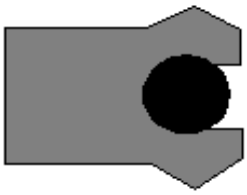
AB Seals
ADVANCED SEALING TECHNOLOGIES

PUO

Design

The AB Seals PUO is a loaded U cup utilizing a polyurethane or polyester shell energized by a high specification Resilient O ring. At zero or low pressure, the O ring helps to increase the sealing force preventing any bypass. As pressure raises the sealing force increases and the O ring ensures complete lip actuation under most conditions. The symmetry of the seal allows it to be used on both rod and piston applications and its flexibility enables easy installation. Ideally suited for single acting applications, the PUO can also be fitted back to back for use in double acting applications.



Features

- Flexible for easy installation
- Excellent resistance to abrasion
- Positive lip actuation
- Knife trimmed precision sealing lips
- Compact housing
- Wide range of sizes

Materials

- Seal Material - O Ring
- Polyurethane - PUA/PUB PUAB.
- O'ring NBR 75

Applications

- Mobile hydraulics
- Agriculture equipment
- Machine tools
- Injection cylinder
- Hydraulic presses
- Lift platefroms

Technical details	**Metric**	**inch**
Operating Conditions		
Maximum speed	0.5m/sec	1.5ft/sec
Temperature Range	-40	-40
Maximum Pressure	350 bar	5000 p.s.i

Maximum extrusion gap: Figures show the maximum permissible gap all on one side using minimum rod Ø and maximum clearance Ø. and for piston seals using the minimum clearance Ø and maximum bore Ø. Refer to housing design section.

1/4"section and above)

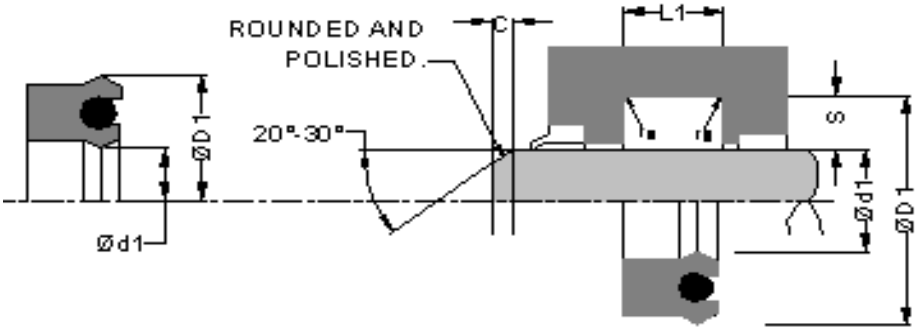
Pressure Bar	160	250	350
Maximum Gap mm.	2400	3750	5000
Pressure p.s.i.	0.024	0.02	0.016

Surface roughness	umRa	umrt	Uin CLA	UIN RMS
Dynamic Sealing Face rod Ød1	0.1<> 0.4	4 max	4<>16	5<>18
static sealing face rod ØD1	1.6 max	10 max	63 max	70 max
Dynamic Sealing Face piston ØD1	0.1<> 0.4	4 max	4<>16	5<>18
static sealing face piston Ød1	1.6 max	10 max	63 max	70 max
static housing faces L1	3.2 max	16 max	125 max	140 max

