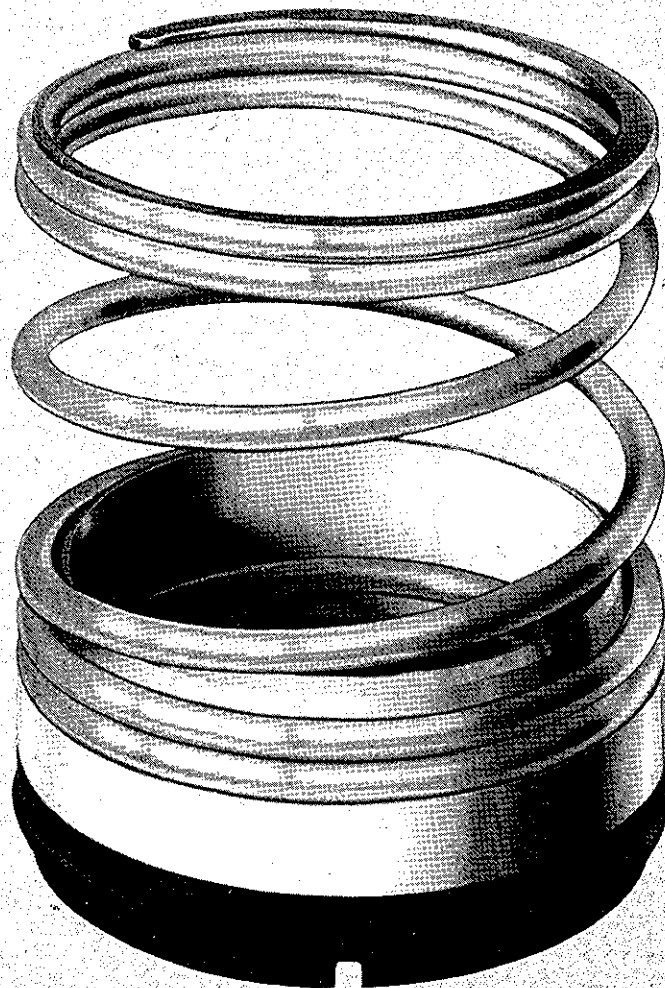


FLEXIBOX INTERNATIONAL

flexibox MECHANICAL SEALS

Unbalanced
Seals

Type R



FLEXIBOX UNBALANCED SEALS TYPE R

This range of mechanical seals has been developed over the years to provide an effective seal capable of meeting most shaft sealing duties. Operating limits are listed below.

Operating Limits

Used with the appropriate ancillary equipment where necessary, this range of seals operates within the following limits

Shaft diameter	: 16mm to 100mm
Speed	: up to 4500 rpm
Pressure	: Full vacuum to 10.5 bar
Temperature	: -50°C to +250°C
PV Values	: up to 90 bar x metres per second
Static test pressure	: 35 bar

Design features

Three versions of the seal are available, Type R00L/R, R10L/R and R20L/R. They vary only in the methods of providing the drive to the rotary seal ring. These are illustrated below

Drive spring

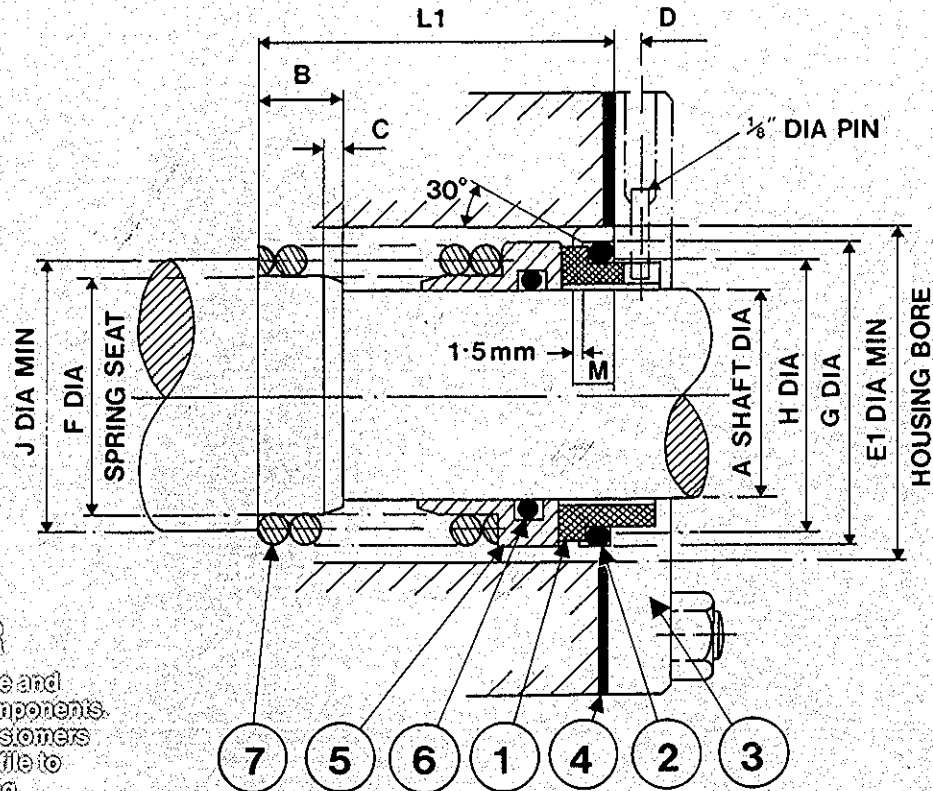
In all three arrangements, the drive from the shaft to the rotary seal ring (5) is implemented by a single coil helical spring (7) which is supplied left or right handed according to the direction of rotation of the shaft.

