



NINGBO HUAQIU INDUSTRY AND TRADE CO.,LTD

*NingBo HuaQiang Mechanical Seal Factory*



## 2025 HQ Catalogue 2-A

(Cartridge and Metal Bellow Seals)

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# DESCRIPTION

|                                                                                                                                                     |             |
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| Seat Series.....                                                                                                                                    | Catalogue-4 |
| Mixer and Agitator,Kettle,Desulfurization,Slurry Seals,Nozzle,Rotary Joint.....                                                                     | Catalogue-5 |



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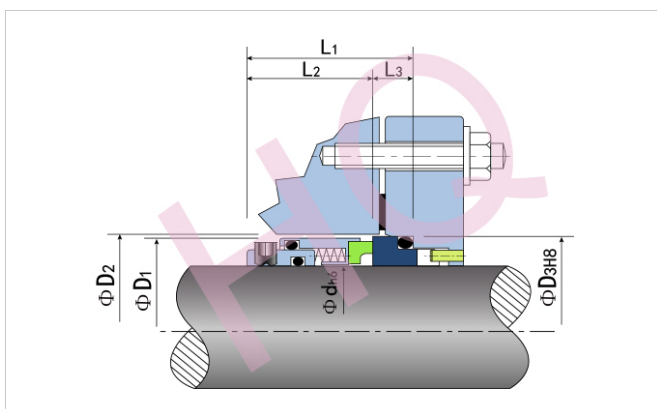
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# HQCS-A50(DIN SAI)

Type: Internal Balanced  
Mechanical Seal  
Replacement: AES DIN SAI  
Temperature: -40°C to +200  
Pressure:  $\leq 1.1\text{Mpa}$   
Speed:  $\leq 15\text{m/s}$   
Material: B,P,E,V,K,G,F,G



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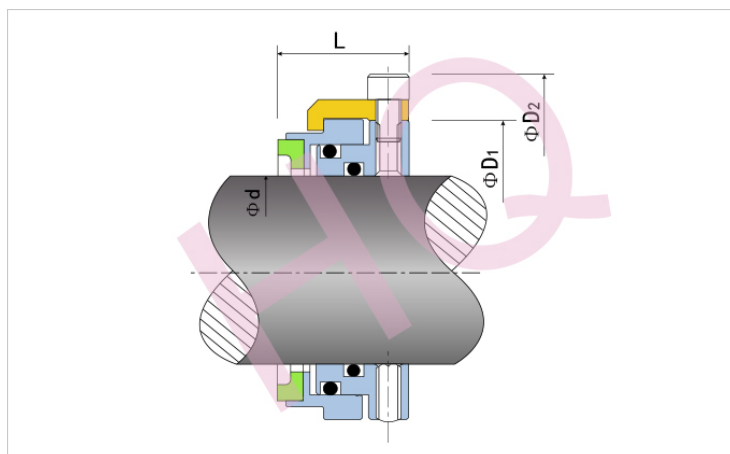


