



Multi Spring Seal (MSO 10U Series & MSW 20U Series)

MSO 10U



MSW 20U



Multi Spring Seal MSO 10U Series & MSW 20U Series are multiple spring units developed for universal application. Their compact design makes them suitable for use in all types of Centrifugal pumps.

As all parts are interchangeable, so Series MSO 10U can be converted to Series MSW 20U by changing only the seal ring and the elastomer.

Applications : Petrochemicals, Petroleum Refineries, General Chemicals
& Light Hydrocarbons.

Seal Components :

Seal Face :

Carbon / Lecrolloy
Carbon / Ceramic
Carbon / Silicon Carbide
Silicon Carbide / Silicon Carbide
Tungsten Carbide / Tungsten Carbide

Secondary Seal :

MSO 10U : Elastomers ('O' Ring)

MSW 20U : PTFE, GFT (Wedge)

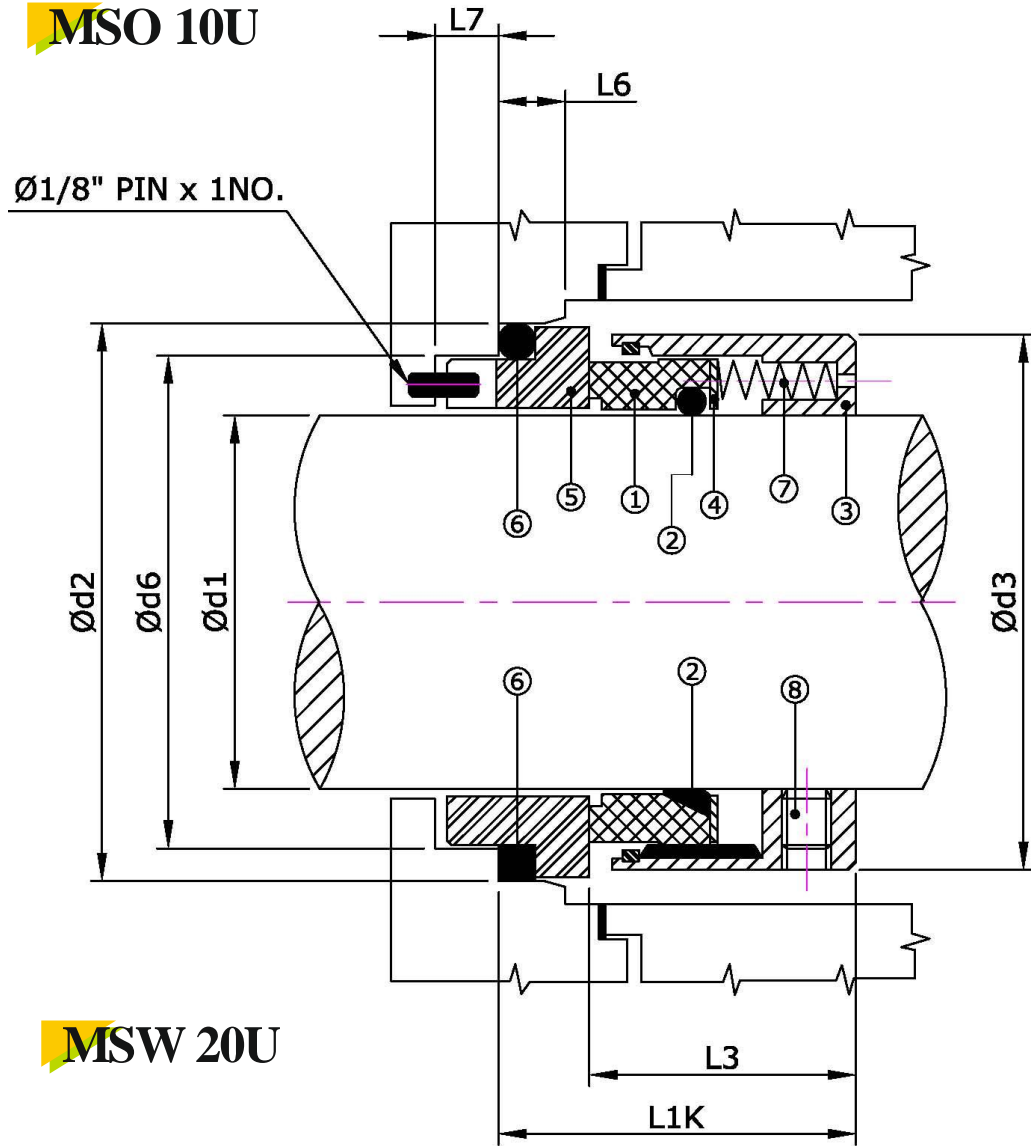
Metal Parts : SS 304, SS 316, Hastelloy-C, Monel, Alloy-20

Seal Characteristics :

- Single Acting
- Unbalanced
- Inside Mounted
- Independent of Direction of Rotation

Operating Parameters :

Shaft Dia : 12 to 105 mm / 0.875 to 4.000 Inch
Pressure : 10 Bars (max)
Temperature : -60 to +180°C
Velocity : Up to 20 m/sec



ITEM	DESCRIPTION
1	SEAL RING
2	O RING / WEDGE
3	RETAINER
4	THRUST RING
5	MATING RING
6	O RING / PTFE PACKING
7	SPRING
8	SET SREW



