



**sterling range**

[www.first4seals.com](http://www.first4seals.com)



**single spring**

**mechanical seal range**

Copyright © 2005 first4seals plc  
DOC / F4S 5018 12/2005

Reference Issue • L - UK - F4SSPRING - 01

first4seals™ is a Trademark of first4seals plc.

first4seals plc recognise all trademarks and trademark names as the property of the owner.

first4seals plc, mount street, bradford, west yorkshire. bd3 9sn united kingdom

Tel: +44 (0) 1274 720775 Fax: +44 (0) 1274 729022

email: [seals@first4seals.com](mailto:seals@first4seals.com) - web: [www.first4seals.com](http://www.first4seals.com)

# TYPE 290, 290S, 290B & 290BS MECHANICAL SEALS

Types 290 & 290S are multi-spring wedge or 'O' ring unbalanced seals, commonly used in arduous applications such as chemicals. Types 290B & BS are balanced versions, predominantly used for higher duty. All seals are grub screwed to the shaft and generally coupled with a standard V style stationary seat.



## Benefits

- Stable – Robust design with multi-spring face loading
- High performance – Balanced versions for higher duties
- Corrosive media capability – PTFE Wedge suitable for chemicals
- Bi-directional – Grub screwed drive on shaft

All metal parts in Stainless Steel as standard

## Service Capability

- Maximum Speed – 25m/sec\*
- Maximum Pressure – Types 290/290S – 13 bar\*  
Types 290B/290BS – 20 bar\*
- Temperature – -100°C to +200°C
- Media – Dependant on materials

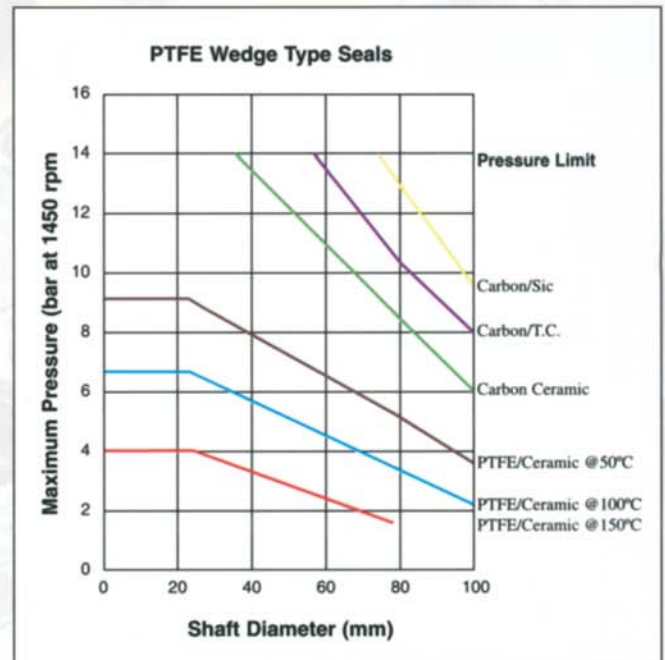
\* See P.V. Curves for maximum speed/pressure combination

### NOTE

P.V. Curves for water at 20°C

## Materials

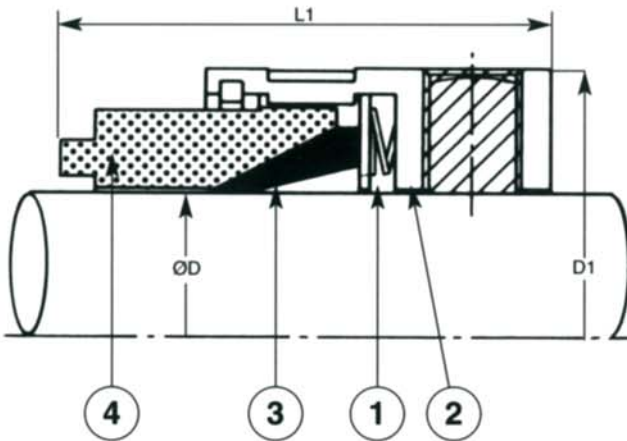
- Rotary Face (4) – Carbon
- Stationary Face – Dependant on application
- Spring (1) – 316 Stainless Steel
- Metal Parts (2) – 316 Stainless Steel
- Elastomers (3, 4) – PTFE, Nitrile, EP, Viton



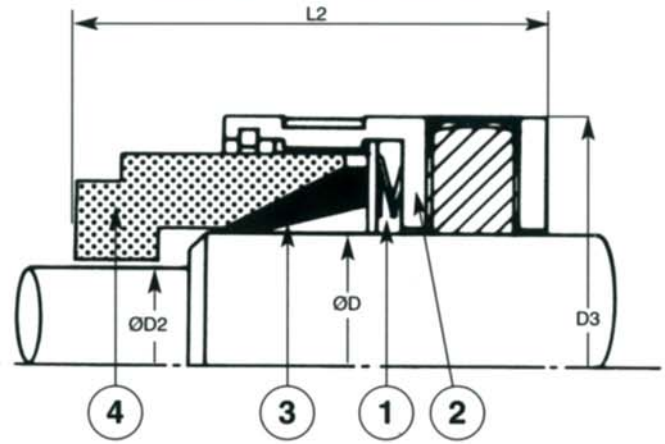
For balanced versions multiply by factor 1.4