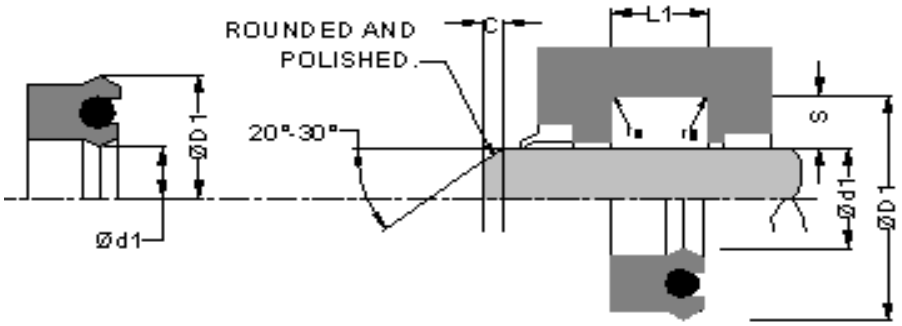
chamafers & Radii

Grove section < s in	0.125	0.187	0.25	0.312	0.375	0.5	0.625
Min chamfer C in	0.093	0.093	0.125	0.156	0.187	0.187	0.217
max Fillet Rad r1 in	0.008	0.008	0.016	0.032	0.032	0.032	0.047
max Fillet Rad r2 in	0.016	0.016	0.023	0.047	0.047	0.047	0.062

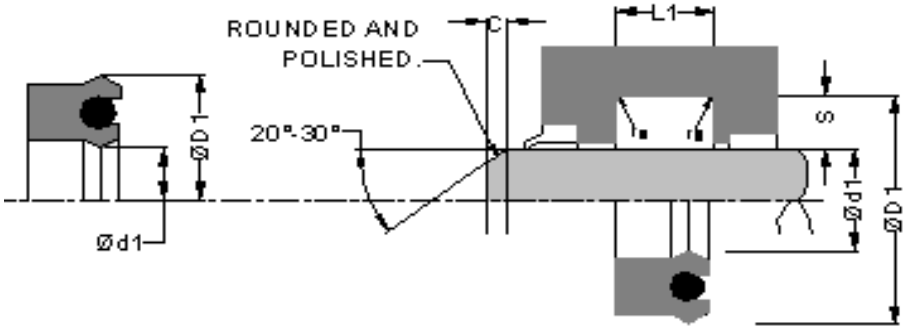
Tolerance Please refer to specified tolerance in the introduction page AB Seals 500 series



