



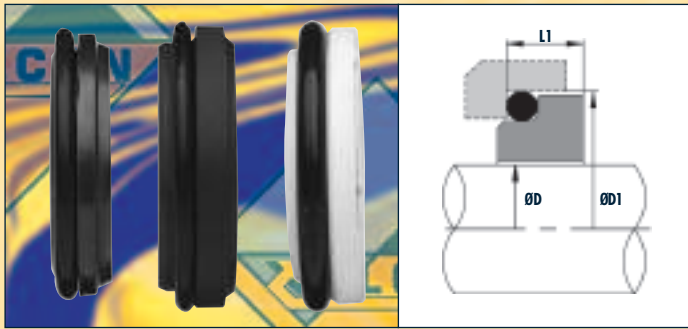
# **Vulcan Stationary Seat Types, Clamp Rings. Seal Repair, Fitting, Identification And Vulcan**



Section

12

# COMMON VULCAN 'O'-RING MOUNTED SEATS



Common Vulcan 'O'-Ring Mounted Short Stationary designs to suit DIN and other standard housings. These short 'O'-Ring Mounted Seats are not pinned and rely upon compression on the 'O'-Ring for retention. Consideration should be given to Long Pinned Seats or Boot Mounted Seats where conditions necessitate.

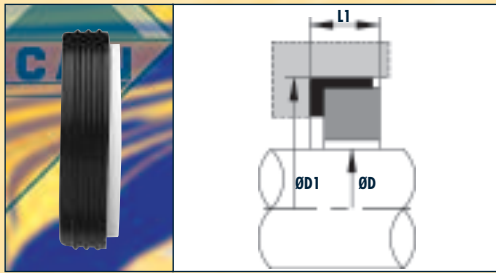
## VULCAN STANDARD SIZES

| Metric Shaft<br>Size D | Size<br>Code | Type 8/19 STD |      | Type 8B |      | Type 12 |      | Type 12 DIN |      | Type 13 |      | Type 13 DIN |      |
|------------------------|--------------|---------------|------|---------|------|---------|------|-------------|------|---------|------|-------------|------|
|                        |              | D1            | L1   | D1      | L1   | D1      | L1   | D1          | L1   | D1      | L1   | D1          | L1   |
| 10                     | 0100         | 19.2          | 6.6  | 19.2    | 7.1  | 18.1    | 5.5  | 21.0        | 7.0  | 18.1    | 5.5  | 21.0        | 7.0  |
| 11                     | 0110         | -             | -    | -       | -    | 20.6    | 5.5  | -           | -    | 20.6    | 5.5  | -           | -    |
| 12                     | 0120         | 21.6          | 5.6  | 21.6    | 7.6  | 20.6    | 5.5  | 23.0        | 7.0  | 20.6    | 5.5  | 23.0        | 7.0  |
| 13                     | 0130         | -             | -    | -       | -    | 23.1    | 6.0  | -           | -    | 23.1    | 6.0  | -           | -    |
| 14                     | 0140         | 24.6          | 5.6  | 24.6    | 7.6  | 23.1    | 6.0  | 25.0        | 7.0  | 23.1    | 6.0  | 25.0        | 7.0  |
| 15                     | 0150         | 24.6          | 6.6  | 24.6    | 8.6  | 26.9    | 7.0  | -           | -    | 26.9    | 7.0  | -           | -    |
| 16                     | 0160         | 28.0          | 7.5  | 28.0    | 9.0  | 26.9    | 7.0  | 27.0        | 7.0  | 26.9    | 7.0  | 27.0        | 7.0  |
| 17                     | 0170         | -             | -    | -       | -    | 26.9    | 7.0  | -           | -    | 26.9    | 7.0  | -           | -    |
| 18                     | 0180         | 30.0          | 8.0  | 30.0    | 10.0 | 30.9    | 8.0  | 33.0        | 10.0 | 30.9    | 8.0  | 33.0        | 10.0 |
| 19                     | 0190         | 31.0          | 7.5  | 31.0    | 9.0  | 30.9    | 8.0  | -           | -    | 30.9    | 8.0  | -           | -    |
| 20                     | 0200         | 35.0          | 7.5  | 35.0    | 9.5  | 30.9    | 8.0  | 35.0        | 10.0 | 30.9    | 8.0  | 35.0        | 10.0 |
| 21                     | 0210         | -             | -    | -       | -    | 35.4    | 8.0  | -           | -    | 35.4    | 8.0  | -           | -    |
| 22                     | 0220         | 35.0          | 7.5  | 35.0    | 9.5  | 35.4    | 8.0  | 37.0        | 10.0 | 35.4    | 8.0  | 37.0        | 10.0 |
| 23                     | 0230         | -             | -    | -       | -    | 35.4    | 8.0  | -           | -    | 35.4    | 8.0  | -           | -    |
| 24                     | 0240         | 38.0          | 7.5  | 38.0    | 9.5  | 35.4    | 8.0  | 39.0        | 10.0 | 35.4    | 8.0  | 39.0        | 10.0 |
| 25                     | 0250         | 38.0          | 7.5  | 38.0    | 9.5  | 38.2    | 8.5  | 40.0        | 10.0 | 38.2    | 8.5  | 40.0        | 10.0 |
| 26                     | 0260         | 40.0          | 8.0  | 40.0    | 10.0 | 38.2    | 8.5  | -           | -    | -       | -    | -           | -    |
| 28                     | 0280         | 42.0          | 9.0  | 42.0    | 11.0 | 43.3    | 9.0  | 43.0        | 10.0 | 43.3    | 9.0  | 43.0        | 10.0 |
| 29                     | 0290         | -             | -    | -       | -    | 43.3    | 9.0  | -           | -    | 43.3    | 9.0  | -           | -    |
| 30                     | 0300         | 45.0          | 10.5 | 45.0    | 11.0 | 43.3    | 9.0  | 45.0        | 10.0 | 43.3    | 9.0  | 45.0        | 10.0 |
| 32                     | 0320         | 48.0          | 10.5 | 48.0    | 11.0 | 43.3    | 9.0  | 48.0        | 10.0 | 43.3    | 9.0  | 48.0        | 10.0 |
| 33                     | 0330         | -             | -    | -       | -    | 53.5    | 11.5 | 48.0        | 10.0 | 53.5    | 11.5 | 48.0        | 10.0 |
| 35                     | 0350         | 52.0          | 11.0 | 52.0    | 11.5 | 53.5    | 11.5 | 50.0        | 10.0 | 53.5    | 11.5 | 50.0        | 10.0 |
| 38                     | 0380         | 55.0          | 10.3 | 55.0    | 11.5 | 60.5    | 11.5 | 56.0        | 13.0 | 60.5    | 11.5 | 56.0        | 13.0 |
| 40                     | 0400         | 58.0          | 10.8 | 58.0    | 11.5 | 60.5    | 11.5 | 58.0        | 13.0 | 60.5    | 11.5 | 58.0        | 13.0 |
| 42                     | 0420         | 62.0          | 12.0 | 62.0    | 14.3 | 60.5    | 11.5 | -           | -    | -       | -    | -           | -    |
| 43                     | 0430         | 62.0          | 12.0 | 62.0    | 14.3 | 60.5    | 11.5 | 61.0        | 13.0 | -       | -    | -           | -    |
| 44                     | 0440         | -             | -    | -       | -    | 65.5    | 11.5 | -           | -    | -       | -    | -           | -    |
| 45                     | 0450         | 64.0          | 11.6 | 64.0    | 14.3 | 65.5    | 11.5 | 63.0        | 13.0 | -       | -    | -           | -    |
| 48                     | 0480         | 68.4          | 11.6 | 68.4    | 14.3 | 65.5    | 11.5 | 66.0        | 13.0 | -       | -    | -           | -    |
| 50                     | 0500         | 69.3          | 11.6 | 69.3    | 14.3 | 72.5    | 11.5 | 70.0        | 14.0 | -       | -    | -           | -    |
| 53                     | 0530         | -             | -    | -       | -    | -       | -    | 73.0        | 14.0 | -       | -    | -           | -    |
| 55                     | 0550         | 75.4          | 13.3 | 75.4    | 15.3 | 72.5    | 11.5 | 75.0        | 14.0 | -       | -    | -           | -    |
| 58                     | 0580         | 78.4          | 13.3 | 78.4    | 15.3 | -       | -    | 78.0        | 14.0 | -       | -    | -           | -    |
| 60                     | 0600         | 80.4          | 13.3 | 80.4    | 15.3 | 79.3    | 11.5 | 80.0        | 14.0 | -       | -    | -           | -    |
| 63                     | 0630         | -             | -    | -       | -    | -       | -    | 83.0        | 14.0 | -       | -    | -           | -    |
| 65                     | 0650         | 85.4          | 13.0 | 85.4    | 15.3 | 84.5    | 11.5 | 85.0        | 14.0 | -       | -    | -           | -    |
| 68                     | 0680         | 91.5          | 13.7 | 91.5    | 16.0 | -       | -    | 90.0        | 16.0 | -       | -    | -           | -    |
| 70                     | 0700         | 92.0          | 13.0 | 92.0    | 15.3 | 89.5    | 11.5 | 92.0        | 16.0 | -       | -    | -           | -    |
| 75                     | 0750         | 99.0          | 14.0 | 99.0    | 15.3 | 94.5    | 11.5 | 97.0        | 16.0 | -       | -    | -           | -    |
| 80                     | 0800         | 104.0         | 15.0 | 104.0   | 16.3 | 99.5    | 11.5 | 105.0       | 18.0 | -       | -    | -           | -    |
| 85                     | 0850         | 109.0         | 14.8 | -       | -    | 105.5   | 13.5 | 110.0       | 18.0 | -       | -    | -           | -    |
| 90                     | 0900         | 114.0         | 14.8 | -       | -    | 111.5   | 13.5 | 115.0       | 18.0 | -       | -    | -           | -    |
| 95                     | 0950         | 120.3         | 15.8 | -       | -    | 116.5   | 13.5 | 120.0       | 18.0 | -       | -    | -           | -    |
| 100                    | 1000         | 123.3         | 15.8 | -       | -    | 119.5   | 13.5 | 125.0       | 18.0 | -       | -    | -           | -    |

STANDARD STOCK SEAT MATERIALS  
Carbon, Ceramic, Silicon Carbide, Tungsten Carbide.  
OTHER SEAT MATERIALS TO ORDER



# VULCAN BOOT MOUNTED SEATS



Vulcan offer a wide variety of stock Boot Mounted Seats, to suit a variety of different housings and working length standards, as well as different ring I.D.'s to track against all Vulcan Seal faces. Boot Mounted Seats offer optimum cost and performance benefits and are widely utilised. Please specify your shaft size because each seat size shown has a unique I.D.

## TYPES 11 & 1511 VULCAN STANDARD SIZES

| Shaft Size DØ |          | D1     |       | L1     |       |
|---------------|----------|--------|-------|--------|-------|
| Inch          | Metric   | Metric | Inch  | Metric | Inch  |
| 0.500         | 12,13    | 25.40  | 1.000 | 7.93   | 0.312 |
| 0.625         | 14,15,16 | 31.75  | 1.250 | 10.28  | 0.405 |
| 0.750         | 18,19    | 34.93  | 1.375 | 10.26  | 0.404 |
| 0.875         | 20,22    | 38.10  | 1.500 | 10.28  | 0.405 |
| 1.000         | 24,25    | 41.28  | 1.625 | 11.10  | 0.437 |
| 1.125         | 28       | 44.44  | 1.750 | 11.10  | 0.437 |
| 1.250         | 30,32    | 47.63  | 1.875 | 11.10  | 0.437 |
| 1.375         | 33,34,35 | 50.80  | 2.000 | 11.10  | 0.437 |
| 1.500         | 38       | 53.98  | 2.125 | 11.10  | 0.437 |
| 1.625         | 40       | 60.33  | 2.375 | 12.70  | 0.500 |
| 1.750         | 43,44,45 | 63.50  | 2.500 | 12.70  | 0.500 |
| 1.875         | 48       | 69.85  | 2.750 | 12.70  | 0.500 |
| 2.000         | 50       | 69.85  | 2.750 | 12.70  | 0.500 |
| 2.125         | 53       | 76.20  | 3.000 | 14.28  | 0.562 |
| 2.250         | 55       | 79.38  | 3.125 | 14.28  | 0.562 |
| 2.375         | 58,60    | 82.55  | 3.250 | 14.28  | 0.562 |
| 2.500         | 63       | 85.73  | 3.375 | 14.28  | 0.562 |
| 2.625         | 65       | 85.73  | 3.375 | 15.90  | 0.626 |
| 2.750         | 68,70    | 88.90  | 3.500 | 15.90  | 0.626 |
| 2.875         | 73       | 95.25  | 3.750 | 15.90  | 0.626 |
| 3.000         | 75       | 98.43  | 3.875 | 15.90  | 0.626 |

## TYPES 20 & 1520 VULCAN STANDARD SIZES

| Shaft Size DØ |          | D1     |       | L1     |       |
|---------------|----------|--------|-------|--------|-------|
| Inch          | Metric   | Metric | Inch  | Metric | Inch  |
| 0.375         | 10       | 24.60  | 0.969 | 8.74   | 0.344 |
| 0.500         | 12,13    | 27.79  | 1.094 | 8.74   | 0.344 |
| 0.625         | 14,15,16 | 30.95  | 1.219 | 10.32  | 0.406 |
| 0.750         | 18,19    | 34.15  | 1.344 | 10.32  | 0.406 |
| 0.875         | 20,22    | 37.30  | 1.469 | 10.32  | 0.406 |
| 1.000         | 24,25    | 40.50  | 1.594 | 10.32  | 0.406 |
| 1.125         | 28       | 47.63  | 1.875 | 11.99  | 0.472 |
| 1.250         | 30,32    | 50.80  | 2.000 | 11.99  | 0.472 |
| 1.375         | 33,34,35 | 53.98  | 2.125 | 11.99  | 0.472 |
| 1.500         | 38       | 57.15  | 2.250 | 11.99  | 0.472 |
| 1.625         | 40       | 60.35  | 2.376 | 11.99  | 0.472 |
| 1.750         | 43,44,45 | 63.50  | 2.500 | 11.99  | 0.472 |
| 1.875         | 48       | 66.70  | 2.626 | 11.99  | 0.472 |
| 2.000         | 50       | 69.85  | 2.750 | 13.50  | 0.531 |
| 2.125         | 53       | 73.05  | 2.876 | 13.50  | 0.531 |
| 2.250         | 55       | 76.20  | 3.000 | 13.50  | 0.531 |
| 2.375         | 58,60    | 79.40  | 3.126 | 13.50  | 0.531 |
| 2.500         | 63       | 82.55  | 3.250 | 13.50  | 0.531 |
| 2.625         | 65       | 92.10  | 3.626 | 15.90  | 0.626 |
| 2.750         | 68,70    | 95.25  | 3.750 | 15.90  | 0.626 |
| 2.875         | 73       | 98.45  | 3.876 | 15.90  | 0.626 |
| 3.000         | 75       | 101.65 | 4.002 | 15.90  | 0.626 |
| 3.125         | -        | 111.15 | 4.376 | 20.00  | 0.787 |
| 3.250         | 80       | 114.30 | 4.500 | 20.00  | 0.787 |
| 3.375         | 85       | 117.50 | 4.626 | 20.00  | 0.787 |
| 3.500         | -        | 120.65 | 4.750 | 20.00  | 0.787 |
| 3.625         | 90       | 123.85 | 4.876 | 20.00  | 0.787 |
| 3.750         | 95       | 127.00 | 5.000 | 20.00  | 0.787 |
| 3.875         | -        | 130.20 | 5.126 | 20.00  | 0.787 |
| 4.000         | 100      | 133.35 | 5.250 | 20.00  | 0.787 |

## TYPES 19B/24 VULCAN STANDARD SIZES

| Metric Shaft Size D | Size Code | D1    | Type 19B L1 | Type 24 L1 |
|---------------------|-----------|-------|-------------|------------|
| 12                  | 0120      | 23.00 | 6.60        | 8.60       |
| 14                  | 0140      | 25.00 | 6.60        | 8.60       |
| 15                  | 0150      | 27.00 | 6.60        | 8.60       |
| 16                  | 0160      | 27.00 | 6.60        | 10.00      |
| 18                  | 0180      | 33.00 | 7.50        | 10.00      |
| 20                  | 0200      | 35.00 | 7.50        | 10.00      |
| 22                  | 0220      | 37.00 | 7.50        | 10.00      |
| 24                  | 0240      | 39.00 | 7.50        | 10.00      |
| 25                  | 0250      | 40.00 | 7.50        | 10.00      |
| 28                  | 0280      | 43.00 | 7.50        | 10.00      |
| 30                  | 0300      | 45.00 | 7.50        | 10.00      |

| Metric Shaft Size D | Size Code | D1    | Type 19B L1 | Type 24 L1 |
|---------------------|-----------|-------|-------------|------------|
| 32                  | 0320      | 48.00 | 7.50        | 10.00      |
| 35                  | 0350      | 50.00 | 7.50        | 10.00      |
| 38                  | 0380      | 56.00 | 9.00        | 11.00      |
| 40                  | 0400      | 58.00 | 9.00        | 11.00      |
| 43                  | 0430      | 61.00 | 9.00        | 11.00      |
| 45                  | 0450      | 63.00 | 9.00        | 11.00      |
| 48                  | 0480      | 66.00 | 9.00        | 11.00      |
| 50                  | 0500      | 70.00 | 9.50        | 13.00      |
| 53                  | 0530      | 73.00 | 11.0        | 13.00      |
| 55                  | 0550      | 75.00 | 11.0        | 13.00      |
| 58                  | 0580      | 71.00 | 11.0        | 13.00      |

| Metric Shaft Size D | Size Code | D1    | Type 19B L1 | Type 24 L1 |
|---------------------|-----------|-------|-------------|------------|
| 60                  | 0600      | 80.00 | 11.0        | 13.00      |
| 65                  | 0650      | 85.00 | 11.0        | 13.00      |
| 68                  | 0680      | 90.00 | 11.3        | 13.00      |
| 70                  | 0700      | 92.00 | 11.3        | 15.30      |
| 75                  | 0750      | 97.00 | 11.3        | 15.30      |
| 80                  | 0800      | 105.0 | 12.0        | 15.30      |
| 85                  | 0850      | 110.0 | 14.0        | 15.70      |
| 90                  | 0900      | 115.0 | 14.0        | 15.70      |
| 95                  | 0950      | 120.0 | 14.0        | 15.70      |
| 100                 | 1000      | 125.0 | 14.0        | 15.70      |

### STANDARD STOCK SEAT MATERIALS

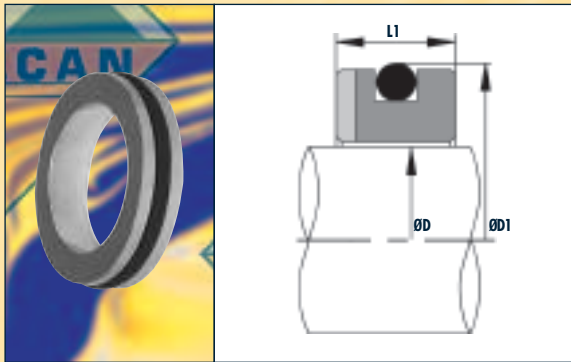
Stat Ring: Ceramic, Silicon Carbide, Tungsten Carbide.

