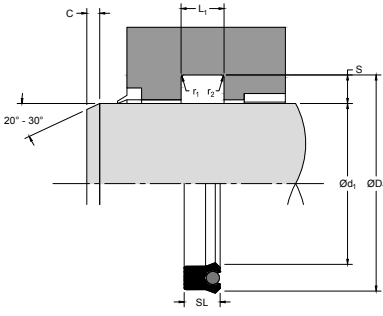
PART NUMBER RANGE

INCH					
ϕd_1	ϕD_1	SL	L_1	Standard Reference	PART No.
1/4 CROSS SECTION					
0.438	0.938	0.375	0.413	25000438-375B	8863110
0.500	1.000	0.375	0.413	25000500-375B	8837710
0.625	1.125	0.313	0.344	25000625-313B	8849210
0.625	1.125	0.375	0.413	25000625-375B	8923910
0.750	1.250	0.250	0.275	25000750-250B	8924010
0.750	1.250	0.375	0.413	25000750-375B	8837810
0.875	1.375	0.250	0.275	25000875-250B	8924510
0.875	1.375	0.313	0.344	25000875-313B	8830210
0.875	1.375	0.375	0.413	25000875-375B	8864610
1.000	1.500	0.250	0.275	25001000-250B	8924910
1.000	1.500	0.375	0.413	25001000-375B	8837910
1.125	1.625	0.250	0.275	25001125-250B	8804910
1.125	1.625	0.375	0.413	25001125-375B	8856110
1.250	1.750	0.250	0.275	25001250-250B	8925710
1.250	1.750	0.375	0.413	25001250-375B	8838110
1.313	1.813	0.375	0.413	25001313-375B	8902610
1.375	1.875	0.250	0.275	25001375-250B	8926310
1.375	1.875	0.375	0.413	25001375-375B	8878610
1.500	2.000	0.250	0.275	25001500-250B	8908410
1.500	2.000	0.313	0.344	25001500-313B	8867710
1.500	2.000	0.375	0.413	25001500-375B	8838310
1.625	2.125	0.375	0.413	25001625-375B	8849610
1.750	2.250	0.250	0.275	25001750-250B	8805610
1.750	2.250	0.375	0.413	25001750-375B	8838510
1.875	2.375	0.375	0.413	25001875-375B	8859410
2.000	2.500	0.250	0.275	25002000-250B	8856010
2.000	2.500	0.375	0.413	25002000-375B	8838610
2.125	2.625	0.250	0.275	25002125-250B	8805810
2.125	2.625	0.375	0.413	25002125-375B	8856310
2.250	2.750	0.375	0.413	25002250-375B	8838710
2.375	2.875	0.375	0.413	25002375-375B	8850110



PART NUMBER RANGE

INCH					
$\text{Ø}d_1$	$\text{Ø}D_1$	SL	L_1	Standard Reference	PART No.
2.375	2.875	0.563	0.619	25002375-563B	8900610
2.500	3.000	0.250	0.275	25002500-250B	8928310
2.500	3.000	0.313	0.344	25002500-313B	8867810
2.500	3.000	0.375	0.413	25002500-375B	8839010
2.625	3.125	0.375	0.413	25002625-375B	8849310
2.750	3.250	0.250	0.275	25002750-250B	8805910
2.750	3.250	0.375	0.413	25002750-375B	8839110
2.875	3.375	0.375	0.413	25002875-375B	8830910
3.000	3.500	0.250	0.275	25003000-250B	8928810
3.000	3.500	0.375	0.413	25003000-375B	8839310
3.000	3.500	0.500	0.550	25003000-500B	8842110
3.000	3.500	0.563	0.619	25003000-563B	8852210
3.125	3.625	0.250	0.275	25003125-250B	8848510
3.125	3.625	0.375	0.413	25003125-375B	8856210
3.250	3.750	0.375	0.413	25003250-375B	8839410
3.375	3.875	0.250	0.275	25003375-250B	8929310
3.375	3.875	0.375	0.413	25003375-375B	8849410
3.375	3.875	0.563	0.619	25003375-563B	8900710
3.500	4.000	0.250	0.275	25003500-250B	8929410
3.500	4.000	0.313	0.344	25003500-313B	8867910
3.500	4.000	0.375	0.413	25003500-375B	8839510
3.625	4.125	0.375	0.413	25003625-375B	8849510
3.750	4.250	0.250	0.275	25003750-250B	8848610
3.750	4.250	0.375	0.413	25003750-375B	8839710
3.750	4.250	0.563	0.619	25003750-563B	8839810
3.875	4.375	0.375	0.413	25003875-375B	8832510
4.000	4.500	0.250	0.275	25004000-250B	8929910
4.000	4.500	0.375	0.413	25004000-375B	8840010
4.000	4.500	0.500	0.550	25004000-500B	8867510
4.000	4.500	0.563	0.619	25004000-563B	8840110
4.125	4.625	0.250	0.275	25004125-250B	8806010
4.125	4.625	0.375	0.413	25004125-375B	8856410