MSO 10U & MSW 20U DIMENIONS IN MILLIMETER

SEAL SIZE							
$\begin{matrix} +0.00 \\ \mathbf{d1} \\ -0.05 \end{matrix}$	$\begin{matrix} +0.00 \\ \mathbf{d2} \\ -0.05 \end{matrix}$	d3	$\begin{matrix} +0.10 \\ \mathbf{d6} \\ -0.00 \end{matrix}$	L6	L7	L3	L1K
20	27.0	35.0	23.0	5.5	8.5	25.0	30.5
22	33.0	37.0	27.0	7.0	9.0	25.5	32.5
24	35.0	39.0	29.0	7.0	9.0	26.0	33.0
26	37.0	41.0	31.0	7.0	9.0	28.0	35.0
28	39.0	43.0	33.0	7.0	9.0	29.0	36.0
30	40.0	45.0	34.0	7.0	9.0	30.0	37.0
33	43.0	48.0	37.0	7.0	9.0	30.0	37.0
35	45.0	50.0	39.0	7.0	9.0	30.0	37.0
38	48.0	55.0	42.0	7.0	9.0	30.0	37.0
40	50.0	57.0	44.0	7.0	9.0	30.0	37.0
43	56.0	60.0	49.0	8.0	9.0	30.0	38.0
45	58.0	62.0	51.0	8.0	9.0	30.0	38.0
48	61.0	65.0	54.0	8.0	9.0	30.0	38.0
50	63.0	67.0	56.0	8.0	9.0	30.0	38.0
53	66.0	70.0	59.0	8.0	9.0	30.0	38.0
55	70.0	72.0	62.0	8.5	9.0	30.0	38.5
58	73.0	79.0	65.0	8.5	9.0	30.0	38.5
60	75.0	81.0	67.0	8.5	9.0	30.0	38.5
63	78.0	84.0	70.0	8.5	9.0	34.5	43.0
65	80.0	86.0	72.0	8.5	9.0	34.5	43.0
68	83.0	89.0	75.0	8.5	9.0	34.5	43.0
70	85.0	91.0	77.0	8.5	9.0	34.5	43.0
75	92.0	99.0	83.0	9.5	9.0	39.0	48.5
80	97.0	104.0	88.0	9.5	9.0	42.0	51.5
85	105.0	109.0	95.0	10.0	9.0	42.0	52.0
90	110.0	114.0	100.0	10.0	9.0	42.0	52.0
95	115.0	119.0	105.0	10.0	9.0	44.5	54.5
100	120.0	124.0	110.0	10.0	9.0	44.5	54.5
105	125.0	129.0	115.0	10.0	9.0	44.5	54.5



MSO 10U & MSW 20U DIMENSIONS IN INCH

SEAL SIZE								
+0.00 d1 -0.05		+0.00 d2 -0.05	d3	+0.10 d6 -0.00	L6	L7	L3	L1K
Inch	mm							
0.875	22.220	37.95	36.500	32.000	7.0	8.5	25.500	32.500
1.000	25.400	41.15	38.800	35.200	7.0	8.5	28.000	35.000
1.125	28.580	44.32	43.500	38.300	7.0	8.5	29.000	36.000
1.250	31.750	47.50	46.800	41.600	7.0	8.5	30.000	37.000
1.375	34.920	50.67	50.000	44.700	7.0	9.0	30.000	37.000
1.500	38.100	53.85	53.500	47.900	7.0	9.0	30.000	37.000
1.625	41.280	60.20	57.000	54.300	7.0	9.0	30.000	37.000
1.750	44.450	63.35	60.000	57.500	7.0	9.0	30.000	37.000
1.875	47.620	66.55	63.500	60.600	7.0	9.0	30.000	37.000
2.000	50.800	69.72	66.700	63.800	7.0	9.0	30.000	37.000
2.125	53.980	76.05	69.500	70.100	7.0	9.0	30.000	37.000
2.250	57.150	79.24	72.500	73.300	7.0	9.0	30.000	37.000
2.375	60.320	82.42	76.500	76.500	7.0	9.0	30.000	37.000
2.500	63.500	85.60	79.500	79.650	7.0	9.0	34.500	41.500
2.625	66.680	85.60	82.500	79.650	7.0	9.0	34.500	41.500
2.750	69.850	88.77	85.700	82.800	7.0	9.0	34.500	41.500
2.875	73.020	91.66	93.500	85.700	9.5	9.0	39.000	48.500
3.000	76.200	94.84	96.700	88.900	9.5	9.0	39.000	48.500
3.125	79.380	98.00	101.500	92.100	9.5	9.0	42.000	51.500
3.250	82.550	101.16	104.700	95.300	9.5	9.0	42.000	51.500
3.375	85.720	104.36	108.000	98.400	9.5	9.0	42.000	51.500
3.500	88.900	107.54	111.000	101.600	9.5	9.0	42.000	51.500
3.625	92.080	110.70	114.000	104.750	9.5	9.0	42.000	51.500
3.750	95.250	113.88	118.500	108.000	9.5	9.0	44.500	54.000
3.875	98.420	117.56	120.500	111.100	9.5	9.0	44.500	54.000
4.000	101.600	120.22	124.700	114.300	9.5	9.0	44.500	54.000