OTHER SEAT MATERIALS TO ORDER



# VULCAN NON-DIN 'O'-RING MOUNTED SEATS

## TYPE 21/31 SEATS



'O'-Ring mounted 'H' configuration stationary seat, to suit both standard European (Type 21) or American (Type 31) housing dimensions. These seats provide the benefit of being able to be pinned through-out the size range.

### VULCAN STANDARD SIZES

| Shaft Size DØ |        |           | Shaft Size DØ |       |           | Type 21 |       |        |       | Type 31 |       |        |       |
|---------------|--------|-----------|---------------|-------|-----------|---------|-------|--------|-------|---------|-------|--------|-------|
| Inch          | Metric | Code Size | Metric        | Inch  | Code Size | D1      |       | L1     |       | D1      |       | L1     |       |
|               |        |           |               |       |           | Metric  | Inch  | Metric | Inch  | Metric  | Inch  | Metric | Inch  |
| 0.375         | 9.53   | 0950      | -             | -     | -         | 24.60   | 0.969 | 8.70   | 0.343 | 22.22   | 0.875 | 7.95   | 0.313 |
| -             | -      | -         | 10            | 0.394 | 0100      | 24.60   | 0.969 | 8.70   | 0.343 | 22.22   | 0.875 | 7.95   | 0.313 |
| -             | -      | -         | 12            | 0.472 | 0120      | 27.79   | 1.094 | 8.70   | 0.343 | 25.40   | 1.000 | 7.95   | 0.313 |
| 0.500         | 12.70  | 0127      | -             | -     | -         | 27.79   | 1.094 | 8.70   | 0.343 | 25.40   | 1.000 | 7.95   | 0.313 |
| -             | -      | -         | 13            | 0.512 | 0130      | 27.79   | 1.094 | 8.70   | 0.343 | 25.40   | 1.000 | 7.95   | 0.313 |
| -             | -      | -         | 14            | 0.551 | 0140      | 30.95   | 1.219 | 10.30  | 0.406 | 31.75   | 1.250 | 10.30  | 0.406 |
| -             | -      | -         | 15            | 0.591 | 0150      | 30.95   | 1.219 | 10.30  | 0.406 | 31.75   | 1.250 | 10.30  | 0.406 |
| 0.625         | 15.88  | 0158      | -             | -     | -         | 30.95   | 1.219 | 10.30  | 0.406 | 31.75   | 1.250 | 10.30  | 0.406 |
| -             | -      | -         | 16            | 0.630 | 0160      | 30.95   | 1.219 | 10.30  | 0.406 | 31.75   | 1.250 | 10.30  | 0.406 |
| -             | -      | -         | 18            | 0.709 | 0180      | 34.15   | 1.344 | 10.30  | 0.406 | 34.93   | 1.375 | 10.30  | 0.406 |
| 0.750         | 19.05  | 0191      | -             | -     | -         | 34.15   | 1.344 | 10.30  | 0.406 | 34.93   | 1.375 | 10.30  | 0.406 |
| -             | -      | -         | 20            | 0.787 | 0200      | 35.70   | 1.406 | 10.30  | 0.406 | 38.10   | 1.500 | 10.30  | 0.406 |
| -             | -      | -         | 22            | 0.866 | 0220      | 37.30   | 1.469 | 10.30  | 0.406 | 38.10   | 1.500 | 10.30  | 0.406 |
| 0.875         | 22.23  | 0222      | -             | -     | -         | 37.30   | 1.469 | 10.30  | 0.406 | 38.10   | 1.500 | 10.30  | 0.406 |
| -             | -      | -         | 24            | 0.945 | 0240      | 40.50   | 1.594 | 10.30  | 0.406 | 41.28   | 1.625 | 11.10  | 0.437 |
| -             | -      | -         | 25            | 0.984 | 0250      | 40.50   | 1.594 | 10.30  | 0.406 | 41.28   | 1.625 | 11.10  | 0.437 |
| 1.000         | 25.40  | 0254      | -             | -     | -         | 40.50   | 1.594 | 10.30  | 0.406 | 41.28   | 1.625 | 11.10  | 0.437 |
| -             | -      | -         | 28            | 1.102 | 0280      | 47.63   | 1.875 | 11.90  | 0.469 | 44.44   | 1.750 | 11.10  | 0.437 |
| 1.125         | 28.58  | 0286      | -             | -     | -         | 47.63   | 1.875 | 11.90  | 0.469 | 44.44   | 1.750 | 11.10  | 0.437 |
| -             | -      | -         | 30            | 1.181 | 0300      | 50.80   | 2.000 | 11.90  | 0.469 | 47.63   | 1.875 | 11.10  | 0.437 |
| 1.250         | 31.75  | 0317      | -             | -     | -         | 50.80   | 2.000 | 11.90  | 0.469 | 47.63   | 1.875 | 11.10  | 0.437 |
| -             | -      | -         | 32            | 1.260 | 0320      | 50.80   | 2.000 | 11.90  | 0.469 | 47.63   | 1.875 | 11.10  | 0.437 |
| -             | -      | -         | 33            | 1.299 | 0330      | 53.98   | 2.125 | 11.90  | 0.469 | 50.80   | 2.000 | 11.10  | 0.437 |
| 1.375         | 34.93  | 0349      | -             | -     | -         | 53.98   | 2.125 | 11.90  | 0.469 | 50.80   | 2.000 | 11.10  | 0.437 |
| -             | -      | -         | 35            | 1.378 | 0350      | 53.98   | 2.125 | 11.90  | 0.469 | 50.80   | 2.000 | 11.10  | 0.437 |
| -             | -      | -         | 38            | 1.496 | 0380      | 57.15   | 2.250 | 11.90  | 0.469 | 53.98   | 2.125 | 11.10  | 0.437 |
| 1.500         | 38.10  | 0381      | -             | -     | -         | 57.15   | 2.250 | 11.90  | 0.469 | 53.98   | 2.125 | 11.10  | 0.437 |
| -             | -      | -         | 40            | 1.575 | 0400      | 60.35   | 2.376 | 11.90  | 0.469 | 60.35   | 2.376 | 12.70  | 0.500 |
| 1.625         | 41.28  | 0412      | -             | -     | -         | 60.35   | 2.376 | 11.90  | 0.469 | 60.35   | 2.376 | 12.70  | 0.500 |
| -             | -      | -         | 42            | 1.654 | 0420      | 63.50   | 2.500 | 11.90  | 0.469 | 63.50   | 2.500 | 12.70  | 0.500 |
| -             | -      | -         | 43            | 1.693 | 0430      | 63.50   | 2.500 | 11.90  | 0.469 | 63.50   | 2.500 | 12.70  | 0.500 |
| 1.750         | 44.45  | 0444      | -             | -     | -         | 63.50   | 2.500 | 11.90  | 0.469 | 63.50   | 2.500 | 12.70  | 0.500 |
| -             | -      | -         | 45            | 1.772 | 0450      | 63.50   | 2.500 | 11.90  | 0.469 | 66.68   | 2.625 | 12.70  | 0.500 |
| 1.875         | 47.63  | 0475      | -             | -     | -         | 66.70   | 2.626 | 11.90  | 0.469 | 66.68   | 2.625 | 12.70  | 0.500 |
| -             | -      | -         | 48            | 1.890 | 0480      | 66.70   | 2.626 | 11.90  | 0.469 | 69.85   | 2.750 | 12.70  | 0.500 |
| -             | -      | -         | 50            | 1.969 | 0500      | 69.85   | 2.750 | 13.50  | 0.531 | 69.85   | 2.750 | 12.70  | 0.500 |
| 2.000         | 50.80  | 0508      | -             | -     | -         | 69.85   | 2.750 | 13.50  | 0.531 | 69.85   | 2.750 | 12.70  | 0.500 |
| -             | -      | -         | 53            | 2.087 | 0530      | 73.05   | 2.876 | 13.50  | 0.531 | 76.20   | 3.000 | 14.30  | 0.563 |
| 2.125         | 53.98  | 0539      | -             | -     | -         | 73.05   | 2.876 | 13.50  | 0.531 | 76.20   | 3.000 | 14.30  | 0.563 |
| -             | -      | -         | 55            | 2.165 | 0550      | 76.20   | 3.000 | 13.50  | 0.531 | 79.38   | 3.125 | 14.30  | 0.563 |
| 2.250         | 57.15  | 0571      | -             | -     | -         | 76.20   | 3.000 | 13.50  | 0.531 | 79.30   | 3.122 | 14.30  | 0.563 |
| -             | -      | -         | 58            | 2.283 | 0580      | 79.40   | 3.126 | 13.50  | 0.531 | 82.55   | 3.250 | 14.30  | 0.563 |
| -             | -      | -         | 60            | 2.362 | 0600      | 79.40   | 3.126 | 13.50  | 0.531 | 82.55   | 3.250 | 14.30  | 0.563 |
| 2.375         | 60.33  | 0603      | -             | -     | -         | 79.40   | 3.126 | 13.50  | 0.531 | 82.55   | 3.250 | 14.30  | 0.563 |
| -             | -      | -         | 63            | 2.480 | 0630      | 82.55   | 3.250 | 13.50  | 0.531 | 85.73   | 3.375 | 14.30  | 0.563 |
| 2.500         | 63.50  | 0635      | -             | -     | -         | 82.55   | 3.250 | 13.50  | 0.531 | 85.73   | 3.375 | 14.30  | 0.563 |
| -             | -      | -         | 65            | 2.559 | 0650      | 92.10   | 3.626 | 15.90  | 0.626 | 85.73   | 3.375 | 15.90  | 0.626 |
| 2.625         | 66.68  | 0666      | -             | -     | -         | 92.10   | 3.626 | 15.90  | 0.626 | 85.73   | 3.375 | 15.90  | 0.626 |
| 2.750         | 69.85  | 0698      | -             | -     | -         | 95.25   | 3.750 | 15.90  | 0.626 | 88.90   | 3.500 | 15.90  | 0.626 |
| -             | -      | -         | 70            | 2.756 | 0700      | 95.25   | 3.750 | 15.90  | 0.626 | 88.90   | 3.500 | 15.90  | 0.626 |
| 2.875         | 73.03  | 0730      | -             | -     | -         | 98.45   | 3.876 | 15.90  | 0.626 | 95.25   | 3.750 | 15.90  | 0.626 |
| -             | -      | -         | 75            | 2.953 | 0750      | 101.65  | 4.002 | 15.90  | 0.626 | 98.43   | 3.875 | 15.90  | 0.626 |
| 3.000         | 76.20  | 0762      | -             | -     | -         | 101.65  | 4.002 | 15.90  | 0.626 | 98.43   | 3.875 | 15.90  | 0.626 |
| -             | -      | -         | 80            | 3.150 | 0800      | 111.15  | 4.376 | 19.90  | 0.783 | 101.60  | 4.000 | 19.88  | 0.783 |
| -             | -      | -         | 90            | 3.543 | 0900      | 120.65  | 4.750 | 19.90  | 0.783 | 111.13  | 4.375 | 19.88  | 0.783 |
| -             | -      | -         | 100           | 3.937 | 1000      | 133.35  | 5.250 | 19.90  | 0.783 | 123.83  | 4.875 | 19.88  | 0.783 |

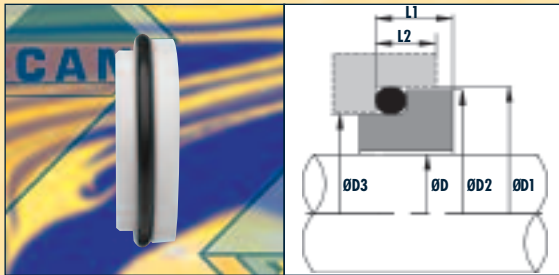
#### STANDARD STOCK SEAT MATERIALS

Stat Ring: Ceramic, Stainless Steel, Silicon Carbide, Tungsten Carbide, Ni-Resist.

OTHER SEAT MATERIALS TO ORDER



# TYPE 8 DIN SHORT



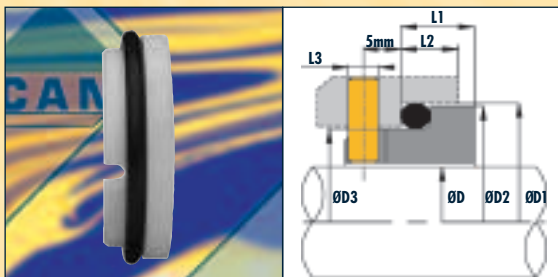
Common 'O'-Ring mounted DIN Short seat. DIN Short seats are normally only best recommended for smaller shaft sizes or for non-arduous duties.

## DIN SHORT VULCAN STANDARD SIZES

| Metric Shaft Size D | Size Code | D1   | D2   | D3   | L1  | L2  |
|---------------------|-----------|------|------|------|-----|-----|
| 10                  | 0100      | 21.0 | 20.6 | 16.4 | 6.6 | 5.5 |
| 12                  | 0120      | 23.0 | 22.6 | 18.4 | 6.6 | 5.5 |
| 14                  | 0140      | 25.0 | 24.6 | 20.4 | 6.6 | 5.5 |
| 15                  | 0150      | 27.0 | 26.6 | 22.4 | 6.6 | 5.5 |
| 16                  | 0160      | 27.0 | 26.6 | 22.4 | 6.6 | 5.5 |
| 18                  | 0180      | 33.0 | 32.6 | 26.6 | 7.5 | 7.0 |
| 20                  | 0200      | 35.0 | 34.6 | 28.6 | 7.5 | 7.0 |
| 22                  | 0220      | 37.0 | 36.6 | 30.6 | 7.5 | 7.0 |
| 24                  | 0240      | 39.0 | 38.6 | 32.6 | 7.5 | 7.0 |
| 25                  | 0250      | 40.0 | 39.6 | 33.6 | 7.5 | 7.0 |
| 28                  | 0280      | 43.0 | 42.6 | 36.6 | 7.5 | 7.0 |
| 30                  | 0300      | 45.0 | 44.6 | 38.6 | 7.5 | 7.0 |
| 32                  | 0320      | 48.0 | 47.6 | 41.6 | 7.5 | 7.0 |
| 33                  | 0330      | 48.0 | 47.6 | 41.6 | 7.5 | 7.0 |
| 35                  | 0350      | 50.0 | 49.6 | 43.8 | 7.5 | 7.0 |
| 38                  | 0380      | 56.0 | 55.6 | 48.8 | 9.0 | 8.0 |
| 40                  | 0400      | 58.0 | 57.4 | 50.8 | 9.0 | 8.0 |
| 43                  | 0430      | 61.0 | 60.6 | 53.8 | 9.0 | 8.0 |

| Metric Shaft Size D | Size Code | D1    | D2    | D3     | L1   | L2   |
|---------------------|-----------|-------|-------|--------|------|------|
| 45                  | 0450      | 63.0  | 62.6  | 55.8   | 9.0  | 8.0  |
| 48                  | 0480      | 66.0  | 65.6  | 58.8   | 9.0  | 8.0  |
| 50                  | 0500      | 70.0  | 69.6  | 61.25  | 9.5  | 8.5  |
| 53                  | 0530      | 73.0  | 72.6  | 64.25  | 11.0 | 8.5  |
| 55                  | 0550      | 75.0  | 74.4  | 66.25  | 11.0 | 8.5  |
| 58                  | 0580      | 78.0  | 77.5  | 69.25  | 11.0 | 8.5  |
| 60                  | 0600      | 80.0  | 79.5  | 71.25  | 11.0 | 8.5  |
| 65                  | 0650      | 85.0  | 84.5  | 76.25  | 11.0 | 8.5  |
| 68                  | 0680      | 90.0  | 89.5  | 80.50  | 11.3 | 9.5  |
| 70                  | 0700      | 92.0  | 91.4  | 82.60  | 11.3 | 9.5  |
| 75                  | 0750      | 97.0  | 96.4  | 87.60  | 11.3 | 9.5  |
| 80                  | 0800      | 105.0 | 104.2 | 94.70  | 12.0 | 10.0 |
| 85                  | 0850      | 110.0 | 109.2 | 99.70  | 14.0 | 10.0 |
| 90                  | 0900      | 115.0 | 114.2 | 104.70 | 14.0 | 10.0 |
| 95                  | 0950      | 120.0 | 119.2 | 109.70 | 14.0 | 10.0 |
| 100                 | 1000      | 125.0 | 124.2 | 114.70 | 14.0 | 10.0 |

# TYPE 8 DIN LONG



DIN Long Type seats, with anti-rotation slot, are preferred for higher shaft size/speeds/pressures or sticky, co-agulating etc. media.