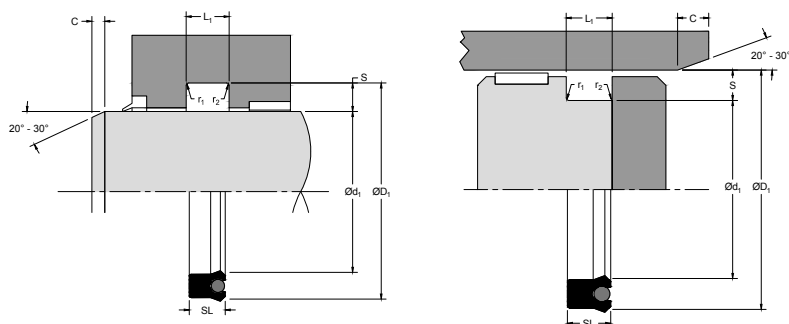
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ROD/PISTON SEAL

Single-Acting
TPU/TPE with O-Ring Energizer

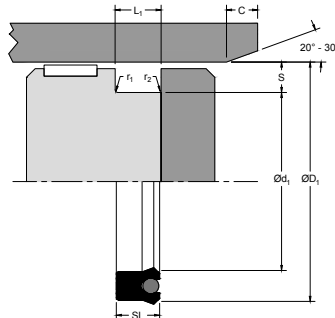
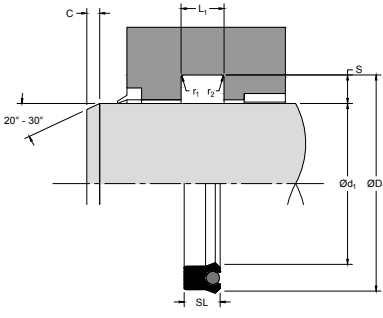
PART NUMBER RANGE

INCH					
$\varnothing d_1$	$\varnothing D_1$	SL	L_1	Standard Reference	PART No.
4.250	4.750	0.250	0.275	25004250-250B	8930310
4.250	4.750	0.375	0.413	25004250-375B	8840210
4.250	4.750	0.563	0.619	25004250-563B	8905810
4.375	4.875	0.250	0.275	25004375-250B	8848310
4.375	4.875	0.563	0.619	25004375-563B	8900510
4.500	5.000	0.250	0.275	25004500-250B	8817110
4.500	5.000	0.313	0.344	25004500-313B	8868010
4.500	5.000	0.375	0.413	25004500-375B	8840510
4.500	5.000	0.500	0.550	25004500-500B	8864710
4.500	5.000	0.563	0.619	25004500-563B	8840610
4.625	5.125	0.250	0.275	25004625-250B	8848410
4.750	5.250	0.250	0.275	25004750-250B	8930810
4.750	5.250	0.375	0.413	25004750-375B	8861910
4.750	5.250	0.500	0.550	25004750-500B	8846310
4.750	5.250	0.563	0.619	25004750-563B	8840910
4.875	5.375	0.375	0.413	25004875-375B	8832910
4.875	5.375	0.563	0.619	25004875-563B	8930910
5.000	5.500	0.250	0.275	25005000-250B	8931210
5.000	5.500	0.375	0.413	25005000-375B	8841010
5.000	5.500	0.500	0.550	25005000-500B	8866810
5.000	5.500	0.563	0.619	25005000-563B	8841110
5.250	5.750	0.563	0.619	25005250-563B	8862010
5.500	6.000	0.375	0.413	25005500-375B	8841310
5.500	6.000	0.500	0.550	25005500-500B	8833610
5.500	6.000	0.563	0.619	25005500-563B	8841410
5.625	6.125	0.563	0.619	25005625-563B	8903610
5.750	6.250	0.375	0.413	25005750-375B	8866410
5.750	6.250	0.563	0.619	25005750-563B	8841610
6.000	6.500	0.375	0.413	25006000-375B	8852310
6.000	6.500	0.500	0.550	25006000-500B	8867610
6.000	6.500	0.563	0.619	25006000-563B	8841710
6.250	6.750	0.563	0.619	25006250-563B	8905610



