AB Seals
ADVANCED SEALING TECHNOLOGIES

TSR

Design

The AB seals tandem with inside sealing is used to seal piston rod. it can be employed for hydraulic oil with a mineral oil base and in a modified design also for water oil emulsions for noninflammable fluids as well as for compressed air. The TSR seal consists of 2 parts, an external sealing ring or PUA with sealing lips, and an internal slide ring of abrasion proof PTFE bronze compound with sealing edges. Prior to fitting, the sealing lips protrude beyond the nominal diameter of the seal and when fitted is pressed against the piston rod. effective sealing is there by provided in the pressure less state. The slide rings surrounded by the sealing ring and moves axially in direct contact with the piston rod. Under increasing pressure and compression of the sealing ring, it is the slide ring which is mainly pressed against the piston rod. The sealing edge produces a chamber in which that seepage oil collects.

Features

- Ultra low friction
- Compact housing

Materials

- Sealing ring - PTB
- Energizer cum Seal -PUAB

Applications

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

Technical details	**Metric**	**inch**
Operating Conditions		
Maximum speed	1.0m/sce	1.7 ft/ sce
Temperature Range	-45	-50
Maximum Pressure	700 bar	10,000 p.s.i

maximum extrutions gap figures show the maximum premissible gap all on side using minimum rod Ø and maximum clearance Ø. Refer to housing design section .

Pressure bar	160	250	400	500	700
maximum gap (5<=6) mm	0.6	0.5	0.4	0.3	0.2
maximum gap (5>=6) mm	1	0.8	0.6	0.4	0.25
pressure p.s.i.	2400	3750	6000	7500	10,000
maximum gap (5<=0.250) IN	0.024	0.02	0.016	0.012	0.008
maximum gap (5>=0.250) IN	0.04	0.032	0.024	0.016	0.01

Surface roughness	umRa	umrt	Uin CLA	UIN RMS
Dynamic Sealing Face-rod Ø d1	0.1<> 0.4	4 max	4<>16	5<>18
static sealing face Ø D1	1.6 max	10 max	63 max	70 max
static housing faces L1	3.2 max	16 max	125 max	140 max

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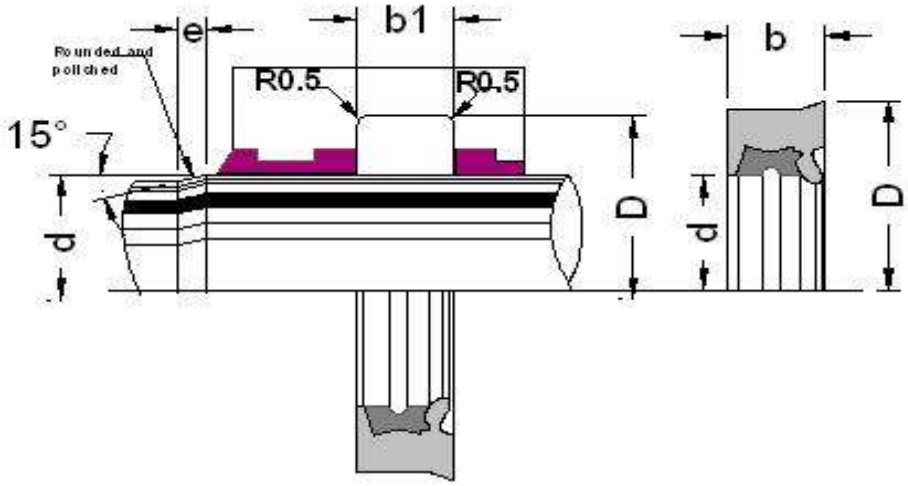
chamafers & Radii

Grove section < s mm	3.75	5.5	7.75	10.5
Min chamfer C mm	3	3.5	5	7.5
max Fillet Rad r1 mm	0.5	0.7	1.2	1.6
Grove section < 5 IN	0.15	0.215	0.306	0.413
Min chamfer C IN	0.125	0.14	0.2	0.3
max Fillet Rad r1 IN	0.02	0.028	0.047	0.062

Tolerance	Ø d1	ØD1	L1
Rod	f9	H 11	0.25
Piston	f9	js 11	0.01



PART NO.	d	D	b	b1
TSR – 20	20	28	7	7.5
TSR – 22	22	30	7	7.5
TSR – 25	25	33	7	7.5
TSR – 28	28	36	7	7.5
TSR – 30	30	38	7	7.5
TSR – 32	32	40	7	7.5
TSR – 36	36	44	8	8.5
TSR – 40	40	48	8	8.5
TSR – 45	45	55	10	11
TSR – 50	50	60	10	11
TSR – 56	56	71	12	13
TSR – 60	60	75	12	13
TSR – 63	63	78	12	13
TSR – 65	65	80	12	13
TSR – 70	70	85	12	13
TSR – 75	75	90	12	13
TSR – 80	80	95	12	13
TSR – 90	90	105	12	13
TSR – 100	100	115	12	13
TSR – 105	105	120	12	13

PART NO.	d	D	b	b1
TSR – 110	110	125	12	13
TSR – 120	120	140	16	14
TSR – 125	125	145	16	17
TSR – 130	130	150	16	17
TSR – 135	135	155	16	17
TSR – 140	140	160	16	17
TSR – 150	150	170	16	17
TSR – 155	155	175	16	17
TSR – 160	160	180	16	17
TSR – 165	165	185	16	17
TSR – 170	170	195	16	17
TSR – 175	175	195	16	17
TSR – 180	180	200	16	17
TSR – 185	185	205	16	17
TSR – 190	190	210	16	17
TSR – 200	200	220	16	17
TSR – 220	220	240	16	17
TSR – 225	225	245	16	17
TSR – 230	230	250	20	21
TSR – 240	240	260	16	17
TSR – 250	250	280	20	21