## DIN LONG VULCAN STANDARD SIZES

| Metric Shaft Size D | Size Code | D1   | D2   | D3   | L1   | L2  | L3  |
|---------------------|-----------|------|------|------|------|-----|-----|
| 10                  | 0100      | 21.0 | 20.6 | 16.4 | 10.0 | 5.5 | 3.0 |
| 12                  | 0120      | 23.0 | 22.6 | 18.4 | 10.0 | 5.5 | 3.0 |
| 14                  | 0140      | 25.0 | 24.6 | 20.4 | 10.0 | 5.5 | 3.0 |
| 15                  | 0150      | 27.0 | 26.6 | 22.4 | 10.0 | 5.5 | 3.0 |
| 16                  | 0160      | 27.0 | 26.6 | 22.4 | 10.0 | 5.5 | 3.0 |
| 18                  | 0180      | 33.0 | 32.6 | 26.6 | 11.5 | 7.0 | 3.0 |
| 20                  | 0200      | 35.0 | 34.6 | 28.6 | 11.5 | 7.0 | 3.0 |
| 22                  | 0220      | 37.0 | 36.6 | 30.6 | 11.5 | 7.0 | 3.0 |
| 24                  | 0240      | 39.0 | 38.6 | 32.6 | 11.5 | 7.0 | 3.0 |
| 25                  | 0250      | 40.0 | 39.6 | 33.6 | 11.5 | 7.0 | 3.0 |
| 28                  | 0280      | 43.0 | 42.6 | 36.6 | 11.5 | 7.0 | 3.0 |
| 30                  | 0300      | 45.0 | 44.6 | 38.6 | 11.5 | 7.0 | 3.0 |
| 32                  | 0320      | 48.0 | 47.6 | 41.6 | 11.5 | 7.0 | 3.0 |
| 33                  | 0330      | 48.0 | 47.6 | 41.6 | 11.5 | 7.0 | 3.0 |
| 35                  | 0350      | 50.0 | 49.6 | 43.8 | 11.5 | 7.0 | 3.0 |
| 38                  | 0380      | 56.0 | 55.6 | 48.8 | 14.0 | 8.0 | 4.0 |
| 40                  | 0400      | 58.0 | 57.4 | 50.3 | 14.0 | 8.0 | 4.0 |

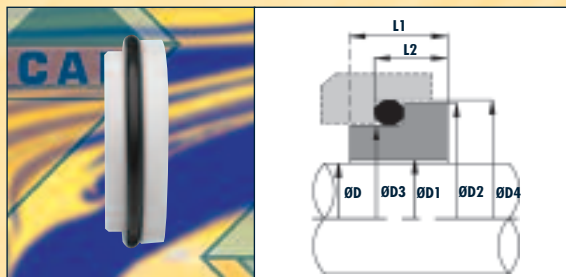
| Metric Shaft Size D | Size Code | D1    | D2    | D3     | L1   | L2   | L3  |
|---------------------|-----------|-------|-------|--------|------|------|-----|
| 43                  | 0430      | 61.0  | 60.6  | 53.8   | 14.0 | 8.0  | 4.0 |
| 45                  | 0450      | 63.0  | 62.6  | 55.8   | 14.0 | 8.0  | 4.0 |
| 48                  | 0480      | 66.0  | 65.6  | 58.8   | 14.0 | 8.0  | 4.0 |
| 50                  | 0500      | 70.0  | 69.6  | 61.25  | 15.0 | 8.5  | 4.0 |
| 53                  | 0530      | 73.0  | 72.6  | 64.25  | 15.0 | 8.5  | 4.0 |
| 55                  | 0550      | 75.0  | 74.4  | 66.25  | 15.0 | 8.5  | 4.0 |
| 58                  | 0580      | 78.0  | 77.5  | 69.25  | 15.0 | 8.5  | 4.0 |
| 60                  | 0600      | 80.0  | 79.5  | 71.25  | 15.0 | 8.5  | 4.0 |
| 65                  | 0650      | 85.0  | 84.5  | 76.25  | 15.0 | 8.5  | 4.0 |
| 68                  | 0680      | 90.0  | 89.5  | 80.50  | 18.0 | 9.5  | 4.0 |
| 70                  | 0700      | 92.0  | 91.4  | 82.60  | 18.0 | 9.5  | 4.0 |
| 75                  | 0750      | 97.0  | 96.4  | 87.60  | 18.0 | 9.5  | 4.0 |
| 80                  | 0800      | 105.0 | 104.2 | 94.70  | 18.2 | 10.0 | 4.0 |
| 85                  | 0850      | 110.0 | 109.2 | 99.70  | 18.2 | 10.0 | 4.0 |
| 90                  | 0900      | 115.0 | 114.2 | 104.70 | 18.2 | 10.0 | 4.0 |
| 95                  | 0950      | 120.0 | 119.2 | 109.70 | 17.2 | 10.0 | 4.0 |
| 100                 | 1000      | 125.0 | 124.2 | 114.70 | 17.2 | 10.0 | 4.0 |

### STANDARD STOCK SEAT MATERIALS

Ceramic, Silicon Carbide, Tungsten Carbide, Carbon.

### OTHER SEAT MATERIALS TO ORDER

# TYPE 24 DIN



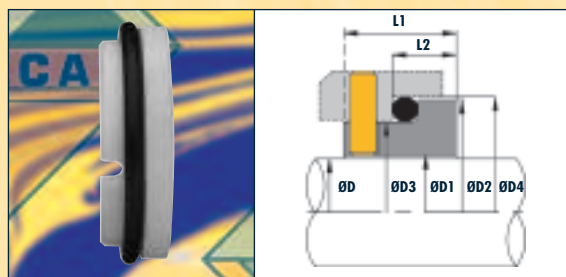
'O'-Ring mounted stationary seat to DIN 24960 (EN12756) Standard with short tail.

The seat offers different axial dimensions to the Type 8 DIN short seat and can be utilised with most seals particularly the Type 24 and 1724 designs.

## DIN SHORT VULCAN STANDARD SIZES

| Metric Shaft Size D | Size Code | D1   | D2   | D3   | D4   | L1   | L2   |
|---------------------|-----------|------|------|------|------|------|------|
| 10                  | 0100      | 11.0 | 20.6 | 16.4 | 21.0 | 10.0 | 8.6  |
| 12                  | 0120      | 13.0 | 22.6 | 18.4 | 23.0 | 10.0 | 8.6  |
| 14                  | 0140      | 15.0 | 24.6 | 20.4 | 25.0 | 10.0 | 8.6  |
| 16                  | 0160      | 17.0 | 26.6 | 22.4 | 27.0 | 10.0 | 8.6  |
| 18                  | 0180      | 19.0 | 32.6 | 26.6 | 33.0 | 11.5 | 10.0 |
| 20                  | 0200      | 21.0 | 34.6 | 28.6 | 35.0 | 11.5 | 10.0 |
| 22                  | 0220      | 23.0 | 36.6 | 30.6 | 37.0 | 11.5 | 10.0 |
| 24                  | 0240      | 25.0 | 38.6 | 32.6 | 39.0 | 11.5 | 10.0 |
| 25                  | 0250      | 26.0 | 39.6 | 33.6 | 40.0 | 11.5 | 10.0 |
| 28                  | 0280      | 29.0 | 42.6 | 36.6 | 43.0 | 11.5 | 10.0 |
| 30                  | 0300      | 31.0 | 44.6 | 38.6 | 45.0 | 11.5 | 10.0 |
| 32                  | 0320      | 33.0 | 47.6 | 41.6 | 48.0 | 11.5 | 10.0 |
| 33                  | 0330      | 34.0 | 47.6 | 41.6 | 48.0 | 11.5 | 10.0 |
| 35                  | 0350      | 36.0 | 49.6 | 43.8 | 50.0 | 11.5 | 10.0 |
| 38                  | 0380      | 39.0 | 55.6 | 48.8 | 56.0 | 12.5 | 11.0 |
| 40                  | 0400      | 41.0 | 57.6 | 50.8 | 58.0 | 12.5 | 11.0 |
| 43                  | 0430      | 44.0 | 60.6 | 53.8 | 61.0 | 12.5 | 11.0 |

| Metric Shaft Size D | Size Code | D1    | D2    | D3    | D4    | L1   | L2   |
|---------------------|-----------|-------|-------|-------|-------|------|------|
| 45                  | 0450      | 46.0  | 62.6  | 55.8  | 63.0  | 12.5 | 11.0 |
| 48                  | 0480      | 49.0  | 65.6  | 58.8  | 66.0  | 12.5 | 11.0 |
| 50                  | 0500      | 51.0  | 69.6  | 61.3  | 70.0  | 14.5 | 13.0 |
| 53                  | 0530      | 54.0  | 72.6  | 64.3  | 73.0  | 14.5 | 13.0 |
| 55                  | 0550      | 56.0  | 74.6  | 66.3  | 75.0  | 14.5 | 13.0 |
| 58                  | 0580      | 59.0  | 77.5  | 69.3  | 78.0  | 14.5 | 13.0 |
| 60                  | 0600      | 61.0  | 79.5  | 71.3  | 80.0  | 14.5 | 13.0 |
| 63                  | 0630      | 64.0  | 82.5  | 74.3  | 83.0  | 14.5 | 13.0 |
| 65                  | 0650      | 66.0  | 84.5  | 76.3  | 85.0  | 14.5 | 13.0 |
| 68                  | 0680      | 69.0  | 89.5  | 80.5  | 90.0  | 16.5 | 15.3 |
| 70                  | 0700      | 71.2  | 91.4  | 82.6  | 92.0  | 16.5 | 15.3 |
| 75                  | 0750      | 76.2  | 96.4  | 87.6  | 97.0  | 16.5 | 15.3 |
| 80                  | 0800      | 81.2  | 104.2 | 94.7  | 105.0 | 17.5 | 15.7 |
| 85                  | 0850      | 86.2  | 109.2 | 99.7  | 110.0 | 17.5 | 15.7 |
| 90                  | 0900      | 91.2  | 114.2 | 104.7 | 115.0 | 17.5 | 15.7 |
| 95                  | 0950      | 96.2  | 119.2 | 109.7 | 120.0 | 17.5 | 15.7 |
| 100                 | 1000      | 101.2 | 124.2 | 114.7 | 125.0 | 17.5 | 15.7 |



'O'-Ring mounted stationary seat to DIN 24960 (EN12756) Standard with long tail and drive slot.

The seat offers different axial dimensions to the Type 8 DIN long seat and can be utilised with most seals particularly the Type 24 and 1724 designs.

## DIN LONG VULCAN STANDARD SIZES

| Metric Shaft Size D | Size Code | D1   | D2   | D3   | D4   | L1   | L2   | Slot Width | Slot Depth |
|---------------------|-----------|------|------|------|------|------|------|------------|------------|
| 10                  | 0100      | 11.2 | 20.6 | 16.4 | 21.0 | 15.0 | 8.6  | 4.0        | 5.0        |
| 12                  | 0120      | 13.2 | 22.6 | 18.4 | 23.0 | 15.0 | 8.6  | 4.0        | 5.0        |
| 14                  | 0140      | 15.2 | 24.6 | 20.4 | 25.0 | 15.0 | 8.6  | 4.0        | 5.0        |
| 16                  | 0160      | 17.2 | 26.6 | 22.4 | 27.0 | 15.0 | 8.6  | 4.0        | 5.0        |
| 18                  | 0180      | 19.2 | 32.6 | 26.6 | 33.0 | 17.0 | 10.0 | 4.0        | 5.5        |
| 20                  | 0200      | 21.2 | 34.6 | 28.6 | 35.0 | 17.0 | 10.0 | 4.0        | 5.5        |
| 22                  | 0220      | 23.2 | 36.6 | 30.6 | 37.0 | 17.0 | 10.0 | 4.0        | 5.5        |
| 24                  | 0240      | 25.2 | 38.6 | 32.6 | 39.0 | 17.0 | 10.0 | 4.0        | 5.5        |
| 25                  | 0250      | 26.2 | 39.6 | 33.6 | 40.0 | 17.0 | 10.0 | 4.0        | 5.5        |
| 28                  | 0280      | 29.2 | 42.6 | 36.6 | 43.0 | 17.0 | 10.0 | 4.0        | 5.5        |
| 30                  | 0300      | 31.2 | 44.6 | 38.6 | 45.0 | 17.0 | 10.0 | 4.0        | 5.5        |
| 32                  | 0320      | 33.2 | 47.6 | 41.6 | 48.0 | 17.0 | 10.0 | 4.0        | 5.5        |
| 33                  | 0330      | 34.2 | 47.6 | 41.6 | 48.0 | 17.0 | 10.0 | 4.0        | 5.5        |
| 35                  | 0350      | 36.2 | 49.6 | 43.8 | 50.0 | 17.0 | 10.0 | 4.0        | 5.5        |
| 38                  | 0380      | 39.2 | 55.6 | 48.8 | 56.0 | 18.0 | 11.0 | 5.0        | 5.5        |
| 40                  | 0400      | 41.2 | 57.6 | 50.8 | 58.0 | 18.0 | 11.0 | 5.0        | 5.5        |
| 43                  | 0430      | 44.2 | 60.6 | 53.8 | 61.0 | 18.0 | 11.0 | 5.0        | 5.5        |

| Metric Shaft Size D | Size Code | D1    | D2    | D3    | D4    | L1   | L2   | lot Width | Slot Depth |
|---------------------|-----------|-------|-------|-------|-------|------|------|-----------|------------|
| 45                  | 0450      | 46.2  | 62.6  | 55.8  | 63.0  | 18.0 | 11.0 | 5.0       | 5.5        |
| 48                  | 0480      | 49.2  | 65.6  | 58.8  | 66.0  | 18.0 | 11.0 | 5.0       | 5.5        |
| 50                  | 0500      | 51.2  | 69.6  | 61.3  | 70.0  | 20.0 | 13.0 | 5.0       | 5.5        |
| 53                  | 0530      | 54.2  | 72.6  | 64.3  | 73.0  | 20.0 | 13.0 | 5.0       | 5.5        |
| 55                  | 0550      | 56.3  | 74.6  | 66.3  | 75.0  | 20.0 | 13.0 | 5.0       | 5.5        |
| 58                  | 0580      | 59.2  | 77.5  | 69.3  | 78.0  | 20.0 | 13.0 | 5.0       | 5.5        |
| 60                  | 0600      | 61.2  | 79.5  | 71.3  | 80.0  | 20.0 | 13.0 | 5.0       | 5.5        |
| 63                  | 0630      | 64.2  | 82.5  | 74.3  | 83.0  | 20.0 | 13.0 | 5.0       | 5.5        |
| 65                  | 0650      | 66.2  | 84.5  | 76.3  | 85.0  | 20.0 | 13.0 | 5.0       | 5.5        |
| 68                  | 0680      | 69.2  | 89.5  | 80.5  | 90.0  | 22.0 | 15.3 | 5.0       | 5.5        |
| 70                  | 0700      | 71.2  | 91.4  | 82.6  | 92.0  | 22.0 | 15.3 | 5.0       | 5.5        |
| 75                  | 0750      | 76.2  | 96.4  | 87.6  | 97.0  | 22.0 | 15.3 | 5.0       | 5.5        |
| 80                  | 0800      | 81.2  | 104.2 | 94.7  | 105.0 | 23.0 | 15.7 | 5.0       | 5.5        |
| 85                  | 0850      | 86.2  | 109.2 | 99.7  | 110.0 | 23.0 | 15.7 | 5.0       | 5.5        |
| 90                  | 0900      | 91.2  | 114.2 | 104.7 | 115.0 | 23.0 | 15.7 | 5.0       | 5.5        |
| 95                  | 0950      | 96.2  | 119.2 | 109.7 | 120.0 | 23.0 | 15.7 | 5.0       | 5.5        |
| 100                 | 1000      | 101.2 | 124.2 | 114.7 | 125.0 | 23.0 | 15.7 | 5.0       | 5.5        |

### STANDARD STOCK SEAT MATERIALS

Ceramic, Silicon Carbide, Tungsten Carbide, Carbon.