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| d   | D1<br>(Max) | D2<br>(Min) | D3  | L1<br>(+/-0.5) | L2   | L3   |
|-----|-------------|-------------|-----|----------------|------|------|
| 18  | 32          | 34          | 33  | 37.5           | 27.9 | 9.6  |
| 20  | 34          | 36          | 35  | 37.5           | 27.9 | 9.6  |
| 22  | 36          | 28          | 37  | 37.5           | 27.9 | 9.6  |
| 24  | 38          | 40          | 39  | 40.0           | 29.9 | 10.1 |
| 25  | 39          | 41          | 40  | 40.0           | 29.9 | 10.1 |
| 28  | 42          | 44          | 43  | 42.5           | 32.4 | 10.1 |
| 30  | 44          | 46          | 45  | 42.5           | 32.4 | 10.1 |
| 32  | 46          | 48          | 48  | 42.5           | 32.4 | 10.1 |
| 33  | 47          | 49          | 48  | 42.5           | 32.4 | 10.1 |
| 35  | 49          | 51          | 50  | 42.5           | 32.4 | 10.1 |
| 38  | 54          | 58          | 56  | 45.0           | 33.9 | 11.1 |
| 40  | 56          | 60          | 58  | 45.0           | 33.9 | 11.1 |
| 43  | 59          | 63          | 61  | 45.0           | 33.9 | 11.1 |
| 45  | 61          | 65          | 63  | 45.0           | 33.9 | 11.1 |
| 48  | 64          | 68          | 66  | 45.0           | 33.9 | 11.1 |
| 50  | 66          | 70          | 70  | 47.5           | 34.4 | 13.1 |
| 53  | 69          | 73          | 73  | 47.5           | 34.4 | 13.1 |
| 55  | 71          | 75          | 75  | 47.5           | 34.4 | 13.1 |
| 58  | 78          | 83          | 78  | 52.5           | 38.9 | 13.6 |
| 60  | 80          | 85          | 80  | 52.5           | 38.9 | 13.6 |
| 63  | 83          | 88          | 83  | 52.5           | 38.9 | 13.6 |
| 65  | 85          | 90          | 85  | 52.5           | 38.9 | 13.6 |
| 68  | 88          | 93          | 90  | 52.5           | 37.4 | 15.1 |
| 70  | 90          | 95          | 92  | 60.0           | 44.9 | 15.1 |
| 75  | 99          | 104         | 97  | 60.0           | 44.9 | 15.1 |
| 80  | 104         | 109         | 105 | 60.0           | 44.2 | 15.8 |
| 85  | 109         | 114         | 110 | 60.0           | 44.2 | 15.8 |
| 90  | 114         | 119         | 115 | 65.0           | 49.2 | 15.8 |
| 95  | 119         | 124         | 120 | 65.0           | 49.2 | 15.8 |
| 100 | 124         | 129         | 125 | 65.0           | 49.2 | 15.8 |

# HQCS-A62(NCE)

Type: Non Chemical External seal  
 Replacement: AES NCE  
 Temperature: -40°C to +200°C  
 Pressure: 1.2Mpa  
 Speed:  $\leq 18\text{m/s}$   
 Material: B,P,E,V,K,G,F,G



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| d<br>(mm) | D1    | D2    | L    |  | d<br>(inch) | D1    | D2    | L     |
|-----------|-------|-------|------|--|-------------|-------|-------|-------|
| 24        | 46.6  | 66.5  | 27.8 |  | 1.000       | 1.834 | 2.618 | 1.096 |
| 25        | 47.6  | 67.5  | 27.8 |  | 1.125       | 1.992 | 2.776 | 1.096 |
| 28        | 50.6  | 70.5  | 27.8 |  | 1.250       | 2.070 | 2.854 | 1.096 |
| 30        | 50.6  | 70.5  | 27.8 |  | 1.375       | 2.187 | 2.971 | 1.096 |
| 32        | 52.6  | 72.5  | 27.8 |  | 1.500       | 2.510 | 3.294 | 1.125 |
| 33        | 55.5  | 75.4  | 27.8 |  | 1.625       | 2.510 | 3.294 | 1.125 |
| 35        | 55.5  | 75.4  | 27.8 |  | 1.750       | 3.636 | 3.420 | 1.125 |
| 38        | 63.8  | 83.7  | 28.6 |  | 1.875       | 2.760 | 3.544 | 1.125 |
| 40        | 63.8  | 83.7  | 28.6 |  | 2.000       | 2.886 | 3.670 | 1.087 |
| 43        | 67.0  | 86.9  | 28.6 |  | 2.125       | 3.014 | 3.798 | 1.087 |
| 45        | 67.0  | 86.9  | 28.6 |  | 2.250       | 3.139 | 3.922 | 1.087 |
| 48        | 73.3  | 93.2  | 27.6 |  | 2.375       | 3.264 | 4.048 | 1.087 |
| 50        | 73.3  | 93.2  | 27.6 |  | 2.500       | 3.388 | 4.172 | 1.087 |
| 53        | 76.6  | 96.5  | 27.6 |  | 2.625       | 3.556 | 4.340 | 1.250 |
| 55        | 76.6  | 96.5  | 27.6 |  | 2.750       | 3.681 | 4.465 | 1.250 |
| 58        | 82.9  | 102.8 | 27.6 |  | 2.875       | 3.806 | 4.590 | 1.250 |
| 60        | 82.9  | 102.8 | 27.6 |  | 3.000       | 3.931 | 4.715 | 1.250 |
| 63        | 86.1  | 106.0 | 27.6 |  | 3.125       | 4.056 | 4.840 | 1.250 |
| 65        | 90.3  | 110.2 | 31.7 |  | 3.250       | 4.181 | 4.965 | 1.250 |
| 68        | 93.5  | 113.4 | 31.7 |  | 3.375       | 4.306 | 5.090 | 1.250 |
| 70        | 93.5  | 113.4 | 31.7 |  | 3.500       | 4.431 | 5.215 | 1.250 |
| 75        | 99.8  | 119.7 | 31.7 |  | 3.625       | 4.556 | 5.340 | 1.250 |
| 80        | 103.0 | 122.9 | 31.7 |  | 3.750       | 4.681 | 5.465 | 1.250 |
| 85        | 109.4 | 129.3 | 31.7 |  | 3.875       | 4.806 | 5.590 | 1.250 |
| 90        | 115.7 | 135.6 | 31.7 |  | 4.000       | 4.931 | 5.715 | 1.250 |
| 95        | 118.9 | 138.8 | 31.7 |  |             |       |       |       |
| 100       | 125.2 | 145.1 | 31.7 |  |             |       |       |       |