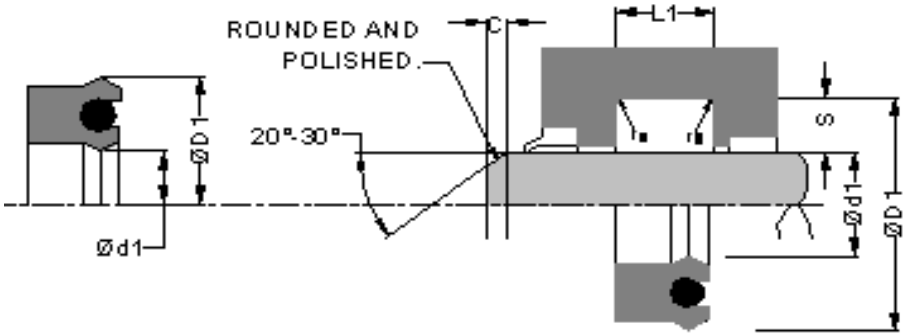
Ød1	ØD1	SL	L1	STD REF	PART NO.	Ød1	ØD1	SL	L1	STD REF	PART NO.
1/8 CROSS SECTION											
0.125	0.375	0.125	0.138	12500125	PUO-001	4.25	4.5	0.125	0.138	12504250	PUO-036
0.188	0.438	0.125	0.138	12500187	PUO-002	4.75	5	0.125	0.138	12504750	PUO-037
0.25	0.5	0.125	0.138	12500250	PUO-003	4.875	5.125	0.125	0.138	12504875	PUO-038
0.313	0.563	0.125	0.138	12500312	PUO-004	**5/32 CROSS SECTION**					
0.375	0.625	0.125	0.138	12500375	PUO-005	1	1.313	0.156	0.172	15601000	PUO-039
0.437	0.687	0.125	0.138	12500437	PUO-006	1.188	1.15	0.156	0.172	15601187	PUO-040
0.5	0.75	0.125	0.138	12500500	PUO-007	1.25	1.563	0.156	0.172	15601250	PUO-041
0.563	0.813	0.125	0.138	12500562	PUO-008	1.375	1.688	0.156	0.172	15601375	PUO-042
0.625	0.875	0.125	0.138	12500625	PUO-009	**3/16 CROSS SECTION**					
0.688	0.938	0.125	0.138	12500687	PUO-010	0.375	0.75	0.188	0.207	18700375	PUO-043
0.75	1	0.125	0.138	12500750	PUO-011	0.5	0.875	0.188	0.207	18700500	PUO-044
0.813	1.063	0.125	0.138	12500812	PUO-012	0.625	1	0.188	0.207	18700625	PUO-045
0.875	1.125	0.125	0.138	12500875	PUO-013	0.75	1.125	0.188	0.207	18700750	PUO-046
0.938	1.188	0.125	0.138	12500937	PUO-014	0.875	1.25	0.188	0.207	18700875	PUO-047
1	1.25	0.125	0.138	12501000	PUO-015	1	1.375	0.188	0.207	18701000	PUO-048
1.063	1.313	0.125	0.138	12501062	PUO-016	1.125	1.5	0.188	0.207	18701125	PUO-049
1.125	1.375	0.125	0.138	12501125	PUO-017	1.188	1.563	0.188	0.207	18701187	PUO-050
1.25	1.5	0.125	0.138	12501250	PUO-018	1.25	1.625	0.188	0.207	18701250	PUO-051
1.375	1.625	0.125	0.138	12501375	PUO-019	1.375	1.75	0.188	0.207	18701375	PUO-052
1.5	1.75	0.125	0.138	12501500	PUO-020	1.5	1.875	0.188	0.207	18701500	PUO-053
1.625	1.875	0.125	0.138	12501625	PUO-021	1.625	2	0.188	0.207	18701625	PUO-054
1.75	2	0.125	0.138	12501750	PUO-022	1.75	2.125	0.188	0.207	18701750	PUO-055
1.875	2.125	0.125	0.138	12501875	PUO-023	1.875	2.25	0.188	0.207	18701875	PUO-056
2	2.25	0.125	0.138	12502000	PUO-024	2	2.375	0.188	0.207	18702000	PUO-057
2.25	2.5	0.125	0.138	12502250	PUO-025	2.125	2.5	0.188	0.207	18702125	PUO-058
2.375	2.625	0.125	0.138	12502375	PUO-026	2.25	2.625	0.188	0.207	18702250	PUO-059
2.5	2.75	0.125	0.138	12502500	PUO-027	2.375	2.75	0.188	0.207	18702375	PUO-060
2.75	3	0.125	0.138	12502750	PUO-028	2.5	2.875	0.188	0.207	18702500	PUO-061
2.875	3.125	0.125	0.138	12502875	PUO-029	2.625	3	0.188	0.207	18702625	PUO-062
3	3.25	0.125	0.138	12503000	PUO-030	2.75	3.125	0.188	0.207	18702750	PUO-063
3.25	3.5	0.125	0.138	12503250	PUO-031	2.875	3.25	0.188	0.207	18702875	PUO-064
3.5	3.75	0.125	0.138	12503500	PUO-032	3	3.375	0.188	0.207	18703000	PUO-065
3.75	4	0.125	0.138	12503750	PUO-033	3.125	3.5	0.188	0.207	18703125	PUO-066
3.875	4.125	0.125	0.138	12503875	PUO-034	3.25	3.625	0.188	0.207	18703250	PUO-067
4	4.25	0.125	0.138	12504000	PUO-035	3.375	3.75	0.188	0.207	18703375	PUO-068