OTHER SEAT MATERIALS TO ORDER

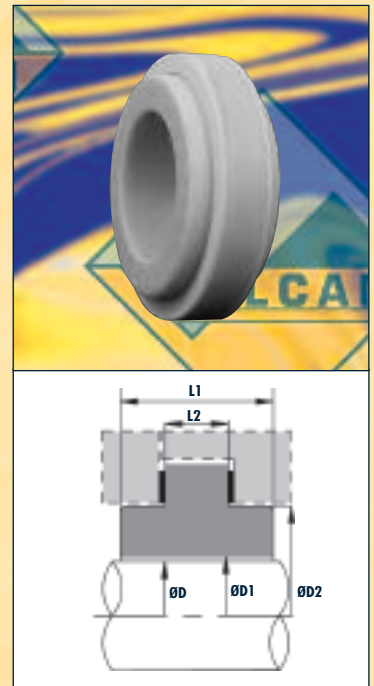


# TYPE 25

## VULCAN STANDARD SIZES

| Shaft Size DØ |        |           | Shaft Size DØ |       |           | D1     |       | D2     |       | L1     |       | L2     |       | Gasket Thickness |       |
|---------------|--------|-----------|---------------|-------|-----------|--------|-------|--------|-------|--------|-------|--------|-------|------------------|-------|
| Inch          | Metric | Code Size | Metric        | Inch  | Code Size | Metric | Inch  | Metric | Inch  | Metric | Inch  | Metric | Inch  | Metric           | Inch  |
| 0.500         | 12.70  | 0127      | 13            | 0.512 | 0130      | 13.70  | 0.539 | 29.05  | 1.144 | 17.40  | 0.685 | 7.90   | 0.311 | 0.80             | 0.031 |
| 0.625         | 15.88  | 0158      | 16            | 0.630 | 0160      | 16.80  | 0.661 | 33.04  | 1.301 | 17.40  | 0.685 | 7.90   | 0.311 | 0.80             | 0.031 |
| 0.750         | 19.05  | 0191      | 19            | 0.748 | 0190      | 20.00  | 0.787 | 36.21  | 1.426 | 17.40  | 0.685 | 7.90   | 0.311 | 0.80             | 0.031 |
| -             | -      | 0200      | 20            | 0.787 | 0200      | 21.00  | 0.827 | 36.90  | 1.453 | 17.40  | 0.685 | 7.90   | 0.311 | 0.80             | 0.031 |
| 0.875         | 22.23  | 0222      | 22            | 0.866 | 0220      | 23.20  | 0.913 | 39.39  | 1.551 | 17.40  | 0.685 | 7.90   | 0.311 | 0.80             | 0.031 |
| -             | -      | 0250      | 25            | 0.984 | 0250      | 26.00  | 1.024 | 41.90  | 1.650 | 17.40  | 0.685 | 7.90   | 0.311 | 0.80             | 0.031 |
| 1.000         | 25.40  | 0254      | -             | -     | -         | 26.40  | 1.039 | 42.56  | 1.676 | 17.40  | 0.685 | 7.90   | 0.311 | 0.80             | 0.031 |
| 1.125         | 28.58  | 0286      | -             | -     | -         | 29.60  | 1.165 | 45.74  | 1.801 | 26.90  | 1.059 | 11.10  | 0.437 | 1.60             | 0.063 |
| -             | -      | 0300      | 30            | 1.181 | 0300      | 31.00  | 1.220 | 48.69  | 1.917 | 26.90  | 1.059 | 11.10  | 0.437 | 1.60             | 0.063 |
| 1.250         | 31.75  | 0317      | 32            | 1.260 | 0320      | 32.70  | 1.287 | 50.50  | 1.988 | 26.90  | 1.059 | 11.10  | 0.437 | 1.60             | 0.063 |
| 1.375         | 34.93  | 0349      | 35            | 1.378 | 0350      | 36.00  | 1.417 | 53.68  | 2.113 | 26.90  | 1.059 | 11.10  | 0.437 | 1.60             | 0.063 |
| 1.500         | 38.10  | 0381      | 38            | 1.496 | 0380      | 39.10  | 1.539 | 56.85  | 2.238 | 26.90  | 1.059 | 11.10  | 0.437 | 1.60             | 0.063 |
| 1.625         | 41.28  | 0412      | -             | -     | -         | 42.20  | 1.661 | 63.20  | 2.488 | 26.90  | 1.059 | 11.10  | 0.437 | 1.60             | 0.063 |
| 1.750         | 44.45  | 0444      | 45            | 1.772 | 0450      | 45.40  | 1.787 | 66.38  | 2.613 | 26.90  | 1.059 | 11.10  | 0.433 | 1.60             | 0.063 |
| 1.875         | 47.63  | 0476      | 48            | 1.890 | 0480      | 49.00  | 1.929 | 69.55  | 2.738 | 26.90  | 1.059 | 11.10  | 0.437 | 1.60             | 0.063 |
| -             | -      | 0500      | 50            | 1.969 | 0500      | 51.00  | 2.008 | 71.90  | 2.831 | 26.90  | 1.059 | 11.10  | 0.437 | 1.60             | 0.063 |
| 2.000         | 50.80  | 0508      | -             | -     | -         | 51.80  | 2.039 | 72.73  | 2.863 | 26.90  | 1.059 | 11.10  | 0.437 | 1.60             | 0.063 |
| 2.125         | 53.98  | 0539      | -             | -     | -         | 54.90  | 2.161 | 79.08  | 3.113 | 33.30  | 1.311 | 14.30  | 0.563 | 1.60             | 0.063 |
| 2.250         | 57.15  | 0571      | -             | -     | -         | 58.10  | 2.287 | 82.25  | 3.238 | 33.30  | 1.311 | 14.30  | 0.563 | 1.60             | 0.063 |
| 2.375         | 60.33  | 0603      | 60            | 2.362 | 0600      | 61.30  | 2.413 | 85.43  | 3.363 | 33.30  | 1.311 | 14.30  | 0.563 | 1.60             | 0.063 |
| 2.500         | 63.50  | 0635      | -             | -     | -         | 64.50  | 2.539 | 88.60  | 3.488 | 33.30  | 1.311 | 14.30  | 0.563 | 1.60             | 0.063 |
| 2.625         | 66.68  | 0666      | -             | -     | -         | 67.60  | 2.661 | 91.78  | 3.613 | 33.30  | 1.311 | 14.30  | 0.563 | 1.60             | 0.063 |
| 2.750         | 69.85  | 0698      | 70            | 2.756 | 0700      | 71.00  | 2.795 | 94.90  | 3.736 | 33.30  | 1.311 | 14.30  | 0.563 | 1.60             | 0.063 |
| 2.875         | 73.03  | 0730      | -             | -     | -         | 74.00  | 2.913 | 98.13  | 3.863 | 33.30  | 1.311 | 14.30  | 0.563 | 1.60             | 0.063 |
| 3.000         | 76.20  | 0762      | -             | -     | -         | 77.20  | 3.039 | 99.71  | 3.926 | 33.30  | 1.311 | 14.30  | 0.563 | 1.60             | 0.063 |
| 3.125         | 79.38  | 0794      | -             | -     | -         | 80.40  | 3.165 | 102.89 | 4.051 | 33.30  | 1.311 | 14.30  | 0.563 | 1.60             | 0.063 |
| 3.500         | 88.90  | 0889      | -             | -     | -         | 89.90  | 3.539 | 114.00 | 4.488 | 34.30  | 1.350 | 14.30  | 0.563 | 1.60             | 0.063 |
| 3.750         | 95.25  | 0953      | -             | -     | -         | 96.30  | 3.791 | 120.35 | 4.738 | 34.30  | 1.350 | 14.30  | 0.563 | 1.60             | 0.063 |
| 4.000         | 101.60 | 1016      | -             | -     | -         | 102.60 | 4.039 | 126.70 | 4.988 | 34.30  | 1.350 | 14.30  | 0.563 | 1.60             | 0.063 |
| 4.125         | 104.78 | 1050      | 105           | 4.134 | 1050      | 106.00 | 4.173 | 139.90 | 5.508 | 36.00  | 1.417 | 16.00  | 0.630 | 1.60             | 0.063 |
| 4.500         | 114.30 | 1143      | -             | -     | -         | 115.30 | 4.539 | 139.40 | 5.488 | 34.30  | 1.350 | 14.30  | 0.563 | 1.60             | 0.063 |
| 5.500         | 139.70 | 1397      | -             | -     | -         | 140.70 | 5.539 | 177.50 | 6.988 | 36.00  | 1.417 | 16.00  | 0.630 | 1.60             | 0.063 |

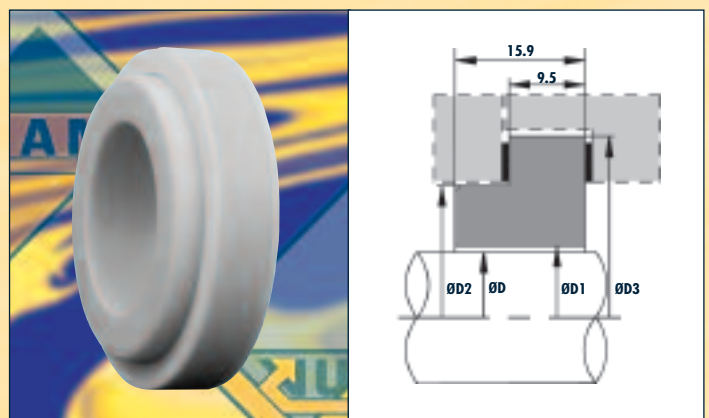
The Type 25 seat is an industry standard stationary design with 'V' shape profile, supplied complete with 2 off PTFE gaskets. Commonly used with a wide variety of seals, particularly the multi-spring Type 16XX series.



# TYPE 27

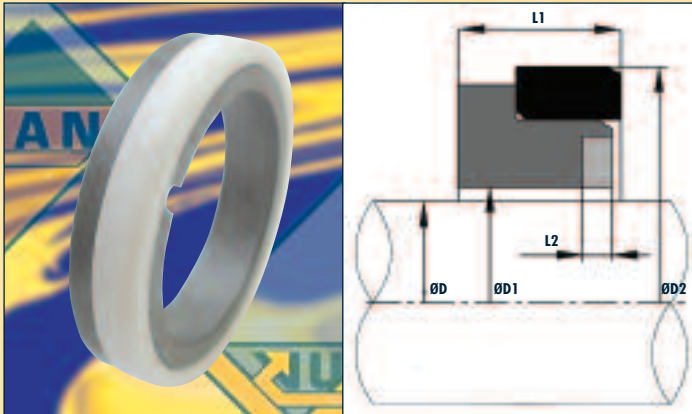
## VULCAN STANDARD SIZES

| Inch Shaft Size D | Size Code | D1    | D2    | D3     | Gasket Thick |
|-------------------|-----------|-------|-------|--------|--------------|
| 0.750             | 0191      | 21.60 | 34.80 | 44.45  | 1.60         |
| 0.875             | 0222      | 24.75 | 37.95 | 47.65  | 1.60         |
| 1.000             | 0254      | 27.95 | 41.15 | 50.80  | 1.60         |
| 1.125             | 0286      | 31.10 | 44.30 | 53.95  | 1.60         |
| 1.187             | 0300      | 32.70 | 45.90 | 55.55  | 1.60         |
| 1.250             | 0317      | 34.30 | 47.50 | 57.15  | 1.60         |
| 1.375             | 0349      | 37.45 | 50.65 | 60.30  | 1.60         |
| 1.500             | 0381      | 40.65 | 57.00 | 66.65  | 1.60         |
| 1.625             | 0412      | 43.80 | 60.15 | 69.85  | 1.60         |
| 1.750             | 0444      | 47.00 | 63.35 | 76.20  | 1.60         |
| 1.875             | 0476      | 50.15 | 66.50 | 79.35  | 1.60         |
| 2.000             | 0508      | 53.35 | 69.70 | 82.55  | 1.60         |
| 2.125             | 0539      | 56.50 | 72.85 | 88.90  | 1.60         |
| 2.250             | 0571      | 59.70 | 76.05 | 92.05  | 1.60         |
| 2.375             | 0603      | 62.85 | 79.20 | 95.25  | 1.60         |
| 2.500             | 0635      | 66.00 | 82.40 | 101.50 | 1.60         |
| 2.625             | 0666      | 69.20 | 85.60 | 104.75 | 1.60         |
| 3.000             | 0762      | 78.00 | 93.50 | 121.00 | 1.60         |



The Type 27 seat is an industry standard stationary design with 'L' shape profile, supplied complete with two off PTFE gaskets. Commonly used with multiple-spring balanced seals.

# TYPE 23



'L'-shaped seat that seals to the housing by the P.T.F.E ring supplied. The design provides for use of an anti-rotation pin (recommended).

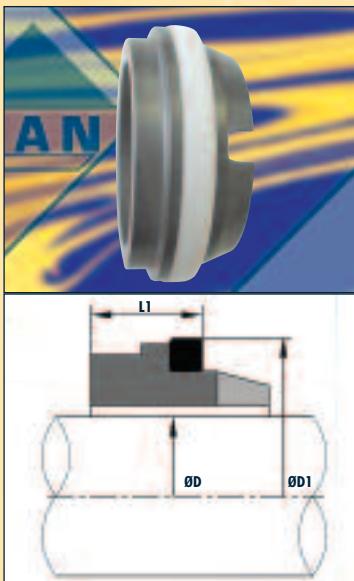
The P.T.F.E ring allows easy installation and helps the seat align, whilst providing exceptional chemical resistance.

## VULCAN TYPE 23

| Shaft Size DØ |        | D1     |       | D2     |       | L1     |       | L2     |       |
|---------------|--------|--------|-------|--------|-------|--------|-------|--------|-------|
| Inch          | Metric | Metric | Inch  | Metric | Inch  | Metric | Inch  | Metric | Inch  |
| 2.375         | 60.33  | 61.93  | 2.438 | 82.55  | 3.250 | 14.30  | 0.563 | 3.50   | 0.138 |
| 2.500         | 63.50  | 65.00  | 2.559 | 85.73  | 3.375 | 14.30  | 0.563 | 3.50   | 0.138 |
| 2.625         | 66.68  | 68.18  | 2.684 | 85.73  | 3.375 | 15.90  | 0.626 | 3.50   | 0.138 |
| 2.750         | 69.85  | 71.35  | 2.809 | 88.90  | 3.500 | 15.90  | 0.626 | 3.50   | 0.138 |
| 2.875         | 73.03  | 74.53  | 2.934 | 95.25  | 3.750 | 15.90  | 0.626 | 3.50   | 0.138 |
| 3.000         | 76.20  | 77.70  | 3.059 | 98.43  | 3.875 | 15.90  | 0.626 | 3.50   | 0.138 |
| 3.125         | 79.38  | 81.92  | 3.225 | 101.60 | 4.000 | 19.80  | 0.780 | 4.00   | 0.157 |
| 3.250         | 82.55  | 85.09  | 3.350 | 104.78 | 4.125 | 19.80  | 0.780 | 4.00   | 0.157 |
| 3.375         | 85.73  | 88.27  | 3.475 | 107.95 | 4.250 | 19.80  | 0.780 | 4.00   | 0.157 |
| 3.500         | 88.90  | 91.44  | 3.600 | 111.13 | 4.375 | 19.80  | 0.780 | 4.00   | 0.157 |
| 3.625         | 92.08  | 94.64  | 3.726 | 114.30 | 4.500 | 19.80  | 0.780 | 4.00   | 0.157 |
| 3.750         | 95.25  | 97.79  | 3.850 | 117.48 | 4.625 | 19.80  | 0.780 | 4.00   | 0.157 |
| 3.875         | 98.43  | 100.97 | 3.975 | 120.65 | 4.750 | 19.80  | 0.780 | 4.00   | 0.157 |
| 4.000         | 101.60 | 104.14 | 4.100 | 123.83 | 4.875 | 19.80  | 0.780 | 4.00   | 0.157 |

| Shaft Size DØ |        | D1     |       | D2     |       | L1     |       | L2     |       |
|---------------|--------|--------|-------|--------|-------|--------|-------|--------|-------|
| Inch          | Metric | Metric | Inch  | Metric | Inch  | Metric | Inch  | Metric | Inch  |
| 2.375         | 60.33  | 61.93  | 2.438 | 82.55  | 3.250 | 14.30  | 0.563 | 3.50   | 0.138 |
| 2.500         | 63.50  | 65.00  | 2.559 | 85.73  | 3.375 | 14.30  | 0.563 | 3.50   | 0.138 |
| 2.625         | 66.68  | 68.18  | 2.684 | 85.73  | 3.375 | 15.90  | 0.626 | 3.50   | 0.138 |
| 2.750         | 69.85  | 71.35  | 2.809 | 88.90  | 3.500 | 15.90  | 0.626 | 3.50   | 0.138 |
| 2.875         | 73.03  | 74.53  | 2.934 | 95.25  | 3.750 | 15.90  | 0.626 | 3.50   | 0.138 |
| 3.000         | 76.20  | 77.70  | 3.059 | 98.43  | 3.875 | 15.90  | 0.626 | 3.50   | 0.138 |
| 3.125         | 79.38  | 81.92  | 3.225 | 101.60 | 4.000 | 19.80  | 0.780 | 4.00   | 0.157 |
| 3.250         | 82.55  | 85.09  | 3.350 | 104.78 | 4.125 | 19.80  | 0.780 | 4.00   | 0.157 |
| 3.375         | 85.73  | 88.27  | 3.475 | 107.95 | 4.250 | 19.80  | 0.780 | 4.00   | 0.157 |
| 3.500         | 88.90  | 91.44  | 3.600 | 111.13 | 4.375 | 19.80  | 0.780 | 4.00   | 0.157 |
| 3.625         | 92.08  | 94.64  | 3.726 | 114.30 | 4.500 | 19.80  | 0.780 | 4.00   | 0.157 |
| 3.750         | 95.25  | 97.79  | 3.850 | 117.48 | 4.625 | 19.80  | 0.780 | 4.00   | 0.157 |
| 3.875         | 98.43  | 100.97 | 3.975 | 120.65 | 4.750 | 19.80  | 0.780 | 4.00   | 0.157 |
| 4.000         | 101.60 | 104.14 | 4.100 | 123.83 | 4.875 | 19.80  | 0.780 | 4.00   | 0.157 |

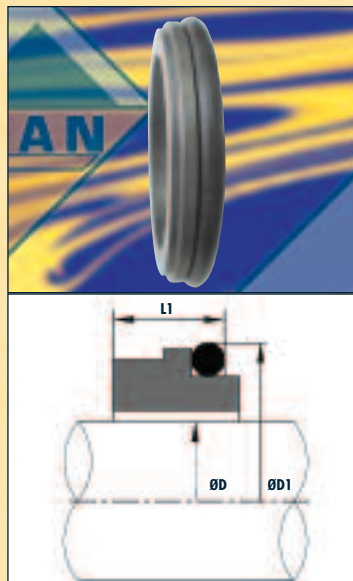
# TYPE 24



## TYPE 24 BEZL

DIN 24960 pinned seat designed to readily push fit, with a rectangular section seat ring in P.T.F.E. Pin diameter recommended is 3mm up to size 35mm and 4mm from 38mm to 100mm. Face profiled to accept a restraining bezel plate.