PART NUMBER RANGE

INCH					
$\text{Ø}d_1$	$\text{Ø}D_1$	SL	L_1	Standard Reference	PART No.
6.500	7.000	0.250	0.275	25006500-250B	8899410
6.500	7.000	0.375	0.413	25006500-375B	8852610
6.500	7.000	0.500	0.550	25006500-500B	8846410
6.500	7.000	0.563	0.619	25006500-563B	8841910
6.750	7.250	0.375	0.413	25006750-375B	8865910
6.750	7.250	0.500	0.550	25006750-500B	8866010
6.750	7.250	0.563	0.619	25006750-563B	8866310
7.000	7.500	0.375	0.413	25007000-375B	8852410
7.000	7.500	0.500	0.550	25007000-500B	8842410
7.000	7.500	0.563	0.619	25007000-563B	8877910
7.250	7.750	0.563	0.619	25007250-563B	8862110
7.500	8.000	0.250	0.275	25007500-250B	8932410
7.500	8.000	0.375	0.413	25007500-375B	8852510
7.500	8.000	0.500	0.550	25007500-500B	8833810
7.500	8.000	0.563	0.619	25007500-563B	8852810
8.000	8.500	0.250	0.275	25008000-250B	8904610
8.000	8.500	0.375	0.413	25008000-375B	8848210
8.000	8.500	0.563	0.619	25008000-563B	8842310
8.500	9.000	0.375	0.413	25008500-375B	8852710
8.500	9.000	0.500	0.550	25008500-500B	8833910
8.500	9.000	0.563	0.619	25008500-563B	8853010
9.500	10.000	0.563	0.619	25009500-563B	8932610
10.000	10.500	0.563	0.619	25010000-563B	8932710
5/16 CROSS SECTION					
1.000	1.625	0.375	0.413	31201000-375B	8828310
1.000	1.625	0.500	0.550	31201000-500B	8838010
1.125	1.750	0.313	0.344	31201125-313B	8925310
1.125	1.750	0.500	0.550	31201125-500B	8879810
1.250	1.875	0.313	0.344	31201250-313B	8809810
1.250	1.875	0.500	0.550	31201250-500B	8838210
1.375	2.000	0.313	0.344	31201375-313B	8825110
1.375	2.000	0.500	0.550	31201375-500B	8873510



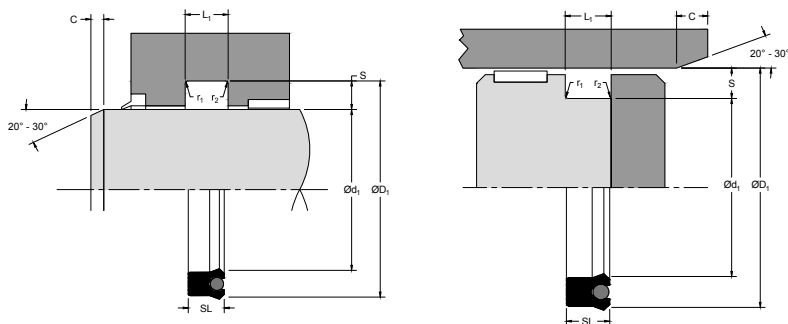
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ROD/PISTON SEAL