Ød1	ØD1	SL	L1	STD REF	PART NO.	Ød1	ØD1	SL	L1	STD REF	PART NO.
3.5	3.875	0.188	0.207	18703500	PUO-069	2.875	3.375	0.25	0.275	25003000	PUO-104
3.625	4	0.188	0.207	18703625	PUO-070	3	3.5	0.25	0.275	25003000	PUO-105
3.75	4.125	0.188	0.207	18703750	PUO-071	3	3.5	0.25	0.275	25003250	PUO-106
3.875	4.25	0.188	0.207	18703875	PUO-072	3.25	3.75	0.25	0.275	25003250	PUO-107
4	4.375	0.188	0.207	18704000	PUO-073	3.375	3.875	0.25	0.275	25003375	PUO-108
4.125	4.5	0.188	0.207	18704175	PUO-074	3.5	4	0.25	0.275	25003500	PUO-109
4.25	4.625	0.188	0.207	18704250	PUO-075	3.5	4	0.25	0.275	25003500	PUO-110
4.375	4.75	0.188	0.207	18704375	PUO-076	3.625	4.125	0.25	0.275	25003625	PUO-111
4.5	4.875	0.188	0.207	18704500	PUO-077	3.75	4.25	0.25	0.275	25003750	PUO-112
4.625	5	0.188	0.207	18704625	PUO-078	3.875	4.375	0.25	0.275	25003875	PUO-113
4.875	5.25	0.188	0.207	18704875	PUO-079	4	4.5	0.25	0.275	25004000	PUO-114
5.125	5.5	0.188	0.207	18705125	PUO-080	4.25	4.75	0.25	0.275	25004250	PUO-115
1/4 CROSS SECTION						4.375	4.875	0.25	0.275	25004375	PUO-116
0.313	0.812	0.25	0.275	25000312	PUO-081	4.5	5	0.25	0.275	25004500	PUO-117
0.375	0.875	0.25	0.275	25000375	PUO-082	4.5	5	0.25	0.275	25004500	PUO-118
0.5	1	0.25	0.275	25000500	PUO-083	4.625	5.125	0.25	0.275	25004625	PUO-119
0.625	1.125	0.25	0.275	25000625	PUO-084	4.75	5.25	0.25	0.275	25004750	PUO-120
0.75	1.25	0.25	0.275	25000750	PUO-085	4.875	5.375	0.25	0.275	25004875	PUO-121
0.875	1.375	0.25	0.275	25000875	PUO-086	5	5.5	0.25	0.275	25005000	PUO-122
1	1.5	0.25	0.275	25001000	PUO-087	5.25	5.75	0.25	0.275	25005250	PUO-123
1.125	1.625	0.25	0.275	25001125	PUO-088	5.5	6	0.25	0.275	25005500	PUO-124
1.25	1.75	0.25	0.275	25001250	PUO-089	5.75	6.25	0.25	0.275	25005750	PUO-125
1.375	1.875	0.25	0.275	25001375	PUO-090	6	6.5	0.25	0.275	25006000	PUO-126
1.5	2	0.25	0.275	25001500	PUO-091	6.25	6.75	0.25	0.275	25006250	PUO-127
1.5	2	0.25	0.275	25001500	PUO-092	6.5	7	0.25	0.275	25006500	PUO-128
1.625	2.125	0.25	0.275	25001625	PUO-093	6.75	7.25	0.25	0.275	25006750	PUO-129
1.75	2.25	0.25	0.275	25001750	PUO-094	7	7.5	0.25	0.275	25007000	PUO-130
1.875	2.375	0.25	0.275	25001875	PUO-095	7.25	7.75	0.25	0.275	25007250	PUO-131
2	2.5	0.25	0.275	25002000	PUO-096	7.5	8	0.25	0.275	25007500	PUO-132
2.125	2.625	0.25	0.275	25002125	PUO-097	8	8.5	0.25	0.275	25008000	PUO-133
2.25	2.75	0.25	0.275	25002250	PUO-098	8.25	8.75	0.25	0.275	25008250	PUO-134
2.375	2.875	0.25	0.275	25002375	PUO-099	8.5	9	0.25	0.275	25008500	
2.5	3	0.25	0.275	25002500	PUO-100	**5/16 CROSS SECTION**					
2.5	3	0.25	0.275	25002625	PUO-101	0.25	0.875	0.313	0.344	31200250	PUO-135
2.625	3.125	0.25	0.275	25002750	PUO-102	0.375	1	0.313	0.344	31200375	PUO-136
2.75	3.25	0.25	0.275	25002875	PUO-103	0.687	1.312	0.313	0.344	31200687	PUO-137