Dimension table overleaf



## TYPE 24 BEZS

DIN 24960 non-pinned short seat, designed to readily push fit. Seat is fitted with an elastomer 'O'-Ring, and the face is profiled to accept a restraining bezel plate.

Dimension table overleaf





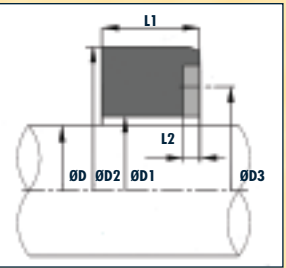
# TYPE 24 BEZL / BEZS

| Metric Shaft Size D | Size Code | D1    | L1    |
|---------------------|-----------|-------|-------|
| 20                  | 0200      | 35.00 | 13.50 |
| 22                  | 0220      | 37.00 | 13.50 |
| 24                  | 0240      | 39.00 | 13.50 |
| 25                  | 0250      | 40.00 | 13.00 |
| 28                  | 0280      | 43.00 | 12.50 |
| 30                  | 0300      | 45.00 | 12.00 |
| 32                  | 0320      | 48.00 | 12.00 |
| 33                  | 0330      | 48.00 | 12.00 |
| 35                  | 0350      | 50.00 | 12.00 |
| 38                  | 0380      | 56.00 | 13.00 |
| 40                  | 0400      | 58.00 | 13.00 |
| 43                  | 0430      | 61.00 | 13.00 |
| 45                  | 0450      | 63.00 | 13.00 |
| 48                  | 0480      | 65.00 | 13.00 |
| 50                  | 0500      | 70.00 | 13.50 |

| Metric Shaft Size D | Size Code | D1     | L1    |
|---------------------|-----------|--------|-------|
| 53                  | 0530      | 73.00  | 13.50 |
| 55                  | 0550      | 75.00  | 13.50 |
| 58                  | 0580      | 78.00  | 13.50 |
| 60                  | 0600      | 80.00  | 13.50 |
| 63                  | 0630      | 83.00  | 13.50 |
| 65                  | 0650      | 85.00  | 13.50 |
| 68                  | 0680      | 90.00  | 13.50 |
| 70                  | 0700      | 92.00  | 14.50 |
| 75                  | 0750      | 97.00  | 14.50 |
| 80                  | 0800      | 105.00 | 15.00 |
| 85                  | 0850      | 110.00 | 15.00 |
| 90                  | 0900      | 115.00 | 15.00 |
| 95                  | 0950      | 120.00 | 15.00 |
| 100                 | 1000      | 125.00 | 15.00 |

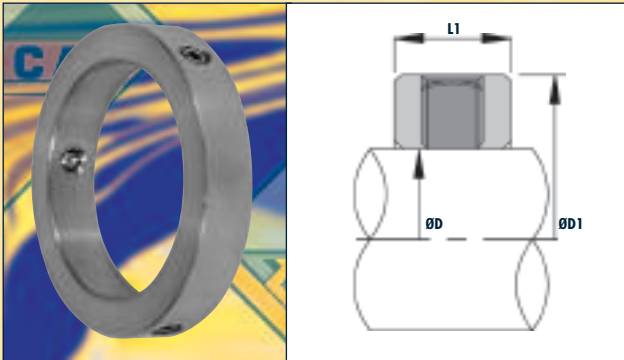
# TYPE 32

The Type 32 seat is an 'O'-Ring mounted seat suited for higher pressure applications. Easy fitting and good heat transfer, leading to enhanced performance are features of this design.



| Shaft Size DØ |        | D1     |       | D2     |       | D3 (slot PCD) |       | L1     |       | L2     |       | O-Ring |
|---------------|--------|--------|-------|--------|-------|---------------|-------|--------|-------|--------|-------|--------|
| Inch          | Metric | Metric | Inch  | Metric | Inch  | Metric        | Inch  | Metric | Inch  | Metric | Inch  | Size   |
| 0.500         | 12.70  | 13.80  | 0.543 | 25.30  | 0.996 | 19.80         | 0.780 | 7.90   | 0.311 | 2.50   | 0.098 | BS214  |
| 0.625         | 15.88  | 16.98  | 0.669 | 31.65  | 1.246 | 24.20         | 0.953 | 10.30  | 0.406 | 2.50   | 0.098 | BS215  |
| 0.750         | 19.05  | 20.15  | 0.793 | 34.82  | 1.371 | 27.75         | 1.093 | 10.30  | 0.406 | 2.50   | 0.098 | BS216  |
| 0.875         | 22.23  | 23.33  | 0.919 | 38.00  | 1.496 | 31.00         | 1.220 | 10.30  | 0.406 | 2.50   | 0.098 | BS217  |
| 1.000         | 25.40  | 26.50  | 1.043 | 41.18  | 1.621 | 34.10         | 1.343 | 11.15  | 0.439 | 2.50   | 0.098 | BS218  |
| 1.125         | 28.58  | 30.08  | 1.184 | 44.35  | 1.746 | 37.30         | 1.469 | 11.15  | 0.439 | 2.50   | 0.098 | BS219  |
| 1.250         | 31.75  | 33.25  | 1.309 | 47.53  | 1.871 | 40.50         | 1.594 | 11.15  | 0.439 | 2.50   | 0.098 | BS220  |
| 1.375         | 34.93  | 36.43  | 1.434 | 50.70  | 1.996 | 43.60         | 1.717 | 11.15  | 0.439 | 2.50   | 0.098 | BS221  |
| 1.500         | 38.10  | 39.60  | 1.559 | 53.88  | 2.121 | 46.80         | 1.843 | 11.15  | 0.439 | 2.50   | 0.098 | BS222  |
| 1.625         | 41.28  | 42.78  | 1.684 | 60.23  | 2.371 | 51.60         | 2.031 | 12.75  | 0.502 | 3.00   | 0.118 | BS223  |
| 1.750         | 44.45  | 45.95  | 1.809 | 63.40  | 2.496 | 54.80         | 2.157 | 12.75  | 0.502 | 3.00   | 0.118 | BS224  |
| 1.875         | 47.63  | 49.13  | 1.934 | 66.58  | 2.621 | 57.90         | 2.280 | 12.75  | 0.502 | 3.00   | 0.118 | BS225  |
| 2.000         | 50.80  | 52.30  | 2.059 | 69.75  | 2.746 | 61.10         | 2.406 | 12.75  | 0.502 | 3.00   | 0.118 | BS226  |
| 2.125         | 53.98  | 55.48  | 2.184 | 76.10  | 2.996 | 65.90         | 2.594 | 14.33  | 0.564 | 3.50   | 0.138 | BS227  |
| 2.250         | 57.15  | 58.65  | 2.309 | 79.28  | 3.121 | 69.00         | 2.717 | 14.33  | 0.564 | 3.50   | 0.138 | BS228  |
| 2.375         | 60.33  | 61.83  | 2.434 | 82.45  | 3.246 | 72.20         | 2.843 | 14.33  | 0.564 | 3.50   | 0.138 | BS229  |
| 2.500         | 63.50  | 65.00  | 2.559 | 85.63  | 3.371 | 75.40         | 2.969 | 14.33  | 0.564 | 3.50   | 0.138 | BS230  |
| 2.625         | 66.68  | 68.18  | 2.684 | 85.63  | 3.371 | 77.00         | 3.031 | 15.93  | 0.627 | 3.50   | 0.138 | BS231  |
| 2.750         | 69.85  | 71.35  | 2.809 | 88.80  | 3.496 | 80.20         | 3.157 | 15.93  | 0.627 | 3.50   | 0.138 | BS232  |
| 2.875         | 73.03  | 74.53  | 2.934 | 95.15  | 3.746 | 84.90         | 3.343 | 15.93  | 0.627 | 3.50   | 0.138 | BS233  |
| 3.000         | 76.20  | 77.70  | 3.059 | 98.33  | 3.871 | 88.10         | 3.469 | 15.93  | 0.627 | 3.50   | 0.138 | BS234  |
| 3.125         | 79.38  | 81.92  | 3.225 | 101.50 | 3.996 | 91.30         | 3.594 | 19.84  | 0.781 | 3.50   | 0.138 | BS235  |
| 3.250         | 82.55  | 85.09  | 3.350 | 104.68 | 4.121 | 94.40         | 3.717 | 19.84  | 0.781 | 3.50   | 0.138 | BS236  |
| 3.375         | 85.73  | 88.27  | 3.475 | 107.85 | 4.246 | 97.60         | 3.843 | 19.84  | 0.781 | 3.50   | 0.138 | BS237  |
| 3.500         | 88.90  | 91.44  | 3.600 | 111.03 | 4.371 | 100.80        | 3.969 | 19.84  | 0.781 | 3.50   | 0.138 | BS238  |
| 3.625         | 92.08  | 94.62  | 3.725 | 114.20 | 4.496 | 104.00        | 4.094 | 19.84  | 0.781 | 3.50   | 0.138 | BS239  |
| 3.750         | 95.25  | 97.79  | 3.850 | 117.38 | 4.621 | 107.10        | 4.217 | 19.84  | 0.781 | 3.50   | 0.138 | BS240  |
| 3.875         | 98.43  | 100.97 | 3.975 | 120.55 | 4.746 | 110.30        | 4.343 | 19.84  | 0.781 | 3.50   | 0.138 | BS241  |
| 4.000         | 101.60 | 104.14 | 4.100 | 123.73 | 4.871 | 113.50        | 4.469 | 19.84  | 0.781 | 3.50   | 0.138 | BS242  |

# VULCAN CLAMP RINGS



Stainless Steel, working length setting, Clamp Rings, available in all common imperial and metric shaft sizes. Standard thickness as shown, but other sizes and widths available to order. All fitted with three grub screws at 120° apart.

The Clamp Rings have a variety of uses, most particularly to set or amend seal housing depth to suit the preferred seal's working length.

## VULCAN STANDARD SIZES

| Shaft Size DØ |        |           | Shaft Size DØ |       |           | D1     |       | L1     |       |
|---------------|--------|-----------|---------------|-------|-----------|--------|-------|--------|-------|
| Inch          | Metric | Code Size | Metric        | Inch  | Code Size | Metric | Inch  | Metric | Inch  |
| 0.375         | 9.53   | 0095      | 10            | 0.394 | 0100      | 19.00  | 0.748 | 7.50   | 0.295 |
| 0.500         | 12.70  | 0127      | 12            | 0.472 | 0120      | 21.00  | 0.827 | 7.50   | 0.295 |
| -             | -      | -         | 14            | 0.551 | 0140      | 23.00  | 0.906 | 7.50   | 0.295 |
| -             | -      | -         | 15            | 0.591 | 0150      | 24.00  | 0.945 | 7.50   | 0.295 |
| 0.625         | 15.88  | 0158      | 16            | 0.630 | 0160      | 25.00  | 0.984 | 7.50   | 0.295 |
| 0.750         | 19.05  | 0191      | 18            | 0.709 | 0180      | 31.00  | 1.220 | 7.50   | 0.295 |
| -             | -      | -         | 20            | 0.787 | 0200      | 33.00  | 1.299 | 7.50   | 0.295 |
| 0.875         | 22.23  | 0222      | 22            | 0.866 | 0220      | 35.00  | 1.378 | 7.50   | 0.295 |
| -             | -      | -         | 24            | 0.945 | 0240      | 37.00  | 1.457 | 7.50   | 0.295 |
| 1.000         | 25.40  | 0254      | 25            | 0.984 | 0250      | 38.00  | 1.496 | 7.50   | 0.295 |
| 1.125         | 28.58  | 0286      | 28            | 1.102 | 0280      | 41.00  | 1.614 | 7.50   | 0.295 |
| -             | -      | -         | 30            | 1.181 | 0300      | 43.00  | 1.693 | 7.50   | 0.295 |
| 1.250         | 31.75  | 0317      | 32            | 1.260 | 0320      | 45.00  | 1.772 | 10.00  | 0.394 |
| -             | -      | -         | 33            | 1.299 | 0330      | 46.00  | 1.811 | 10.00  | 0.394 |
| 1.375         | 34.93  | 0349      | 35            | 1.378 | 0350      | 48.00  | 1.890 | 10.00  | 0.394 |
| 1.500         | 38.10  | 0381      | 38            | 1.496 | 0380      | 53.00  | 2.087 | 10.00  | 0.394 |
| 1.625         | 41.28  | 0412      | 40            | 1.575 | 0400      | 55.00  | 2.165 | 10.00  | 0.394 |
| -             | -      | -         | 43            | 1.693 | 0430      | 58.00  | 2.283 | 10.00  | 0.394 |
| 1.750         | 44.45  | 0444      | 45            | 1.772 | 0450      | 60.00  | 2.362 | 10.00  | 0.394 |
| 1.875         | 47.63  | 0476      | 48            | 1.890 | 0480      | 63.00  | 2.480 | 10.00  | 0.394 |
| 2.000         | 50.80  | 0508      | 50            | 1.969 | 0500      | 65.00  | 2.559 | 10.00  | 0.394 |
| 2.125         | 53.98  | 0539      | 53            | 2.087 | 0530      | 68.00  | 2.677 | 10.00  | 0.394 |
| 2.250         | 57.15  | 0571      | 55            | 2.165 | 0550      | 70.00  | 2.756 | 10.00  | 0.394 |
| -             | -      | -         | 58            | 2.283 | 0580      | 70.00  | 2.756 | 10.00  | 0.394 |
| 2.375         | 60.33  | 0603      | 60            | 2.362 | 0600      | 79.00  | 3.110 | 10.00  | 0.394 |
| 2.500         | 63.50  | 0635      | 63            | 2.480 | 0630      | 82.00  | 3.228 | 10.00  | 0.394 |
| 2.625         | 66.68  | 0666      | 65            | 2.559 | 0650      | 84.00  | 3.307 | 12.00  | 0.472 |
| -             | -      | -         | 68            | 2.677 | 0680      | 87.00  | 3.425 | 12.00  | 0.472 |
| 2.750         | 69.85  | 0698      | 70            | 2.756 | 0700      | 89.00  | 3.504 | 12.00  | 0.472 |
| 2.875         | 73.03  | 0730      | 73            | 2.874 | 0730      | 95.00  | 3.740 | 12.00  | 0.472 |
| 3.000         | 76.20  | 0762      | 75            | 2.953 | 0750      | 98.00  | 3.858 | 12.00  | 0.472 |
| 3.125         | 79.38  | 0794      | 80            | 3.150 | 0800      | 103.00 | 4.055 | 12.00  | 0.472 |
| 3.250         | 82.55  | 0826      | -             | -     | -         | 103.00 | 4.055 | 12.00  | 0.472 |
| 3.375         | 85.73  | 0857      | 85            | 3.346 | 0850      | 108.00 | 4.252 | 12.00  | 0.472 |
| 3.500         | 88.90  | 0889      | 90            | 3.543 | 0900      | 113.00 | 4.449 | 12.00  | 0.472 |
| 3.625         | 92.08  | 0921      | -             | -     | -         | 113.00 | 4.449 | 12.00  | 0.472 |
| 3.750         | 95.25  | 0953      | 95            | 3.740 | 0950      | 118.00 | 4.646 | 12.00  | 0.472 |
| 3.875         | 98.43  | 0984      | -             | -     | -         | 121.00 | 4.764 | 12.00  | 0.472 |
| 4.000         | 101.60 | 1016      | 100           | 3.937 | 1000      | 123.00 | 4.843 | 12.00  | 0.472 |

### STANDARD STOCK SEAT MATERIALS

304 Stainless Steel as standard

316 Stainless Steel and other metals available to order.



# FITTING INSTRUCTIONS

## FITTING INSTRUCTIONS FOR STANDARD ROTARY MECHANICAL SEALS; PLEASE OBSERVE THE FOLLOWING;

### EQUIPMENT CONDITION

- ◆ Check the condition of the equipment shaft and bearings for the following:
  - ◆ Shaft diameter is within tolerance +/- 0.05mm (+/- 0.002").
  - ◆ Shaft run out is less than 0.1mm (0.004") for shaft speeds up to and including 1800rev/min and less than 0.05mm (0.002") for shaft speeds greater than 1800 rev/min.
  - ◆ Shaft max. ovality (concentricity) +/- 0.025mm.
  - ◆ Shaft bearing clearances should not permit lateral axial movements exceeding 0.12mm i.e. Shaft End Float should be less than 0.12mm.
  - ◆ Shaft surface finish, should be a maximum of 0.3/0.6µRm.
  - ◆ Seat housing diameter tolerance should be within +/-0.05mm. Make sure the seat housing surfaces are free from damage or corrosion.