# HQCS-51(CS)



Type: Single Cartridge Seals, Suit for EMU Pumps and MIXERS

Replacement: AES CS

Temperature: -40°C to +204°C

Pressure:  $\leq 1.1\text{Mpa}$

Speed:  $\leq 15\text{m/s}$

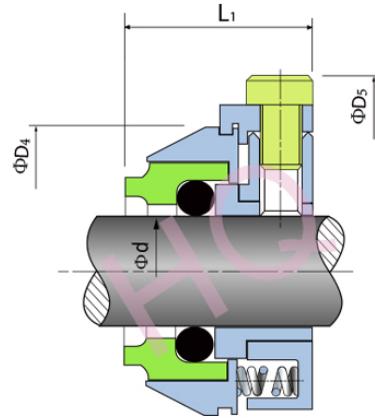
Material: B,P,E,V,K,G,F,G



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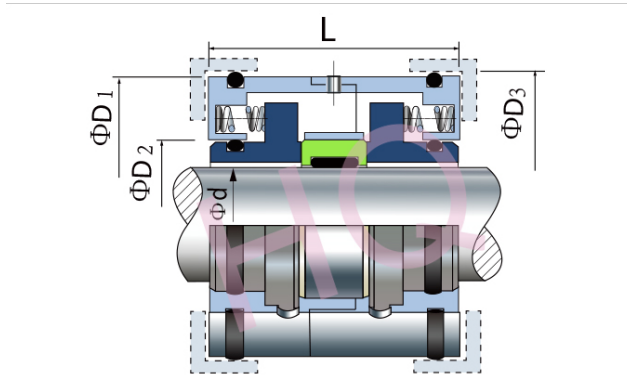
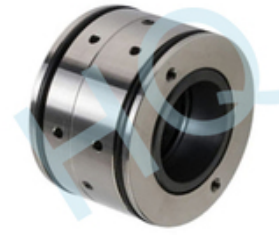


| d   | L1    | D4    | D5   |
|-----|-------|-------|------|
| 20  | 27.91 | 45.3  | 59.8 |
| 22  | 27.91 | 47.3  | 61.8 |
| 24  | 27.9  | 49.3  | 63.8 |
| 25  | 27.9  | 50.3  | 64.8 |
| 28  | 27.91 | 53.3  | 67.8 |
| 30  | 27.91 | 55.3  | 69.8 |
| 32  | 27.91 | 57.3  | 71.8 |
| 33  | 27.9  | 58.3  | 72.8 |
| 35  | 27.91 | 60.3  | 74.8 |
| 38  | 27.91 | 63.3  | 77.8 |
| 40  | 27.91 | 65.3  | 79.8 |
| 42  | 27.9  | 67.3  | 81.8 |
| 43  | 27.9  | 68.3  | 82.8 |
| 45  | 27.91 | 70.3  | 84.8 |
| 48  | 27.91 | 73.3  | 87.8 |
| 50  | 27.9  | 75.3  | 89.8 |
| 53  | 27.91 | 78.3  | 92.8 |
| 55  | 27.9  | 80.3  | 94.8 |
| 60  | 27.9  | 85.3  | 99.7 |
| 65  | 30.3  | 96.5  | 111  |
| 70  | 30.28 | 101.5 | 116  |
| 75  | 30.28 | 106.5 | 121  |
| 80  | 30.28 | 111.5 | 126  |
| 85  | 30.28 | 116.5 | 131  |
| 90  | 30.28 | 121.5 | 136  |
| 95  | 30.3  | 126.5 | 141  |
| 100 | 30.28 | 131.5 | 146  |