Seal plate components

Type R seals are supplied as standard without seal plate (3) and seal plate gasket (4), these items normally being provided by the customer. However they can be supplied with the seal if required.

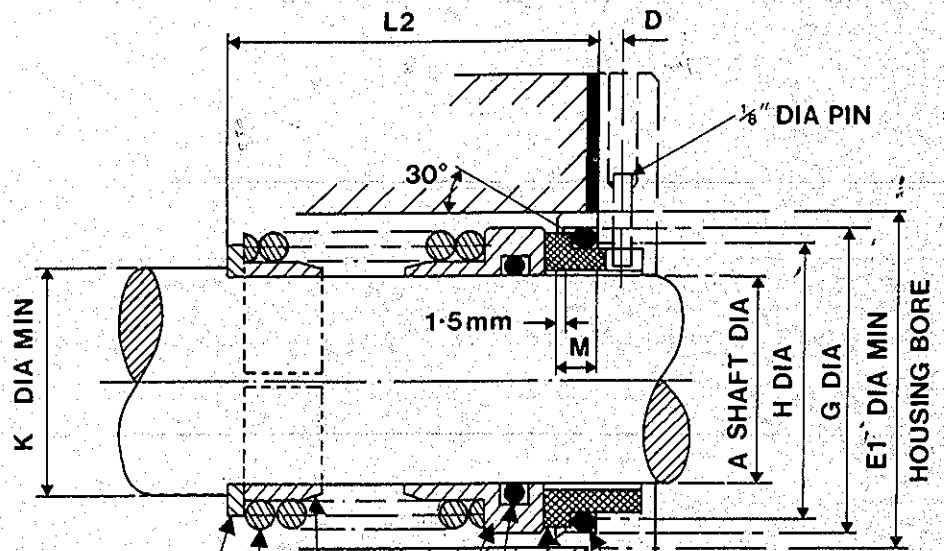
Component reference key

- 1 Stationary seal ring
- 2 Stationary seal ring packing
- 3 Seal plate
- 4 Seal plate gasket
- 5 Rotary seal ring
- 6 Rotary seal ring packing
- 7 Spring
- 8 Spring sleeve
- 9 Set screw
11. Washer



Type R00L/R

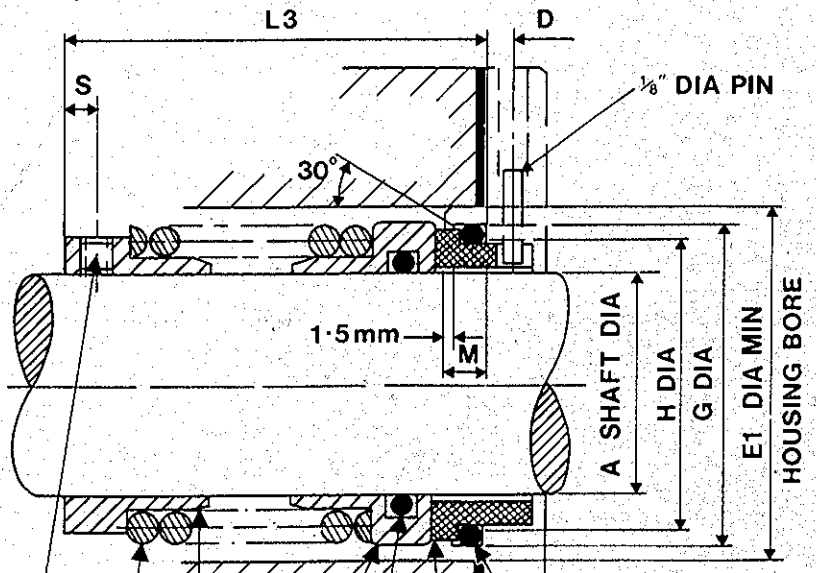
This is the simplest type and comprises only five components. It is designed to suit customers able to form a shaft profile to accommodate the spring.