### PREPARATION

- ◆ There are no sharp edges, burns, scratches or corrosion where the seal must pass over. It is recommended that the shaft is chamfered at the end to aid assembly. A typical lead in of 2.5 X ten degree angle for seal sizes up to 63.5mm and 4 X ten degree angle for seal sizes over 63.5mm is satisfactory.
- ◆ Do not place face(s) down on any surface unless protected by clean cloth or paper.

Ensure that equipment operating conditions do not exceed the seal design parameters.

### INSTALLATION OF SEAL AND SEAT

- ◆ Extreme cleanliness and care is essential during installation. When ready to use, lay parts onto a clean flat surface and remove protective wrapping. Take care not to cut or damage any seal parts, as these can easily be damaged if mishandled.
- ◆ SEAT: Lightly lubricate the seat boot and housing with clean water, alcohol or other elastomer compatible liquid. Press fit the stationary seat into the gland plate and check the face is square to the gland plate face, utilizing a small hand press or pillar of a drilling machine if necessary. Protect the seat face first with a plastic material. Place onto the shaft the assembled gland plate and stationary seat.
- ◆ SEAL: Lightly lubricate the sleeve and the neck of the seal bellows with clean water or soft soap. Light oil may be used with elastomers, other than Ethylene Propylene (EP). Fitting with grease may prevent a bellows or diaphragm seal from gripping the shaft. Use grease, if you prefer, solely on 'O' Rings.
- ◆ Slide onto the shaft the rotary seal and set to the correct working length. If necessary, gently turning the seal as it slides (in a direction opposite to the direction of the coil, if the seal is a Conical Spring Seal). If the seal is fitted with grub-screws, tighten uniformly and lock with thread sealant, if considered desirable. Carefully clean both seal faces to remove all traces of grease.
- ◆ Assemble the equipment in the normal manner. Finally bolt the gland plate to the stuffing box in an even manner, to the correct necessary torque. Turn the shaft by hand to check that it will turn freely with no obstructions.

### ENSURE THAT THE EQUIPMENT IS PRIMED BEFORE START-UP

# SEAL IDENTIFICATION

## VULCAN WEB PORTAL

Vulcan have created and collated a vast array of seal identification information, all of which is contained on our Web Portals, which we establish for each of our partner customers.

The first half of the portal contains an entire on-line product enquiry, order and supply processing site. This sleek, easy to use, facility enables you to check stock and production due dates, on all Vulcan products, immediately see your nett quantity-related prices, contact us with enquiries and place orders. Orders are received electronically, automatically into Vulcan's system and this initiates an integrated, automated, electronic supply chain, of bar-coded product, moving through all of our processes to despatch. Customers can monitor their account and track all orders live on screen.

The second half of the Portal has been designed as a complete Technical and Commercial Data-base of all information on Vulcan, and its products. Our aim, in building this over many years, has been to provide our customers with instant answers or detail, on all common, possible commercial or technical questions.

The principal sections are;

- ◆ Commercial and Vulcan Information Section
- ◆ Mechanical Seals Product Section
- ◆ Encapsulated 'O' Rings Product Section
- ◆ Gland Packing Product Section
- ◆ Tefcan Expanded P.T.F.E Product Section
- ◆ New and Up-Dated Advice Section
- ◆ Help and Instructions Section

The Mechanical Seal Section has been developed to provide comprehensive information and support on all aspects of our seals and contains the following sections:-

- ◆ Introduction to Vulcan Seals
- ◆ Vulcan Seal Electronic Presentations
- ◆ Mechanical Seal Technical Suite
- ◆ Seal Material Compatibility Charts
- ◆ Seal and Seat Identification Data-Bases

Ready seal identification is vital for our customers and recognising this, Vulcan have focused heavily on creating the best suite of tools available, to assist. This Data-base section thus contains;

- ◆ In depth, seal/seat cross-reference charts to other manufacturers
- ◆ Comprehensive code cracker information on our main competitors
- ◆ A Vast Pump Model/Seal Search Engine
- ◆ A Unique Seal Identification Suite

This seal identification suite facility has been designed to enable rapid identification and specification of any common Standard Mechanical Seal. The process allows you to visually recognise any common seal/seat and then prompts you with advice, to check/stipulate what are the main critical dimensions or application details.

The suite is simply and logically laid out, in sections by seal design type, with photographs for easy recognition. Behind each photograph, there is extensive clear advice showing;

- ◆ What are the Main Types
- ◆ Tables of Dimensions
- ◆ What Dimensions are Crucial
- ◆ Our Codes and Competitor Codes
- ◆ Product Pump/Media Information
- ◆ Seal Material Recommendations
- ◆ Most Common Applications
- ◆ Features/Benefits of Vulcan's Design
- ◆ Vulcan Stock Enquiry Link

# EQUIVALENTS LISTING TO OTHER SEAL SUPPLIERS

| BURGMANN®          | VULCAN         | AES®      | VULCAN         | JOHN CRANE®        | VULCAN         | M.T.U.®            | VULCAN                      |
|--------------------|----------------|-----------|----------------|--------------------|----------------|--------------------|-----------------------------|
| BT-AR, BT-AR3      | Type 18        | N-B01     | Type 18        | 1 (USA)            | Type A5        | Europa 1           | Type 12.DIN                 |
| BT-FN              | Type 13        | N-B012    | Type 192       | 1A (UK)            | Type A1        | Europa 2           | Type 12                     |
| H7N                | Type 1678      | N-B013    | Type 193       | 2 (UK)             | Type A2        | Europa 4           | Type 8B                     |
| H12N or H17GN      | Type 82        | N-B02     | Type 19        | 2 (USA)            | Type A4        | FA                 | Type 18                     |
| HJ92               | Type 40S       | N-B03     | Type 70        | 4 (UK)             | Type 1644      | FG 1               | Type 19                     |
| M2                 | Type 9         | N-B03U    | Type 75        | 6A (USA)           | Type 75        | FG 2               | Type 192                    |
| M2N                | Type 9L        | N-B04     | Type 60        | 6A (UK)            | Type 70        | FG 3               | Type 193                    |
| M2N4               | Type 9S        | N-B04U    | Type 65        | 6D / 6J            | Type 66        | FP/D               | Type 24                     |
| M3                 | Type 8B        | N-B05     | Type 14DIN     | 8-1                | Type 1609S     | FP/T35             | Type 11                     |
| M3N                | Type 8.DIN     | N-B052    | Type 142DIN    | 8-1T               | Type 1645S     | SIMPLEX            | Type 13                     |
| M3N4               | Type 8S        | N-B053    | Type 143DIN    | 8B1                | Type 1609BS    | SIMPLEX DIN        | Type 13.DIN                 |
| M32                | Type 8         | N-B07     | Type 1724      | 8B1T               | Type 1645BS    | TIPO 1 Seat        | Type 19B                    |
| M32N               | Type 8.DIN     | N-BP02    | Type 1520      | 9                  | Type 1609      | TIPO 2 Seat        | Type 8.DINS                 |
| M32N4              | Type 8S        | N-BP04    | Type 1511      | 9T                 | Type 1645      |                    |                             |
| M37                | Type 8         | N-BP05    | Type 1522      | 9BT                | Type 1645B     |                    |                             |
| M37N               | Type 8.DIN     | N-C01     | Type CLAM      | 21                 | Type 11        |                    |                             |
| M37N4              | Type 8S        | N-M01     | Type 1609      | 58B                | Type 1659BS    |                    |                             |
| M37G               | Type 8         | N-M01S    | Type 1609S     | 58U                | Type 1659S     | Roten® 2           | Type 12                     |
| M37GN              | Type 8.DIN     | N-M02     | Type 1609B     | 59B                | Type 1659B     | Roten® 3           | Type 13                     |
| M37GN4             | Type 8S        | N-M02S    | Type 1609BS    | 59U                | Type 1659      | Roten® 4           | Type 12 with<br>FEPs fitted |
| M377S6             | Type 8W        | N-M03     | Type 1659      | 80                 | Type 1688      |                    | Type 7 with<br>FEPs fitted  |
| M7N                | Type 1677      | N-M03S    | Type 1659S     | 87                 | Type 1682      | Roten® 45          | Type 7                      |
| M74 or H74         | Consult Vulcan | N-M04     | Type 1659B     | 106 (USA)          | Type 65        |                    | Type 7B                     |
| MG1                | Type 19        | N-M04S    | Type 1659BS    | 106 (UK)           | Type 60        | Roten® 5           | Type 1688U                  |
| MG12               | Type 192       | N-M05     | Type 1645      | 109                | Type 1609      | Roten® 5H2         | Type 40U                    |
| MG13               | Type 193       | N-M05S    | Type 1645S     | 109B               | Type 1609B     | Roten® 7K          | Type 12.DIN                 |
| MG1S/20            | Type 1520      | N-M06     | Type 1645B     | 502                | Type 1724      | Roten® EHS         | Type 13.DIN                 |
| MG1S               | Consult Vulcan | N-M06S    | Type 1645BS    | 521                | Type 24        | Uniten® 2          | Type 12.DIN                 |
| MG901              | Type 22        | N-M07     | Type 50        | 2100 K             | Type 142       | Uniten® 3          | FEPs fitted                 |
| MG910              | Type 10        | N-P01     | Type 10        | 2100 N             | Type 143       | Uniten® 4          | Type 7D with<br>FEPs fitted |
| MG912              | Type 24        | N-P01U    | Type A1        | 2100 S             | Type 14        |                    | Type 7D                     |
| MG913              | Type 143       | N-P02     | Type 20        | 502                | Type 1724      | Uniten® 5          | Type 135                    |
| MG920              | Type 20        | N-P02U    | Type A2        | 521                | Type 24        | Uniten® 5K         | Type 1688L                  |
| MG921              | Type 11        | N-P03     | Type 24        |                    |                | Uniten® 7K         | Type 40L                    |
|                    |                | N-P04     | Type 11        | <b>SEATS ONLY;</b> |                | Uniten® EHS        |                             |
|                    |                | N-P04U    | Type A4        | A                  | Type 23        |                    |                             |
|                    |                | N-P05     | Type 22        | BC                 | Type 24.BEZS   | <b>ROTEN® UK</b>   | <b>VULCAN</b>               |
| <b>SEATS ONLY;</b> |                | N-P05U    | Type A5        | BD                 | Type 24.BEZL   | 16                 | Type 65                     |
| G1 or G2           | Consult Vulcan | N-P06     | Type 26        | BO                 | Type 24.DINS   | 21                 | Type 20                     |
| G4                 | Type 8.STD     | N-P07     | Consult Vulcan | BP                 | Type 24.DINL   | 21A                | Type 11                     |
| G6                 | Type 8.DINS    | N-P08     | Type 95        | BS                 | Type 24.TDP    | 37                 | Type 26                     |
| G7 & G8            | Type 8.BEZ     | N-P080    | Type 98        | DF                 | Type 1688      | 41                 | Type 28                     |
| G9                 | Type 8.DINL    | N-P09     | Type 94        | EL/EJ              | Type 1682      | 51                 | Type 10                     |
| G13                | Type 8B seat   | N-S01     | Type 8.STD     | FH                 | Type STAL      | 51A                | Type 22                     |
| G15 or G115        | Consult Vulcan | N-S02     | Type 8.DINL    | H                  | Type 34        | 52                 | Type 24                     |
| G16                | Consult Vulcan | N-S03     | Type 8.DINS    | J                  | Type 33        | 68                 | Type 75                     |
| G30                | Consult Vulcan | N-S04     | Type 24 STAT   | L                  | Type 27        |                    |                             |
| G46                | Type 24.DINL   | N-S040    | Type 19B STAT  | M                  | Type 19B       |                    |                             |
| G50                | Type 20 seat   | N-S05     | Type 24.DINL   | N/NG               | Type 20 seat   | <b>TEKHNISEAL®</b> | <b>VULCAN</b>               |
| G55                | Type 11 seat   | N-S06     | Type 24.DINS   | P/PP/PG            | Type 32        | 100                | Type 10                     |
| G60                | Type 19B       | N-S07     | Type 21 STAT   | V                  | Type 25        | 200                | Type 20                     |
| G61                | Type 24 seat   | N-S070    | Type 31 STAT   | W/WM               | Type 21        | 304                | Type 26                     |
|                    |                | N-S08     | Type 25 STAT   | X                  | Type 1644 seat | 400                | Type 12                     |
| <b>EAGLE®</b>      | <b>VULCAN</b>  | N-S09     | Type 23        | Y                  | Type 36        | 402                | Type 13                     |
| 15M5               | Type 97        | N-T01     | Type 8         | Z                  | Type 20 seat   | 404                | Type 13.DIN                 |
| 1505               | Type 97        | N-T01.DIN | Type 8B        |                    |                | 406                | Type 12.DIN                 |
|                    |                | N-T02     | Type 12        | <b>FLEXIBOX®</b>   | <b>VULCAN</b>  | 500                | Type 24                     |
|                    |                | N-T03     | Type 12.DIN    | R00                | Type 95        | 552                | Type 24                     |
|                    |                | N-T03.DIN | Type 13        | R10                | Type 96        | 600                | Type 65                     |
|                    |                | N-T04     | Type 13.DIN    | R20                | Type 97        | 700                | Type 75                     |
|                    |                | N-T04.DIN | Type 06 Range  | R30                | Type 95N       | 800                | Type 11                     |
| <b>PILLAR®</b>     | <b>VULCAN</b>  | N-W01     | Type 1688      | R40                | Type 96N       | 900                | Type 22                     |
| CCU                | Type 98        | N-W02     | Type 1688L     | R50                | Type 97N       |                    |                             |
| CGU                | Type 97        | N-W03     | Type 1688W     |                    |                |                    |                             |
| US-1               | Type 98        | N-W04     | Type 1688Y     |                    |                |                    |                             |
| US-2               | Type 97        | N-W07D    | Type 1677      |                    |                |                    |                             |
| US-3               | Type 97        |           |                |                    |                |                    |                             |

For a more comprehensive and upto date listings please see the comparison sheet on your customer web portal. All information contained in this table is supplied in good faith and was considered correct at the time of going to press. However, VEL cannot guarantee that using this information will always result in an entirely suitable replacement, especially as specifications can change.