Single-Acting
TPU/TPE with O-Ring Energizer

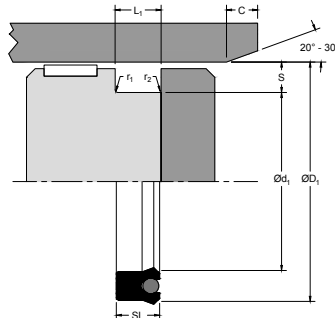
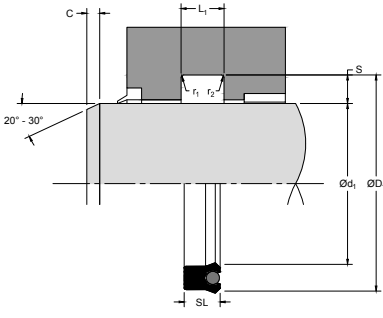
PART NUMBER RANGE

INCH					
ϕd_1	ϕD_1	SL	L_1	Standard Reference	PART No.
1.500	2.125	0.313	0.344	31201500-313B	8926710
1.500	2.125	0.375	0.413	31201500-375B	8846510
1.500	2.125	0.500	0.550	31201500-500B	8838410
1.750	2.375	0.375	0.413	31201750-375B	8868810
1.750	2.375	0.500	0.550	31201750-500B	8873610
1.875	2.500	0.500	0.550	31201875-500B	8873710
2.000	2.625	0.500	0.550	31202000-500B	8873810
2.000	2.625	0.563	0.619	31202000-563B	8862210
2.125	2.750	0.313	0.344	31202125-313B	8927810
2.125	2.750	0.500	0.550	31202125-500B	8879910
2.125	2.750	0.625	0.688	31202125-625B	8864810
2.250	2.875	0.313	0.344	31202250-313B	8816310
2.250	2.875	0.500	0.550	31202250-500B	8838810
2.375	3.000	0.313	0.344	31202375-313B	8827210
2.375	3.000	0.500	0.550	31202375-500B	8838910
2.500	3.125	0.375	0.413	31202500-375B	8836110
2.500	3.125	0.500	0.550	31202500-500B	8873910
2.625	3.250	0.500	0.550	31202625-500B	8933310
2.750	3.375	0.375	0.413	31202750-375B	8868910
2.750	3.375	0.500	0.550	31202750-500B	8839210
2.875	3.500	0.500	0.550	31202875-500B	8874010
3.000	3.625	0.313	0.344	31203000-312B	8929010
3.000	3.625	0.375	0.413	31203000-375B	8828510
3.000	3.625	0.500	0.550	31203000-500B	8874110
3.125	3.750	0.313	0.344	31203125-313B	8929210
3.125	3.750	0.500	0.550	31203125-500B	8869810
3.250	3.875	0.313	0.344	31203250-313B	8820110
3.250	3.875	0.500	0.550	31203250-500B	8869710
3.375	4.000	0.313	0.344	31203375-313B	8827410
3.375	4.000	0.500	0.550	31203375-500B	8874210
3.500	4.125	0.375	0.413	31203500-375B	8837410
3.500	4.125	0.500	0.550	31203500-500B	8874310