Type R101/R

Reparation's intended for use on the shaft diameter of 1.5mm. The housing is made of aluminum alloy (Al-Si) and is designed for use on the shaft diameter of 1.5mm. The housing is made of aluminum alloy (Al-Si) and is designed for use on the shaft diameter of 1.5mm.

- 11
- 7
- 8
- 5
- 6
- 1
- 4
- 2
- 3



Type R201/R



Reparation's intended for use on the shaft diameter of 1.5mm. The housing is made of aluminum alloy (Al-Si) and is designed for use on the shaft diameter of 1.5mm. The housing is made of aluminum alloy (Al-Si) and is designed for use on the shaft diameter of 1.5mm.

- 9
- 7
- 8
- 5
- 6
- 1
- 4
- 2
- 3

Materials of construction

The Type R seal is generally supplied in either of two combinations of face materials with alternative packings. The Material Combination Code, obtained from the table below, should always be quoted as part of the Order Code. Further information on ordering is given under "Seal Selection and Ordering Procedure".

Table 1

Component	Materials of Construction	
		
Rubbing faces	Stellited stainless steel VS metallised carbon (31)	Solid ceramic insert VS plain carbon (61)
Packings	High nitrile synthetic rubber (A) or P.T.F.E. (D)	High nitrile synthetic rubber (A) or P.T.F.E. (D)
Other items	18/8 Stainless steel (Y)	18/8 Stainless steel (Y)
Normal temperature range	-50°C to +250°C	-50°C to +250°C
Compatible fluids	Water, lube oils, glycols mild chemicals etc	Sea water and most chemicals
Material Combination Code	31.A.Y. or 31.D.Y.	61.A.Y. or 61.D.Y.

Note

Unbalanced seals with other face pairings and packings to suit particular applications are available. For further information please consult your nearest Flexibox office or representative.