OTHER MATERIALS AVAILABLE TO SPECIAL ORDER

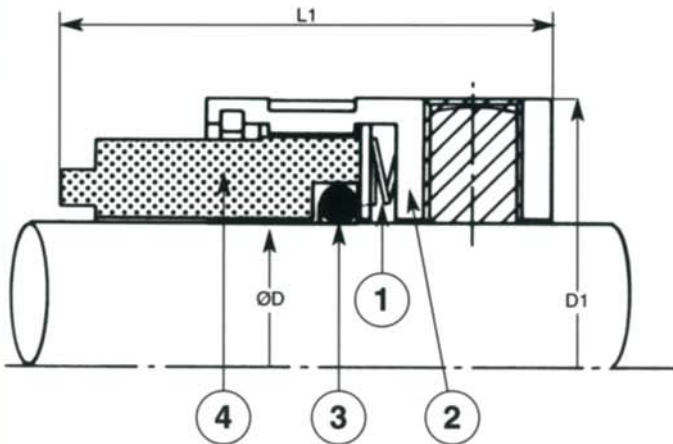
### SEAL TYPE 290



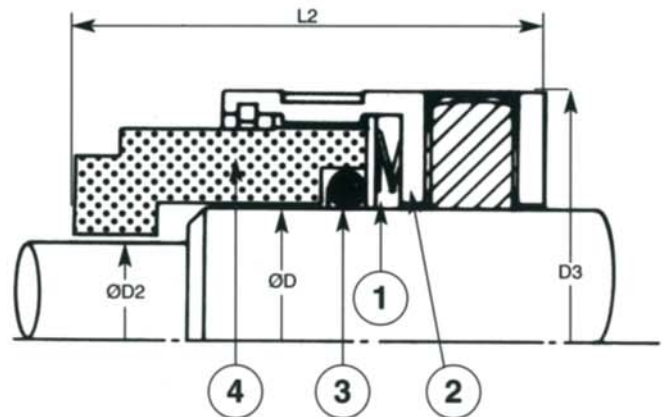
### SEAL TYPE 290B



### SEAL TYPE 290S



### SEAL TYPE 290BS



TYPE 290/290S METRIC

Metric Shaft Size D	Size Code	D1	L1
20	0200	35.70	24.00
22	0220	37.00	24.00
24	0240	39.50	25.00
25	0250	40.50	25.00
28	0280	44.00	27.00
30	0300	47.00	27.00
32	0320	50.20	29.00
35	0350	52.00	29.00
38	0380	55.60	29.00
40	0400	59.70	35.00
45	0450	64.90	35.00
48	0480	65.10	35.00
50	0500	69.70	35.00
55	0550	78.00	43.00
60	0600	83.10	43.00
65	0650	88.20	43.00
70	0700	92.80	43.00
73	0730	95.50	43.00
75	0750	96.20	43.00
80	0800	101.00	43.00
85	0850	107.50	43.00
90	0900	112.50	43.00
95	0950	117.50	43.00
100	1000	122.50	43.00

TYPE 290/290S IMPERIAL

Imperial Shaft Size D	Size Code	D1	L1
0.625	0158	30.70	19.00
0.750	0191	34.70	22.20
0.875	0222	38.00	23.80
1.000	0254	40.50	25.40
1.125	0286	43.50	27.00
1.250	0317	48.30	27.00
1.375	0349	52.00	28.60
1.500	0381	55.60	28.60
1.625	0412	61.00	35.00
1.750	0444	64.30	35.00
1.875	0476	65.10	35.00
2.000	0508	69.70	35.00
2.125	0539	77.00	43.00
2.250	0571	79.90	43.00
2.375	0603	83.10	43.00
2.500	0635	86.60	43.00
2.625	0666	89.60	43.00
2.750	0698	92.80	43.00
2.875	0730	95.50	43.00
3.000	0762	97.70	43.00
3.125	0794	100.50	43.00
3.250	0825	105.30	43.00
3.375	0857	108.30	43.00
3.500	0889	111.50	43.00
3.625	0921	114.90	43.00
3.750	0953	118.00	43.00
3.875	0984	121.20	43.00
4.000	1016	124.60	43.00
5.000	1270	159.00	51.00
5.500	1397	172.00	51.00

TYPE 290B/290BS - IMPERIAL

Imperial Shaft Size D	Size Code	D2	D3	L2
0.625	0158	12.70	30.70	27.00
0.750	0191	15.80	34.70	30.00
0.875	0222	19.10	38.00	32.00
1.000	0254	22.20	40.50	33.00
1.125	0286	25.40	43.50	35.00
1.250	0317	28.60	48.30	35.00
1.375	0349	28.60	52.00	37.00
1.500	0381	31.80	55.60	37.00
1.625	0412	34.90	61.00	45.00
1.750	0444	38.10	64.30	45.00
1.875	0476	41.30	65.10	45.00
2.000	0508	44.50	69.70	45.00
2.125	0539	47.60	77.00	52.00
2.250	0571	50.80	79.90	52.00
2.375	0603	54.00	83.10	52.00
2.500	0635	57.20	86.60	52.00
2.625	0666	60.30	89.60	52.00
2.750	0698	63.50	92.80	52.00
2.875	0730	66.70	95.50	52.00
3.000	0762	69.90	97.70	52.00
3.125	0794	73.00	100.50	52.00
3.250	0825	76.20	105.30	52.00
3.375	0857	79.40	108.30	52.00
3.500	0889	82.60	111.50	52.00
3.625	0921	85.70	114.90	52.00
3.750	0953	88.90	118.00	52.00
3.875	0984	92.10	121.20	52.00
4.000	1016	95.30	124.60	52.00