Ød1	ØD1	SL	L1	STD REF	PART NO.	Ød1	ØD1	SL	L1	STD REF	PART NO.
1	1.625	0.313	0.344	31201000	PUO-138	6	6.625	0.313	0.344	31206000	PUO-174
1.125	1.75	0.313	0.344	31201125	PUO-139	6.25	6.875	0.313	0.344	31206250	PUO-175
1.25	1.875	0.313	0.344	31201250	PUO-140	6.375	7	0.313	0.344	31206375	PUO-176
1.375	2	0.313	0.344	31201375	PUO-141	6.5	7.125	0.313	0.344	31206500	PUO-177
1.5	2.125	0.313	0.344	31201500	PUO-142	6.75	7.375	0.313	0.344	31206750	PUO-178
1.625	2.25	0.313	0.344	31201625	PUO-143	7	7.625	0.313	0.344	31207000	PUO-179
1.75	2.375	0.313	0.344	31201750	PUO-144	7.25	7.875	0.313	0.344	31207250	PUO-180
1.875	2.5	0.313	0.344	31201875	PUO-145	7.375	8	0.313	0.344	31207375	PUO-181
2	2.625	0.313	0.344	31202000	PUO-146	7.5	8.125	0.313	0.344	31207500	PUO-182
2.125	2.75	0.313	0.344	31202125	PUO-147	7.75	8.375	0.313	0.344	31207750	PUO-183
2.25	2.875	0.313	0.344	31202250	PUO-148	8	8.625	0.313	0.344	31208000	PUO-184
2.375	3	0.313	0.344	31202375	PUO-149	8.25	8.875	0.313	0.344	31208250	PUO-185
2.5	3.125	0.313	0.344	31202500	PUO-150	8.5	9.125	0.313	0.344	31208500	PUO-186
2.625	3.25	0.313	0.344	31202625	PUO-151	**3/8 CROSS SECTION**					
2.75	3.375	0.313	0.344	31202750	PUO-152	1	1.75	0.375	0.413	37501000	PUO-187
2.875	3.5	0.313	0.344	31202875	PUO-153	1.25	2	0.375	0.413	37501250	PUO-188
3	3.625	0.313	0.344	31203000	PUO-154	1.375	2.125	0.375	0.413	37501375	PUO-189
3.125	3.75	0.313	0.344	31203125	PUO-155	1.5	2.25	0.375	0.413	37501500	PUO-190
3.25	3.875	0.313	0.344	31203250	PUO-156	1.625	2.375	0.375	0.413	37501625	PUO-191
3.375	4	0.313	0.344	31203375	PUO-157	1.75	2.5	0.375	0.413	37501750	PUO-192
3.5	4.125	0.313	0.344	31203500	PUO-158	2	2.75	0.375	0.413	37502000	PUO-193
3.55	4.175	0.313	0.344	31203550	PUO-159	2.125	2.875	0.375	0.413	37502125	PUO-194
3.625	4.25	0.313	0.344	31203625	PUO-160	2.25	3	0.375	0.413	37502250	PUO-195
3.75	4.375	0.313	0.344	31203750	PUO-161	2.5	3.25	0.375	0.413	37502500	PUO-196
3.875	4.5	0.313	0.344	31203875	PUO-162	2.75	3.5	0.375	0.413	37502750	PUO-197
4	4.625	0.313	0.344	31204000	PUO-163	3	3.75	0.375	0.413	37503000	PUO-198
4.125	4.75	0.313	0.344	31204125	PUO-164	3.25	4	0.375	0.413	37503250	PUO-199
4.25	4.875	0.313	0.344	31204250	PUO-165	3.375	4.125	0.375	0.413	37503375	PUO-200
4.375	5	0.313	0.344	31204375	PUO-166	3.5	4.25	0.375	0.413	37503500	PUO-201
4.5	5.125	0.313	0.344	31204500	PUO-167	3.625	4.375	0.375	0.413	37503625	PUO-202
4.75	5.375	0.313	0.344	31204750	PUO-168	3.75	4.5	0.375	0.413	37503750	PUO-203
5	5.625	0.313	0.344	31205000	PUO-169	3.875	4.625	0.375	0.413	37503875	PUO-204
5.25	5.875	0.313	0.344	31205250	PUO-170	4	4.75	0.375	0.413	37504000	PUO-205
5.375	6	0.313	0.344	31205375	PUO-171	4.125	4.875	0.375	0.413	37504125	PUO-206
5.5	6.125	0.313	0.344	31205500	PUO-172	4.25	5	0.375	0.413	37504250	PUO-207
5.75	6.375	0.313	0.344	31205750	PUO-173	4.5	5.25	0.375	0.413	37504500	PUO-208