PART NUMBER RANGE

INCH					
$\varnothing d_1$	$\varnothing D_1$	SL	L_1	Standard Reference	PART No.
3.625	4.250	0.375	0.413	31203625-375B	8933910
3.750	4.375	0.375	0.413	31203750-375B	8869010
3.750	4.375	0.500	0.550	31203750-500B	8874410
3.875	4.500	0.500	0.550	31203875-500B	8839910
4.000	4.625	0.500	0.550	31204000-500B	8874510
4.000	4.625	0.563	0.619	31204000-563B	8862310
4.125	4.750	0.500	0.550	31204125-500B	8869610
4.125	4.750	0.625	0.688	31204125-625B	8869510
4.250	4.875	0.313	0.344	31204250-313B	8821610
4.250	4.875	0.500	0.550	31204250-500B	8869410
4.250	4.875	0.563	0.619	31204250-563B	8930210
4.375	5.000	0.313	0.344	31204375-313B	8827610
4.375	5.000	0.500	0.550	31204375-500B	8874610
4.375	5.000	0.625	0.688	31204375-625B	8840410
4.500	5.125	0.375	0.413	31204500-375B	8840710
4.500	5.125	0.625	0.688	31204500-625B	8840810
4.750	5.375	0.500	0.550	31204750-500B	8869310
4.750	5.375	0.625	0.688	31204750-625B	8862410
5.000	5.625	0.625	0.688	31205000-625B	8874710
5.250	5.875	0.625	0.688	31205250-625B	8862510
5.375	6.000	0.313	0.344	31205375-313B	8931510
5.375	6.000	0.375	0.413	31205375-375B	8931610
5.375	6.000	0.625	0.688	31205375-625B	8841210
5.500	6.125	0.313	0.344	31205500-313B	8931810
5.500	6.125	0.625	0.688	31205500-625B	8933810
6.000	6.625	0.625	0.688	31206000-625B	8862610
6.375	7.000	0.625	0.688	31206375-625B	8841810
6.500	7.125	0.625	0.688	31206500-625B	8869110
6.750	7.375	0.625	0.688	31206750-625B	8862710
7.000	7.625	0.625	0.688	31207000-625B	8854810
7.250	7.875	0.625	0.688	31207250-625B	8862810
7.375	8.000	0.500	0.550	31207375-500B	8842610



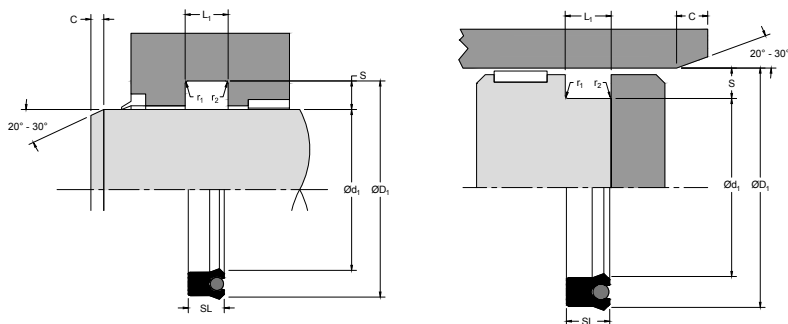
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ROD/PISTON SEAL

Single-Acting
TPU/TPE with O-Ring Energizer

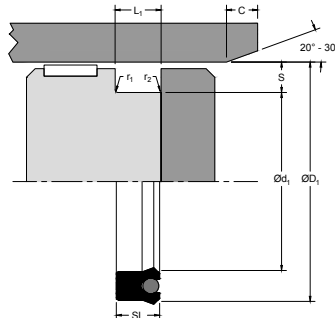
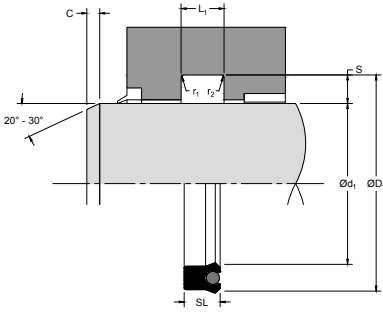
PART NUMBER RANGE