# COMMON USA SEAL CODES TO VULCAN X REFERENCE LIST

| USA    | VULCAN CODE      | USA    | VULCAN CODE      | USA   | VULCAN CODE       | USA    | VULCAN CODE      |
|--------|------------------|--------|------------------|-------|-------------------|--------|------------------|
| 100    | SPSR15           | 264    | 0317.A5J.N.F     | 378V  | 0381.11.V.C.      | 535    | 0444.A5J.N.F     |
| 101    | 0191.M65D.N.C.   | 265    | 0191.11J.N.F     | 380   | 0254.M11.N.C.     | 537    | 0539.A5.N.C.     |
| 102    | 0158.11.N.C.     | 267    | 0508.11.N.C.     | 380V  | 0254.M11.V.C.     | 538    | 0476.MA5.N.C.    |
| 102V   | 0158.11.V.C.     | 267V   | 0508.11.V.C.     | 381   | 0317.11.N.C.      | 539    | 0254.22.N.C.     |
| 106    | 0127.11.N.C.     | 268    | 0603.11J.N.F     | 381V  | 0317.11.V.C.      | 542    | 0666.A5J.N.F     |
| 108N   | 0317.MA5.O.C.    | 269    | 0635.11J.N.F     | 382   | 0381.11.N.C.      | 542 21 | 0666.22J.N.F     |
| 109    | 0158.11.N.C.SEAL | 270    | 0730.11J.N.F     | 383   | 0317.11.N.C.      | 543    | 0539.11.N.C.     |
| 112    | 0191.11B.N.C.    | 274    | 0158.A5.N.C.     | 383V  | 0317.11.V.C.      | 543V   | 0539.11.V.C.     |
| 112V   | 0191.11B.V.C.    | 275    | 0191.A5.N.C.     | 384   | 0286.A5.N.C.      | 544    | 0412.11J.N.F     |
| 116    | 0191.11C.N.C.    | 278    | 0603.A5J.N.F     | 384V  | 0286.A5.V.C.      | 546    | 0317.A5J.N.F     |
| 127    | 0269.11.N.C.     | 278 21 | 0603.22J.N.F     | 394   | 0317.A5J.N.F      | 547    | 0349.A5J.N.F     |
| 128    | 0191.M11.N.C.    | 279    | 0635.A5J.N.F     | 395   | 0381.A5J.N.F      | 548    | 0254.11J.N.C.    |
| 137    | 0317.A5.N.C.     | 279 21 | 0635.22J.N.F     | 397   | 0254.11.N.C.SEAL  | 550    | 0444.11J.N.F     |
| 137V   | 0317.A5.V.C.     | 282    | 0286.22J.N.F     | 397V  | 0254.11.V.C.SEAL  | 552    | 0158.11J.N.F     |
| 142    | 0127.70T.N.C.    | 282 21 | 0286.22J.N.F     | 398   | 0254.M11.V.C.     | 553    | 0381.11J.N.F     |
| 144    | 0222.11U.N.F     | 283    | 0381.11.N.C.     | 399   | 0191.11.N.C.SEAL  | 554    | 0476.MA5U.N.F    |
| 147    | 0444.11.N.C.SEAL | 288    | 0444.11.N.C.     | 400   | 0127.M11.N.C.SEAL | 555    | 0444.MA5.N.C.    |
| 150    | 0127.70.N.C.SEAL | 288V   | 0444.11.V.C.     | 401   | 0127.11.N.C.SEAL  | 557    | 0254.A5J.N.F     |
| 153    | 0158.M65B.N.C.   | 290    | 0158.11.N.C.     | 401A  | 0127.11B.N.C.     | 564    | 0191.A5.N.C.SEAL |
| 153V   | 0158.M65B.V.C.   | 290V   | 0158.11.V.C.     | 402   | 0317.11B.N.C.     | 578    | 0222.11.N.C.SEAL |
| 154    | 0317.11.N.C.SEAL | 292    | 0381.M11B.N.C.   | 409   | 0158.D73.N.C.     | 584    | 0286.A5J.N.F     |
| 157    | 0191.11.N.C.SEAL | 298    | 0127.65.N.C.SEAL | 416   | 0317.11.N.C.SEAL  | 586    | 0476.A5J.N.F     |
| 159N   | 0254.THKT.O.F    | 299    | 0158.65.N.C.SEAL | 425   | 0158.M65.N.C.     | 588    | 0286.11J.N.F     |
| 162    | 0127.65.N.C.     | 300    | 0158.65.N.C.     | 436   | 0444.11J.N.F      | 593    | 0476.11.N.C.     |
| 163    | 0127.70.N.C.     | 300V   | 0158.65.V.C.     | 436V  | 0444.11J.V.F      | 593V   | 0476.11.V.C.     |
| 164    | 0127.D73.N.C.    | 303    | 0222.11.N.C.     | 440   | 0191.C73.N.C.     | 594    | 0603.11J.N.F     |
| 165    | 0127.D73.N.C.    | 303V   | 0222.11.V.C.     | 445   | 0508.11.N.C.      | 595    | 0412.A5J.N.F     |
| 168    | 0127.N11T.N.C.   | 305    | 0381.A5.N.C.     | 445V  | 0508.11.V.C.      | 597    | 0317.11B.N.C.    |
| 172    | 0349.11.N.C.SEAL | 305V   | 0381.A5.V.C.     | 446   | 0444.11.N.C.      | 598    | 0317.11V.N.F     |
| 172 52 | 0349.A5.N.C.SEAL | 309    | 0222.11.N.C.     | 446V  | 0444.11.V.C.      | 601    | 0191.75.N.C.     |
| 177    | 0349.11.N.C.     | 309V   | 0222.11.V.C.     | 447   | 0158.73.N.C.      | 601SS  | W-0191.75.N.C.   |
| 177V   | 0349.11.V.C.     | 312    | 0476.11J.N.F     | 447V  | 0158.73.V.Q.      | 601V   | 0191.75.N.C.     |
| 185    | 0317.11.N.C.     | 314    | 0381.A5U.N.Q.    | 448   | 0444.11.N.C.      | 604    | 0286.11J.N.F     |
| 185V   | 0317.11.V.C.     | 316    | 0381.A5U.N.Q.    | 453   | 0158.73.N.C.      | 605    | 0286.11.N.C.     |
| 186    | 0349.11.N.C.     | 317    | 0444.A5B.N.C.    | 458   | 0412.MA5.N.C.     | 605V   | 0286.11.V.C.     |
| 186V   | 0349.11.V.C.     | 319    | 0508.A5U.N.Q.    | 460   | 0254.M11.N.C.     | 606    | 0191.75B.N.C.    |
| 188    | 0222.A5.N.C.     | 320    | 0381.11B.N.C.    | 460V  | 0254.M11.V.C.     | 607    | 0286.A5U.N.F     |
| 188V   | 0222.A5.V.C.     | 321    | 0698.22J.N.F     | 461   | 0412.11.N.C.      | 608    | 0286.A5U.N.F     |
| 192    | 0349.M11J.O.F    | 323    | 0571.A5J.N.F     | 461V  | 0412.11.V.C.      | 609    | 0412.A5B.N.C.    |
| 193N   | 0508.11J.O.F     | 324    | 0762.22J.N.F     | 462   | 0508.11.N.C.      | 609V   | 0412.A5B.N.C.    |
| 196    | 0508.11.N.C.SEAL | 326    | 0317.M11U.N.Q.   | 462V  | 0508.11.V.C.      | 610    | 0412.A5B.N.C.    |
| 200    | 0158.65.N.C.     | 327    | 0539.A5J.N.F     | 463   | 0635.11J.N.F      | 610V*  | 0412.A5B.V.C.    |
| 200A   | 0158.75E.N.C.    | 328    | 0666.A5J.N.F     | 463V  | 0635.11J.V.F      | 617    | 0222.11J.N.F     |
| 200V   | 0158.65.V.C.     | 328 21 | 0666.22J.N.F     | 464   | 0698.11J.N.F      | 618    | 0317.11J.N.F     |
| 201    | 0191.65.N.C.     | 329    | 0730.22J.N.F     | 465   | 0762.11J.N.F      | 628    | 0158.65E.N.C.    |
| 201V   | 0191.65.V.C.     | 332    | 0568.11J.N.F     | 466   | 0317.11C.N.C.     | 631    | 0127.11.N.C.     |
| 204    | 0286.A5.N.C.     | 334    | 0365.11.N.C.     | 466V* | 0317.11C.V.C.     | 632    | 0127.11T.N.C.    |
| 204V   | 0286.A5.V.C.     | 336    | 0539.11.N.C.     | 468   | 0635.11U.N.F      | 633    | 0158.11B.N.C.    |
| 205    | 0444.A5.N.C.     | 338    | 0539.11J.N.F     | 469   | 0635.11U.N.F      | 633V   | 0158.11B.N.C.    |
| 205V   | 0444.A5.V.C.     | 340    | 0476.11.N.C.     | 471   | 0158.11.N.C.      | 637    | 0158.65J.N.F     |
| 207    | 0191.11C.N.C.    | 342N   | 0508.A5J.O.F     | 472   | 0317.11.N.C.      | 642    | 457805           |
| 208    | 0222.11.N.C.SEAL | 344    | 0286.11.N.C.     | 474   | 0158.11B.N.C.     | 647    | 0191.75.N.C.SEAL |
| 210    | 0349.11.N.C.     | 346    | 0412.A5B.N.C.    | 475   | 0762.22J.N.F      | 659    | 0381.11.N.C.     |
| 210V   | 0349.11.V.C.     | 347    | 0381.11.N.C.     | 477   | 0476.A5J.N.F      | 659V   | 0381.11.V.C.     |
| 218    | 0158.65.N.C.SEAL | 347V*  | 0381.11.V.C.     | 477V  | 0476.A5J.V.F      | 666    | 0127.N11T.N.C.   |
| 223    | 0476.11.N.C.SEAL | 348    | 0286.11.N.C.SEAL | 478   | 0508.MA5U.N.F     | 677    | 0349.22.N.C.     |
| 224    | 0381.A5J.O.F     | 349    | 0635.A5J.N.F     | 479   | 0508.A5.N.C.      | 677V   | 0349.22.V.C.     |
| 227    | 0254.M11B.N.C.   | 349 21 | 0635.22J.N.F     | 483   | 0698.11J.N.F      | 682    | 0381.11C.N.C.    |
| 229    | 0222.A5J.N.F     | 349V   | 0635.A5J.V.F     | 484   | 0412.A5B.N.C.     | 687    | 0222.11.N.C.     |
| 235    | 0254.11.N.C.     | 350    | 0603.A5J.N.F     | 485   | 0158.A5C.N.C.     | 687V   | 0222.11.V.C.     |
| 235V   | 0254.11.V.C.     | 350 21 | 0603.22J.N.F     | 486   | 0158.A5D.N.C.     | 695N   | 0254.A5C.O.F     |
| 236    | 0254.A5.N.C.     | 351    | 0571.A5.N.C.     | 487   | 0158.A5B.N.C.     | 703    | 0222.11.N.C.     |
| 236 21 | 0254.A5.V.C.     | 351V   | 0571.A5.V.C.     | 491   | 0349.11.N.C.      | 703V   | 0222.11.V.C.     |
| 236V   | 0254.A5.V.C.     | 353    | 0539.A5J.N.F     | 491V  | 0349.11.V.C.      | 712    | 0158.75U.N.Q.    |
| 237    | 0444.11.N.C.     | 354    | 0349.22.N.C.     | 492   | 0603.11J.N.F      | 714    | 0158.75U.N.Q.    |
| 237V   | 0444.11.V.C.     | 354V   | 0349.22.V.C.     | 499   | 0254.11J.N.C.     | 715    | 0158.75U.N.Q.    |
| 238    | 0412.11.N.C.     | 355    | 0286.11.N.C.     | 501   | 0158.M65.N.C.     | 732    | 0158.11U.N.Q.    |
| 238V   | 0412.11.V.C.     | 355V   | 0286.11.V.C.     | 501V  | 0158.M65.V.C.     | 734    | 0158.11U.N.Q.    |
| 239    | 0412.11.N.C.     | 356    | 0286.11.N.C.     | 506   | 0127.65T.N.C.     | 735    | 0158.11.N.C.     |
| 239V   | 0412.11.V.C.     | 356V   | 0286.11.V.C.     | 507   | 0158.65B.N.C.     | 738    | 0158.A5J.N.F     |
| 245    | 0254.11.N.C.     | 357    | 0254.11.N.C.     | 507V  | 0158.65B.N.C.     | 739    | 0158.A5J.N.F     |
| 245V   | 0254.11.V.C.     | 357V   | 0254.11.V.C.     | 508   | 0158.11.N.C.      | 744    | 0412.A5.N.C.     |
| 246    | 0317.11.N.C.     | 358    | 0191.11.N.C.     | 508V  | 0158.11.V.C.      | 744V   | 0412.A5.V.C.     |
| 246V   | 0317.11.V.C.     | 358V   | 0191.11.V.C.     | 510   | 0317.11C.N.C.     | 745    | 0412.A5.N.C.     |
| 247    | 0381.11C.N.C.    | 359    | 0158.11.N.C.     | 513   | 0476.A5.N.C.      | 745V   | 0412.A5.V.C.     |
| 248    | 0254.11.N.C.     | 359V   | 0158.11.V.C.     | 513V  | 0476.A5.V.C.      | 746    | 0412.A5.N.C.     |
| 248V   | 0254.11.V.C.     | 360    | 0254.65.N.C.     | 514   | 0412.11.N.C.      | 747    | 0412.A5.N.C.     |
| 249    | 0317.11.N.C.     | 360V   | 0254.65.V.C.     | 514V  | 0412.11.V.C.      | 750    | 0191.11.N.C.     |
| 249V   | 0317.11.V.C.     | 361    | 0317.A5.N.C.     | 515   | 0381.A5V.N.F      | 750V   | 0191.11.V.C.     |
| 250    | 0222.11J.N.F     | 361V   | 0317.A5.V.C.     | 516   | 0158.65.N.C.      | 752    | 0191.75B.N.C.    |
| 251    | 0254.N11.N.C.    | 366    | 0444.A5.N.C.     | 517   | 0317.11J.N.F      | 752V   | 0191.75B.N.C.    |
| 252    | 0254.M11J.N.F    | 366V   | 0444.A5.V.C.     | 518   | 0158.65D.N.C.     | 754    | 0254.A5.N.C.     |
| 253    | 0286.M11.N.C.    | 370    | 0254.65.N.C.     | 519   | 0444.MA5J.N.F     | 754V   | 0254.A5.V.C.     |
| 254    | 0286.11J.N.F     | 371    | 0381.11.N.C.     | 523   | 0476.A5.N.C.      | 756    | 0317.11.N.C.     |
| 257    | 0349.MA5.N.C.    | 371V   | 0381.11.V.C.     | 524   | 0158.65B.N.C.     | 756V   | 0317.11.V.C.     |
| 258    | 0381.A5J.N.F     | 373    | 0191.A5B.N.C.    | 525   | 0317.11J.N.F      | 758    | 0381.11.N.C.     |
| 258 21 | 0381.22J.N.F     | 374    | 0381.A5.N.C.     | 529   | 0286.11J.N.F      | 758V   | 0381.11.V.C.     |
| 259    | 0381.11J.N.F     | 374V   | 0381.A5.V.C.     | 530   | 05086.A5J.N.F     | 760    | 0191.M65J.N.F    |
| 262    | 0444.A5J.N.F     | 376    | 0349.11.N.C.SEAL | 532   | 0508.11J.N.F      | 761    | 0762.11J.N.F     |
|        |                  | 378    | 0381.11.N.C.     | 534   | 0381.11J.N.F      | 762    | 0191.165J.N.F    |