Ød1	ØD1	SL	L1	STD REF	PART NO.	Ød1	ØD1	SL	L1	STD REF	PART NO.
4.75	5.5	0.375	0.413	37504750	PUO-209	4	5	0.5	0.55	50004000	PUO-234
5	5.75	0.375	0.413	37505000	PUO-210	4.25	5.25	0.5	0.55	50004250	PUO-235
5.25	6	0.375	0.413	37505250	PUO-211	4.5	5.5	0.5	0.55	50004500	PUO-236
5.5	6.25	0.375	0.413	37505500	PUO-212	5	6	0.5	0.55	50005000	PUO-237
5.625	6.375	0.375	0.413	37505625	PUO-213	5.125	6.125	0.5	0.55	50005125	PUO-238
5.75	6.5	0.375	0.413	37505750	PUO-214	5.25	6.25	0.5	0.55	50005250	PUO-239
6	6.75	0.375	0.413	37506000	PUO-215	7.5	8.5	0.5	0.55	50007500	PUO-240
6.25	7	0.375	0.413	37506250	PUO-216	8	9	0.5	0.55	50008000	PUO-241
6.5	7.25	0.375	0.413	37506500	PUO-217	8.125	9.125	0.5	0.55	50008125	PUO-242
6.75	7.5	0.375	0.413	37506750	PUO-218	9	10	0.5	0.55	50001000	PUO-243
7	7.75	0.375	0.413	37507000	PUO-219	7.375	8.375	0.5	0.55	50007375	PUO-244
7.25	8	0.375	0.413	37507250	PUO-220	6.25	7.25	0.5	0.55	50006250	PUO-245
7.5	8.25	0.375	0.413	37507500	PUO-221	6.5	7.5	0.5	0.55	50006500	PUO-246
7.625	8.375	0.375	0.413	37507625	PUO-222	7	8	0.5	0.55	50007000	PUO-247
7.75	8.5	0.375	0.413	37507750	PUO-223	7.25	8.25	0.5	0.55	50007250	PUO-248
8	8.75	0.375	0.413	37508000	PUO-224	5.375	6.375	0.5	0.55	50005375	PUO-249
8.25	9	0.375	0.413	37508250	PUO-225	6	7	0.5	0.55	50006000	PUO-250
1/2 CROSS SECTION						**5/8 CROSS SECTION**					
1.5	2.5	0.5	0.55	50001500	PUO-226	2.75	4	0.625	0.688	62502750	PUO-251
1.875	2.875	0.5	0.55	50001875	PUO-227	3.25	4.5	0.625	0.688	62503250	PUO-252
2	3	0.5	0.55	50002000	PUO-228	4.25	5.5	0.625	0.688	62504250	PUO-253
2.125	3.125	0.5	0.55	50002125	PUO-229	4.75	6	0.625	0.688	62504750	PUO-254
2.5	3.5	0.5	0.55	50002500	PUO-230	6.5	7.75	0.625	0.688	62506500	PUO-255
2.75	3.75	0.5	0.55	50002750	PUO-231	6.75	8	0.625	0.688	62506750	PUO-256
3	4	0.5	0.55	50003000	PUO-232						
3.375	4.375	0.5	0.55	50003375	PUO-233						