INCH					
ϕd_1	ϕD_1	SL	L_1	Standard Reference	PART No.
7.375	8.000	0.625	0.688	31207375-625B	8864910
8.000	8.625	0.500	0.550	31208000-500B	8866610
8.000	8.625	0.625	0.688	31208000-625B	8904810
8.500	9.125	0.625	0.688	31208500-625B	8862910
3/8 CROSS SECTION					
1.250	2.000	0.375	0.413	37501250-375B	8925810
1.250	2.000	0.500	0.550	37501250-500B	8842010
1.375	2.125	0.625	0.688	37501375-625B	8933510
1.500	2.250	0.500	0.550	37501500-500B	8874810
1.500	2.250	0.625	0.688	37501500-625B	8842710
1.625	2.375	0.375	0.413	37501625-375B	8901010
1.750	2.500	0.500	0.550	37501750-500B	8874910
1.750	2.500	0.625	0.688	37501750-625B	8875010
2.000	2.750	0.375	0.413	37502000-375B	8927610
2.000	2.750	0.500	0.550	37502000-500B	8875110
2.000	2.750	0.625	0.688	37502000-625B	8842810
2.250	3.000	0.375	0.413	37502250-375B	8928010
2.250	3.000	0.500	0.550	37502250-500B	8875210
2.250	3.000	0.625	0.688	37502250-625B	8842910
2.375	3.125	0.625	0.688	37502375-625B	8846810
2.500	3.250	0.375	0.413	37502500-375B	8928510
2.500	3.250	0.500	0.550	37502500-500B	8875310
2.500	3.250	0.625	0.688	37502500-625B	8843010
2.625	3.375	0.625	0.688	37502625-625B	8863710
2.750	3.500	0.500	0.550	37502750-500B	8875410
2.750	3.500	0.625	0.688	37502750-625B	8843110
3.000	3.750	0.375	0.413	37503000-375B	8928910
3.000	3.750	0.500	0.550	37503000-500B	8875510
3.000	3.750	0.625	0.688	37503000-625B	8843210
3.125	3.875	0.375	0.413	37503125-375B	8929110
3.125	3.875	0.625	0.688	37503125-625B	8900310
3.250	4.000	0.500	0.550	37503250-500B	8875610



PART NUMBER RANGE

INCH					
$\varnothing d_1$	$\varnothing D_1$	SL	L_1	Standard Reference	PART No.
3.250	4.000	0.625	0.688	37503250-625B	8843310
3.375	4.125	0.625	0.688	37503375-625B	8852110
3.500	4.250	0.500	0.550	37503500-500B	8875710
3.500	4.250	0.625	0.688	37503500-625B	8843410
3.625	4.375	0.625	0.688	37503625-625B	8865310
3.750	4.500	0.375	0.413	37503750-375B	8929810
3.750	4.500	0.500	0.550	37503750-500B	8875810
3.750	4.500	0.625	0.688	37503750-625B	8875910
4.000	4.750	0.500	0.550	37504000-500B	8876010
4.000	4.750	0.625	0.688	37504000-625B	8843510
4.250	5.000	0.375	0.413	37504250-375B	8867410
4.250	5.000	0.500	0.550	37504250-500B	8876110
4.250	5.000	0.625	0.688	37504250-625B	8843610
4.500	5.250	0.375	0.413	37504500-375B	8930410
4.500	5.250	0.500	0.550	37504500-500B	8876210
4.500	5.250	0.625	0.688	37504500-625B	8843710
4.750	5.500	0.375	0.413	37504750-375B	8930610
4.750	5.500	0.500	0.550	37504750-500B	8876310
4.750	5.500	0.625	0.688	37504750-625B	8876410
5.000	5.750	0.375	0.413	37505000-375B	8931010
5.000	5.750	0.500	0.550	37505000-500B	8876510
5.000	5.750	0.625	0.688	37505000-625B	8843810
5.250	6.000	0.375	0.413	37505250-375B	8931310
5.250	6.000	0.500	0.550	37505250-500B	8865010
5.250	6.000	0.625	0.688	37505250-625B	8843910
5.250	6.000	0.750	0.825	37505250-750B	8854410
5.500	6.250	0.375	0.413	37505500-375B	8931710
5.500	6.250	0.500	0.550	37505500-500B	8863010
5.500	6.250	0.625	0.688	37505500-625B	8844010
5.750	6.500	0.500	0.550	37505750-500B	8866110
5.750	6.500	0.625	0.688	37505750-625B	8878010
5.875	6.625	0.625	0.688	37505875-625B	8900410