# COMMON USA SEAL CODES TO VULCAN X REFERENCE LIST

| USA  | VULCAN CODE       | USA   | VULCAN CODE      | USA   | VULCAN CODE      | USA   | VULCAN CODE      |
|------|-------------------|-------|------------------|-------|------------------|-------|------------------|
| 764  | 0191.L65.N.C      | 942   | 0571.11.N.C.SEAL | 1183  | 0317.A5J.N.C     | 2045  | 0349.11.N.C      |
| 765  | 0191.75.N.C       | 946   | 0476.MA5V.N.F    | 1184  | 0317.A5J.N.C     | 2046  | 0349.11.N.C      |
| 766  | 0191.75.N.C       | 947   | 0381.NA5V.N.F    | 1185  | 0317.MA5.O.C     | 2047  | 0349.11J.N.C     |
| 767  | 0191.11J.N.F      | 949   | 0476.MA5V.N.F    | 1186  | 0317.A5C.N.C     | 2048  | 0349.11J.N.C     |
| 768  | 0191.11J.N.C      | 950   | 0381.NA5V.N.F    | 1189  | 0381.11B.N.C     | 2049  | 0349.22.N.C      |
| 769  | 0191.11J.N.F      | 952   | 0158.M65.N.C     | 1190  | 0381.A5.N.C      | 2050  | 0349.22.N.C      |
| 771  | 0191.A5J.N.F      | 954   | 0158.M65B.N.C    | 1191  | 0381.A5.N.C      | 2051  | 0381.A4.N.C      |
| 773  | 0191.A5J.N.F      | 961   | 0158.75.N.C      | 1192  | 0381.A5J.N.F     | 2052  | 0381.A4.N.C      |
| 774  | 0222.11J.N.F      | 964   | 0158.75B.N.C     | 1196  | 0444.A5.N.C      | 2053  | 0381.A4J.N.F     |
| 775  | 0222.11J.N.F      | 973   | 0191.65B.N.C     | 1199  | 0444.A5J.N.F     | 2054  | 0381.A4J.N.F     |
| 776  | 0222.A5J.N.F      | 974   | 0191.65.N.C.SEAL | 1510  | 0191.11D.N.C     | 2055  | 0412.A4.N.C      |
| 777  | 0254.65.N.C       | 975   | 0254.65.N.C.SEAL | 1514  | 0191.11C.N.C     | 2056  | 0412.A4.N.C      |
| 778  | 0254.65.N.C       | 976   | 0317.20B.N.C     | 1522  | 0191.65.N.C.SEAL | 2057  | 0412.A5.N.C      |
| 779  | 0254.A5.N.C       | 977   | 0317.20B.N.C     | 1608  | 0476.11.N.C      | 2058  | 0412.A5.N.C      |
| 786  | 0317.11.N.C       | 978   | 0317.20B.N.C     | 1609  | 0508.11B.N.C     | 2059  | 0444.11.N.C      |
| 788  | 0127.75C.N.C      | 979   | 0317.20B.N.C     | 1617  | 0539.A5J.N.F     | 2060  | 0444.11.N.C      |
| 789  | 0254.M11J.N.F     | 980   | 0158.11.N.C      | 1620  | 0476.11J.N.F     | 2061  | 0444.11J.N.F     |
| 791  | 0254.A5J.N.F      | 981   | 0317.A4J.N.F     | 1636  | 0286.A5V.N.F     | 2062  | 0444.11J.N.F     |
| 801  | 0286.11J.N.F      | 982   | 0254.22.N.C      | 1636V | 0286.A5V.V.F     | 2065  | 0476.11.N.C      |
| 802  | 0286.11J.N.F      | 983   | 0286.M22.N.C     | 1637  | 0286.A5V.N.F     | 2066  | 0476.11.N.C      |
| 804  | 0317.11J.N.F      | 1000  | 0158.75.N.C      | 1637V | 0286.A5V.V.F     | 2067  | 0476.11J.N.F     |
| 805  | 0349.11J.N.C      | 1000V | 0158.75.V.C      | 1638  | 0286.A5V.N.F     | 2068  | 0476.11J.N.F     |
| 806  | 0349.11J.N.C      | 1002  | 0127.11.N.C      | 1638V | 0286.A5V.V.F     | 2069  | 0476.A5.N.C      |
| 807  | 0349.A5J.N.F      | 1002V | 0127.11.V.C      | 1639  | 0286.A5V.N.F     | 2070  | 0476.A5.N.C      |
| 808  | 0349.22J.N.C      | 1013  | SPT112           | 1639V | 0286.A5V.V.F     | 2071  | 0476.A5J.N.F     |
| 809  | 0349.22J.N.C      | 1014  | 0254.65.V.C      | 1644  | 0381.A5J.V.F     | 2072  | 0476.A5J.N.F     |
| 816  | 0381.11J.N.F      | 1015  | 0317.A5.N.C.SEAL | 1645  | 0381.A5J.V.F     | 2073  | 0508.11.N.C      |
| 817  | 0381.11J.N.F      | 1017  | 0508.22.N.C      | 1654  | 0476.A5J.N.F     | 2074  | 0508.11.N.C      |
| 818  | 0412.11J.N.F      | 1018  | 0317.11W.N.F     | 1656  | 0476.A5J.N.F     | 2075  | 0508.11J.N.F     |
| 819  | 0412.11J.N.F      | 1021  | 0158.73.N.C      | 1657  | 0476.A5J.N.F     | 2076  | 0508.11J.N.F     |
| 821  | 0412.11J.N.F      | 1023  | 0254.M11.N.C     | 1659V | 0476.NA51.V.F    | 2077  | 0508.A5.N.C      |
| 822  | 0412.A5J.N.F      | 1024  | 0191.70.N.C.SEAL | 1660V | 0476.NA51.V.F    | 2078  | 0508.A5.N.C      |
| 825  | 0444.11J.N.F      | 1030  | 0254.A5J.N.F     | 1666  | 0539.A5J.N.F     | 2079  | 0508.A5J.N.F     |
| 826  | 0444.11J.N.F      | 1031  | 0444.A5J.N.F     | 1667  | 0349.22.N.C      | 2084  | 0539.A5.N.C      |
| 827  | 0476.11J.N.F      | 1031V | 0444.A5J.V.F     | 1674  | 0444.22.N.C      | 2085  | 0539.A5.N.C      |
| 828  | 0476.11.N.C       | 1031V | 0444.22J.V.F     | 1676  | 0571.11J.N.F     | 2086  | 0539.A5J.N.F     |
| 829  | 0476.MA5V.N.F     | 1032  | 0444.A5.N.C      | 1678  | 0571.11J.N.F     | 2087  | 0539.11.N.C      |
| 831  | 0476.MA5V.N.F     | 1033  | 0444.A5J.N.F     | 1679  | 0571.11.N.C      | 2087  | 0571.11.N.C      |
| 832  | 0508.11J.N.F      | 1042  | 0444.A5.N.C      | 1680  | 0571.11.N.C      | 2088  | 0571.11.N.C      |
| 833  | 0508.11J.N.F      | 1042  | 0444.22.N.C      | 1683  | 0412.A5J.N.F     | 2089  | 0539.11J.N.F     |
| 834  | 0603.11J.N.F      | 1046  | 0254.M11.N.C     | 1684  | 0444.A5U.N.F     | 2089  | 0571.11J.N.F     |
| 835  | 0635.11J.N.F      | 1047  | 0317.A4.V.C      | 1685  | 0508.A5J.N.F     | 2090  | 0539.11J.N.F     |
| 836  | 0698.11J.N.F      | 1050  | 0127.11.N.C.SEAL | 1686  | 0539.11J.N.F     | 2090  | 0571.11J.N.F     |
| 837  | 0698.A4J.N.F      | 1053V | 0317.11J.V.C     | 1687  | 0539.11J.N.F     | 2091  | 0571.A5.N.C      |
| 838  | 0698.22J.N.F      | 1057  | 0539.11J.N.F     | 1688  | 0571.A5J.N.F     | 2092  | 0571.A5.N.C      |
| 839  | 0730.11J.N.F      | 1057V | 0539.11J.V.F     | 1696  | 0762.11.N.C.SEAL | 2093  | 0539.11J.N.F     |
| 841  | 0730.22J.N.F      | 1058  | 0635.11.V.C.SEAL | 1697  | 0412.A4J.N.C     | 2094  | 0571.A5J.N.F     |
| 842  | 0508.11.N.C       | 1058V | 0635.11J.V.F     | 1698  | 0412.A4J.N.C     | 2097  | 0603.A5J.N.F     |
| 843  | 0508.A5.N.C       | 1059  | 0762.22J.N.F     | 1699  | 0412.A5J.N.F     | 2098  | 0603.A5J.N.F     |
| 844  | 0539.11B.N.C      | 1059V | 0762.22J.V.F     | 2000  | 0158.A4.N.C      | 2098V | 0603.A5J.V.F     |
| 846  | 0571.11J.N.F      | 1060  | 0762.MA5.N.C     | 2001  | 0158.A4.N.C      | 2101  | 0635.A5J.N.F     |
| 847  | 0571.11J.N.F      | 1060V | 0762.MA5.V.C     | 2002  | 0158.A4J.N.C     | 2101V | 0635.A5J.V.F     |
| 848  | 0571.A5J.N.F      | 1066  | 0158.11J.N.F     | 2003  | 0158.A4J.N.C     | 2102  | 0539.11J.N.F     |
| 849  | 0571.A5J.N.F      | 1067  | 0286.A5.N.C      | 2004  | 0158.A4C.N.C     | 2103  | 0286.A5.N.C.SEAL |
| 850  | 0127.11D.N.C      | 1079  | 0158.11.O.C      | 2005  | 0158.A4C.N.C     | 2104  | 0349.22.N.C.SEAL |
| 851  | 0191.65.N.C       | 1080  | 0158.11.O.C      | 2006  | 0158.A4V.N.F     | 2105  | 0381.11.N.C.SEAL |
| 853  | 0635.11J.N.F      | 1081  | 0317.11.O.C      | 2007  | 0158.A4D.N.C     | 2106  | 0381.A5.N.C.SEAL |
| 854  | 0539.11H.N.Q      | 1082  | 0317.11.O.C      | 2008  | 0191.A4.N.C      | 2107  | 0412.11.N.C.SEAL |
| 855  | 0539.11H.N.C      | 1083  | 0317.22.O.C      | 2009  | 0191.A4.N.C      | 2108  | 0444.11.N.C.SEAL |
| 856  | 0539.A5H.N.Q      | 1084  | 0317.22.O.C      | 2010  | 0191.A4J.N.C     | 2109  | 0444.A5.N.C.SEAL |
| 857  | 0539.A5H.N.C      | 1085  | 0158.M11.N.C     | 2011  | 0191.A4J.N.C     | 2110  | 0476.A5.N.C.SEAL |
| 858  | 0444.NA5J.N.F     | 1085V | 0158.M11.N.C     | 2012  | 0191.A5.N.C      | 2111  | 0508.11.N.C.SEAL |
| 859  | 0444.NA5J.N.F     | 1097  | 0476.11.N.C      | 2013  | 0191.A5.N.C      | 2112  | 0508.A5.N.C.SEAL |
| 864  | 0349.M22J.N.F     | 1109  | 0317.22J.N.F     | 2014  | 0191.A5J.N.C     | 2113  | 0571.A5.N.C.SEAL |
| 865  | 0349.M22J.N.F     | 1110  | 0381.22J.N.F     | 2015  | 0191.A5J.N.C     | 2114  | 0476.11J.N.F     |
| 866  | 0286.MA5J.N.F     | 1125  | 0191.P11.N.C     | 2016  | 0158.A5.N.C      | 2115  | 0762.11J.N.F     |
| 867  | 0286.MA5J.N.F     | 1128  | 0317.MA4J.N.F    | 2017  | 0158.A5.N.C      | 2116  | 0762.11J.N.F     |
| 874  | 0571.11.N.C       | 1130  | 0191.MA4.O.F     | 2018  | 0158.A5J.N.F     | 2117  | 0381.11B.N.C     |
| 876  | 0508.11J.N.F      | 1131  | 0286.A4.O.F      | 2019  | 0158.A5J.N.F     | 2120  | 0635.11.N.C      |
| 877  | 0191.N11.N.C      | 1132  | 0349.MA4C.O.F    | 2020  | 0158.A5C.N.C     | 2122  | 0317.A4.N.C      |
| 877V | 0191.N11.N.C      | 1136  | 0317.A4.N.C      | 2021  | 0158.A5C.N.C     | 2123  | 0317.A4.N.C      |
| 882  | 0158.N65.N.C.SEAL | 11410 | 0365.89.V.S      | 2022  | 0158.A5V.N.F     | 2124  | 0698.11J.O.F     |
| 885  | 0286.A5J.N.F      | 1145  | 0508.11J.N.F     | 2023  | 0158.A5D.N.C     | 2127  | 0381.A4J.V.F     |
| 898  | 0476.MA5U.N.F     | 1149  | 0127.E73.N.C     | 2024  | 0222.A4.N.C      | 2131  | 0158.65.N.C.SEAL |
| 899  | 0381.MA5J.N.F     | 1152  | 0158.75.N.C      | 2025  | 0222.A4.N.C      | 2133  | 0508.22.N.C      |
| 905  | 0191.11U.N.F      | 1156  | 0158.11.N.C      | 2026  | 0222.A4J.N.C     | 2134  | 0349.22.N.C      |
| 908  | 0191.011.N.C      | 1160  | 0191.11.N.C      | 2027  | 0222.A4J.N.C     | 2135  | 0444.22.N.C      |
| 912  | 0254.A5D.N.C      | 1164  | 0254.65.N.C      | 2028  | 0222.A5.N.C      | 2137  | 0381.11C.N.C     |
| 916  | 0635.A5J.V.F      | 1165  | 0254.A5.N.C      | 2029  | 0222.A5.N.C      | 2142  | 0444.22.N.C      |
| 921  | 0191.N65.N.C      | 1166  | 0254.A5.N.C      | 2030  | 0222.A5J.N.C     | 2145  | 0254.11U.N.F     |
| 926  | 0381.11V.N.F      | 1168  | 0286.A5.N.C      | 2031  | 0222.A5J.N.C     | 2150  | 0444.22J.N.F     |
| 930  | 0127.11.N.C.SEAL  | 1169  | 0286.A5.N.C      | 2032  | 0254.A4.N.C      | 2151  | 0444.22J.N.F     |
| 933  | 0158.11.N.C.SEAL  | 1170  | 0286.A5B.N.C     | 2033  | 0254.A4J.N.F     | 2151V | 0444.22J.V.F     |
| 935  | 0222.A5.N.C       | 1171  | 0286.A5B.N.C     | 2034  | 0254.A4J.N.F     | 2152  | 0698.11J.N.F     |
| 935V | 0222.A5.V.C       | 1172  | 0286.A5V.N.F     | 2035  | 0254.A5.N.C      | 2160  | 0158.N11.N.C     |
| 936  | 0222.A5.N.C       | 1173  | 0286.A5V.N.F     | 2036  | 0254.A5.N.C      | 2161  | 0158.75V.N.C     |
| 937  | 0254.A5.N.C.SEAL  | 1174  | 0286.A5.N.C      | 2041  | 0317.A4.N.C      | 12519 | 0635.A5.N.C.SEAL |
| 939  | 0381.11.N.C.SEAL  | 1175  | 0286.A5.N.C      | 2042  | 0317.A4.N.C      | 12520 | 0635.M5.V.H      |
| 941  | 0571.11.N.C       | 1181  | 0317.A5.N.C      | 2043  | 0317.A4J.N.F     | 32517 | 0635.M5.V.H      |
| 941V | 0571.11.V.C       | 1182  | 0317.A5.N.C      | 2044  | 0317.A4J.N.F     | 80702 | 0191.75.N.C.SEAL |



# MECHANICAL SEAL REFURBISHMENT

Vulcan's Seal Repair Facility is a dedicated unit specialising in the repair or replacement of all makes and types of Mechanical Seals and associated components.

- Our comprehensive service offers the following significant advantages:



## Price

- Vulcan quote and price based upon the work to be done rather than the industry norm of a set percentage of new.
- In-house production of faces from raw powder and new components in volume provide cost savings and rapid service.
- Vulcan repair customers thus pay industry leading fair prices, without skimping or sacrifice to Quality, Repair Process and Detail.



## Quality

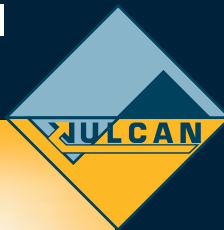
- All components manufactured by NB Vulcan are to ISO9001, whilst Vulcan Engineering Limited supplies to ISO9002.
- The refurbishment of each seal assembly is carefully controlled by Process and Job Specification Sheets, which are provided to you upon quotation and delivery.
- Vulcan are dedicated to providing a quality "as new" repair. All seals are pressure tested, upon request on order.



## Service

- Same day repair service, when necessary and technically possible.
- Fast service is the norm backed by extensive stocks of materials, components and replacement new seals.
- Total commitment to customer service.





# VULCAN

## **Vulcan Vertical Integration.**

In-house production, of all Vulcan Seals and most materials, gives us absolute Cost and Quality Control. This degree of vertical integration, with in-house production of materials as well as components, puts Vulcan ahead of our competitors.

## **Vulcan Production.**

Modern, often automated machinery, continually assessed and updated, ensure cost efficient, volume production of quality components.

## **Vulcan Seal Engineering Solutions.**

Design improvements and advanced seal engineering detail are built into each Vulcan seal, by our three seal design departments.

## **Vulcan Materials.**

Exceptional materials, specified and fitted as standard, are a vital, integral part of our policy of solely producing seals that give long-lasting, high performance.

## **Vulcan Inspection.**

Extensive and intensive electronic inspection systems, document and control all stages of production and final inspection.

## **Vulcan Means Quality and Reliability Assured.**

Manufactured to ISO9001, electronically distributed to ISO.9001.2000 with a Quality Comes First Standard. Vulcan System, is designed to electronically assure Quality and Reliability.

## **Vulcan Electronic Distribution.**

Product is distributed to over fifty countries world-wide from our Sheffield Head Quarters, with electronic, computer assisted, automation at all stages from inspection to final supply.

## **Vulcan; The Real Full Monty**

Our philosophy is to be The World's Leading Single Spring Seal Manufacturer; by continuing to offer an Unbeatable combination of Product, Quality, Price and Service.

## **UNBEATABLE RANGE**

Vulcan produce and stock the widest range of unbalanced seals, of any seal company in the world.

## **UNBEATABLE STOCKS**

Practically every type and size of seal shown in this brochure, in all standard elastomer and face combinations, are available from stock.

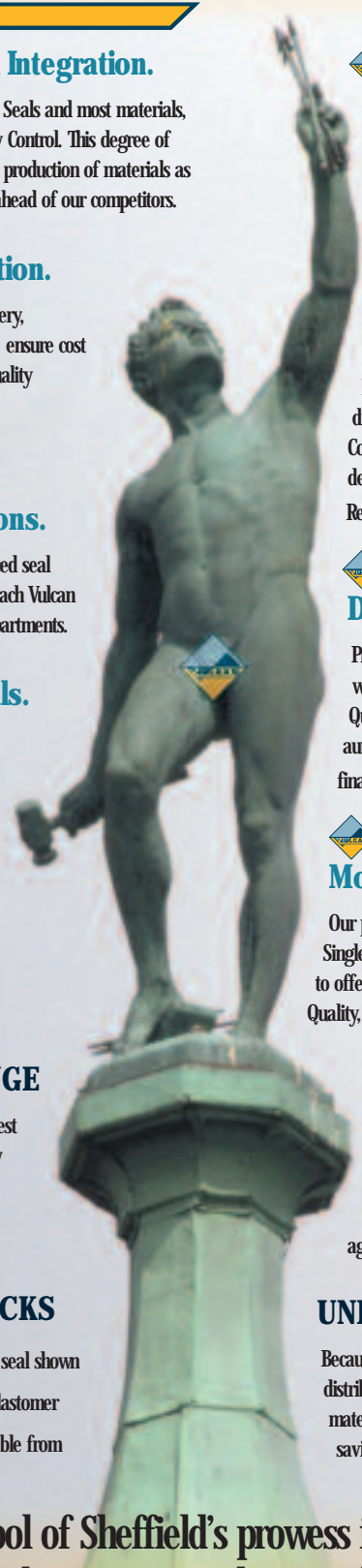
## **UNBEATABLE SERVICE**

Our stocks are constantly available to view live on our web-site. We routinely despatch same-day, with an over 99.5% ex-stock assurance and performance, against our extensive stock policy range.

## **UNBEATABLE PRICES**

Because we efficiently manufacture and distribute all of our seals and most of our materials, Vulcan offer the greatest true cost savings in the industry.

**Vulcan, the symbol of Sheffield's prowess in metal engineering, is a four metre, bronze statue that stands sixty metres high atop Sheffield's City Hall.**







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