Dimensions

Size Designation	Shaft Diameter		A	B	C	D	E ₁	F	G	H	J	K	L ₁	L ₂	L ₃	M	S
	in	mm	+0.00 -0.05 mm	mm	mm	mm	mm	Min mm	±0.05 mm	mm	+0.13 -0.00 mm	Min mm	Min mm	mm	mm	mm	mm
0158	3/8		15.88	6.5	16	4	31.50	19.05	28.57 ± 0.05	24.31	22.5	17.5	33.5	35.0	41.5	4.4	4.0
0191	3/4		19.05	7.0	16	4	35.00	22.22	31.75 ± 0.05	27.48	25.50	21.0	33.5	35.0	41.5	4.4	4.0
0222	7/8		22.23	7.0	16	4	38.00	25.40	34.93 ± 0.05	30.66	29.0	24.0	35.0	36.5	44.5	4.4	4.7
0250		25	25.00	7.5	16	4	43.00	28.57	39.85 ± 0.07	33.84	32.5	27.0	40.0	41.5	49.0	5.5	4.7
0254	1		25.40	7.5	16	4	43.00	28.57	39.85 ± 0.07	33.84	32.5	27.0	40.0	41.5	49.0	5.5	4.7
0280		28	28.00	8.5	16	4	46.00	31.75	43.05 ± 0.07	37.01	36.5	32.0	41.5	43.0	51.0	5.5	4.7
0285	1 1/8		28.58	8.5	16	4	46.00	31.75	43.05 ± 0.07	37.01	36.5	32.0	41.5	43.0	51.0	5.5	4.7
0300		30	30.00	8.5	16	4	47.50	33.32	44.63 ± 0.07	38.61	38.5	33.5	41.5	43.0	51.0	5.5	4.7
0317	1 1/4		31.75	9.0	16	4	49.00	34.92	46.32 ± 0.07	40.28	40.0	35.0	44.5	46.0	54.0	5.5	4.7
0320		32	32.00	9.0	16	4	49.00	34.92	46.32 ± 0.07	40.28	40.0	35.0	44.5	46.0	54.0	5.5	4.7
0349	1 3/8		34.93	10.0	16	4	52.50	38.10	49.48 ± 0.07	43.46	43.0	38.0	47.5	49.0	57.0	5.5	4.7
0350		35	35.00	10.0	16	4	52.50	38.10	49.48 ± 0.07	43.46	47.0	38.0	47.5	49.0	57.0	5.5	4.7
0380		38	38.00	10.0	16	4	55.50	42.88	52.56 ± 0.07	46.63	47.5	41.5	47.5	49.0	57.0	5.5	4.7
0381	1 1/2		38.10	10.0	16	4	55.50	42.88	52.56 ± 0.07	46.63	47.5	41.5	47.5	49.0	57.0	5.5	4.7
0400		40	40.00	10.0	16	4	57.00	44.45	54.25 ± 0.07	48.13	49.5	43.0	47.5	49.0	57.0	5.5	4.7
0412	1 5/8		41.30	10.5	16	4	58.50	46.02	55.83 ± 0.07	49.81	52.0	44.5	47.5	49.0	57.0	5.5	4.7
0420		42	42.00	10.5	16	4	58.50	46.02	55.83 ± 0.07	49.81	52.0	44.5	47.5	49.0	57.0	5.5	4.7
0444	1 3/4		44.45	10.5	16	4	62.00	49.20	59.02 ± 0.07	52.98	55.0	47.5	47.5	49.0	57.0	5.5	4.7
0450		45	45.00	10.5	16	4	62.00	49.20	59.02 ± 0.07	52.98	55.0	47.5	47.5	49.0	57.0	5.5	4.7
0476	1 7/8		47.63	11.5	16	5	66.50	52.37	63.68 ± 0.07	57.66	58.0	51.0	52.5	54.0	65.0	5.5	6.5
0500		50	50.00	12.0	16	5	68.50	53.97	65.37 ± 0.07	59.33	60.5	52.5	55.5	57.0	68.5	5.5	6.5
0508	2		50.80	12.0	16	5	70.00	55.57	66.85 ± 0.07	60.83	62.0	54.0	55.5	57.0	68.5	5.5	6.5
0539	2 1/8		53.98	13.0	16	5	73.00	58.72	70.03 ± 0.07	64.01	65.0	57.5	57.0	58.5	70.0	5.5	6.5
0550		55	55.00	13.0	16	5	73.00	58.72	70.03 ± 0.07	64.01	65.0	57.5	57.0	58.5	70.0	5.5	6.5
0571	2 1/4		57.15	13.0	16	5	76.00	61.90	73.20 ± 0.07	67.18	68.5	60.5	57.0	58.5	70.0	5.5	6.5
0600		60	60.00	14.0	16	5	81.00	65.07	76.38 ± 0.07	70.36	73.0	63.5	60.5	62.0	73.0	5.5	6.5
0603	2 3/8		60.33	14.0	16	5	81.00	65.07	76.38 ± 0.07	70.36	73.0	63.5	60.5	62.0	73.0	5.5	6.5
0635	2 1/2		63.50	14.0	16	5	84.00	68.28	79.56 ± 0.07	73.53	76.0	66.5	60.5	62.0	73.0	5.5	6.5
0650		65	65.00	14.0	16	5	85.50	69.85	81.23 ± 0.07	75.21	78.0	68.5	63.5	65.0	76.0	5.5	6.5
0665	2 5/8		66.76	14.0	16	5	87.50	71.42	82.73 ± 0.07	76.71	79.5	70.0	63.5	65.0	76.0	5.5	6.5
0698	2 3/4		69.85	14.0	16	5	90.50	74.60	85.90 ± 0.07	79.88	82.5	73.0	63.5	65.0	76.0	5.5	6.5
0700		70	70.00	14.0	16	5	90.50	74.60	85.90 ± 0.07	79.88	82.5	73.0	63.5	65.0	76.0	5.5	6.5
0730	2 7/8		73.03	16.0	16	5	95.50	77.77	89.08 ± 0.07	83.06	85.5	76.0	66.5	70.0	81.0	5.5	7.0
0750		75	75.00	16.0	16	5	97.00	79.37	90.77 ± 0.07	84.73	87.5	78.0	66.5	70.0	81.0	5.5	7.0
0762	3		76.20	16.0	16	5	98.50	80.97	95.43 ± 0.07	89.41	89.0	79.5	73.0	76.0	87.5	5.5	7.0
0800		80	80.00	16.0	16	5	103.00	85.73	100.29 ± 0.07	94.26	93.5	84.0	73.0	76.0	87.5	5.5	7.0
0825	3 1/4		82.55	16.0	16	5	105.00	87.30	101.78 ± 0.07	95.76	95.5	85.5	73.0	76.0	87.5	5.5	7.0
0889	3 1/2		88.90	17.0	16	5	111.00	93.67	108.13 ± 0.07	102.11	101.5	92.0	73.0	76.0	87.5	5.5	7.0
0900		90	90.00	17.0	16	5	114.50	95.25	109.82 ± 0.07	103.78	105.0	93.5	78.0	81.0	92.0	5.5	7.0
1000		100	100.00	17.5	32	5	124.00	104.77	119.33 ± 0.07	113.31	114.5	103.0	78.0	81.0	92.0	5.5	7.0
1016	4		101.60	19.0	32	5	128.50	107.95	124.00 ± 0.07	117.98	117.5	105.0	82.5	85.5	98.5	5.5	8.0

Intermediate and larger sizes are available on request

Where the standard R type seal cannot be accommodated a shorter version is available. Please refer to Flexibox for details