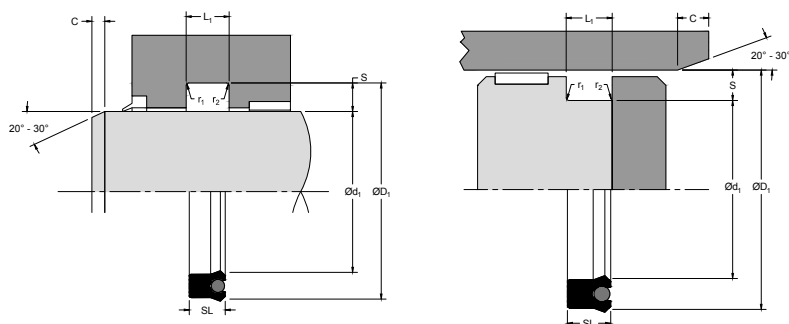
513

ROD/PISTON SEAL

Single-Acting
TPU/TPE with O-Ring Energizer

PART NUMBER RANGE

INCH					
Ød ₁	ØD ₁	SL	L ₁	Standard Reference	PART No.
6.000	6.750	0.375	0.413	37506000-375B	8931910
6.000	6.750	0.500	0.550	37506000-500B	8866210
6.000	6.750	0.625	0.688	37506000-625B	8844110
6.250	7.000	0.500	0.550	37506250-500B	8902410
6.250	7.000	0.625	0.688	37506250-625B	8844210
6.500	7.250	0.375	0.413	37506500-375B	8932110
6.500	7.250	0.500	0.550	37506500-500B	8853310
6.500	7.250	0.625	0.688	37506500-625B	8844310
6.750	7.500	0.375	0.413	37506750-375B	8932210
6.750	7.500	0.500	0.550	37506750-500B	8854610
6.750	7.500	0.625	0.688	37506750-625B	8854710
7.000	7.750	0.500	0.550	37507000-500B	8854010
7.000	7.750	0.625	0.688	37507000-625B	8844410
7.250	8.000	0.375	0.413	37507250-375B	8932310
7.250	8.000	0.500	0.550	37507250-500B	8865110
7.250	8.000	0.625	0.688	37507250-625B	8844510
7.250	8.000	0.750	0.825	37507250-750B	8854510
7.500	8.250	0.500	0.550	37507500-500B	8863210
7.500	8.250	0.625	0.688	37507500-625B	8878110
7.750	8.500	0.500	0.550	37507750-500B	8865210
7.750	8.500	0.625	0.688	37507750-625B	8853610
8.000	8.750	0.625	0.688	37508000-625B	8878210
8.250	9.000	0.625	0.688	37508250-625B	8854110
8.750	9.500	0.500	0.550	37508750-500B	8934810
9.000	9.750	0.375	0.413	37509000-375B	8932510
9.500	10.250	0.625	0.688	37509500-625B	8933710
10.250	11.000	0.500	0.550	37510250-500B	8934710
1/2 CROSS SECTION					
1.750	2.750	0.750	0.825	50001750-750B	8847010
2.000	3.000	0.500	0.550	50002000-500B	8927510
2.000	3.000	0.750	0.825	50002000-750B	8876810
2.375	3.375	0.500	0.550	50002375-500B	8928210



PART NUMBER RANGE

INCH					
$\varnothing d_1$	$\varnothing D_1$	SL	L_1	Standard Reference	PART No.
2.500	3.500	0.750	0.825	50002500-750B	8847110
3.000	4.000	0.750	0.825	50003000-750B	8863310
4.000	5.000	0.500	0.550	50004000-500B	8930110
4.000	5.000	0.750	0.825	50004000-750B	8877410
4.250	5.250	0.750	0.825	50004250-750B	8847210
4.500	5.500	0.500	0.550	50004500-500B	8930510
4.500	5.500	0.750	0.825	50004500-750B	8847310
4.750	5.750	0.750	0.825	50004750-750B	8930710
5.000	6.000	0.750	0.825	50005000-750B	8907610
5.000	6.000	0.750	0.825	50005000-750B	8931110
5.250	6.250	0.500	0.550	50005250-500B	8931410
5.250	6.250	0.750	0.825	50005250-750B	8847510
6.000	7.000	0.750	0.825	50006000-750B	8863410
6.000	7.000	0.750	0.825	50006000-750B	8932010
6.250	7.250	0.750	0.825	50006250-750B	8847710
7.000	8.000	0.750	0.825	50007000-750B	8870410
7.250	8.250	0.750	0.825	50007250-750B	8847810
7.750	8.750	0.750	0.825	50007750-750B	8847910
8.000	9.000	0.750	0.825	50008000-750B	8863510
3/4 CROSS SECTION					
3.500	5.000	0.750	0.825	75003500-750B	8929610