| d     | L1    | D4    | D5    |
|-------|-------|-------|-------|
| 0.625 | 1.098 | 1.622 | 2.192 |
| 0.75  | 1.098 | 1.747 | 2.317 |
| 0.875 | 1.098 | 1.872 | 2.442 |
| 1     | 1.098 | 1.997 | 2.567 |
| 1.125 | 1.098 | 2.122 | 2.692 |
| 1.25  | 1.098 | 2.247 | 2.817 |
| 1.375 | 1.098 | 2.372 | 2.942 |
| 1.5   | 1.098 | 2.497 | 3.067 |
| 1.625 | 1.098 | 2.622 | 3.192 |
| 1.75  | 1.098 | 2.747 | 3.317 |
| 1.875 | 1.098 | 2.872 | 3.442 |
| 2     | 1.098 | 2.997 | 3.567 |
| 2.125 | 1.098 | 3.122 | 3.692 |
| 2.25  | 1.098 | 3.247 | 3.817 |
| 2.375 | 1.098 | 3.372 | 3.942 |
| 2.5   | 1.098 | 3.497 | 4.067 |
| 2.625 | 1.192 | 3.866 | 4.436 |
| 2.75  | 1.192 | 3.991 | 4.561 |
| 2.875 | 1.192 | 4.116 | 4.686 |
| 3     | 1.192 | 4.241 | 4.811 |
| 3.125 | 1.192 | 4.366 | 4.936 |
| 3.25  | 1.192 | 4.491 | 5.061 |
| 3.375 | 1.192 | 4.616 | 5.186 |
| 3.5   | 1.192 | 4.741 | 5.311 |
| 3.625 | 1.192 | 4.866 | 5.436 |
| 3.75  | 1.192 | 4.991 | 5.561 |
| 3.875 | 1.192 | 5.116 | 5.686 |
| 4     | 1.192 | 5.241 | 5.811 |

| d (Inch) | L1    | D4    | D5    |
|----------|-------|-------|-------|
| 0.625    | 1.098 | 1.622 | 2.192 |
| 0.75     | 1.098 | 1.747 | 2.317 |
| 0.875    | 1.098 | 1.872 | 2.442 |
| 1        | 1.098 | 1.997 | 2.567 |
| 1.125    | 1.098 | 2.122 | 2.692 |
| 1.25     | 1.098 | 2.247 | 2.817 |
| 1.375    | 1.098 | 2.372 | 2.942 |
| 1.5      | 1.098 | 2.497 | 3.067 |
| 1.625    | 1.098 | 2.622 | 3.192 |
| 1.75     | 1.098 | 2.747 | 3.317 |
| 1.875    | 1.098 | 2.872 | 3.442 |
| 2        | 1.098 | 2.997 | 3.567 |
| 2.125    | 1.098 | 3.122 | 3.692 |
| 2.25     | 1.098 | 3.247 | 3.817 |
| 2.375    | 1.098 | 3.372 | 3.942 |
| 2.5      | 1.098 | 3.497 | 4.067 |
| 2.625    | 1.192 | 3.866 | 4.436 |
| 2.75     | 1.192 | 3.991 | 4.561 |
| 2.875    | 1.192 | 4.116 | 4.686 |
| 3        | 1.192 | 4.241 | 4.811 |
| 3.125    | 1.192 | 4.366 | 4.936 |
| 3.25     | 1.192 | 4.491 | 5.061 |
| 3.375    | 1.192 | 4.616 | 5.186 |
| 3.5      | 1.192 | 4.741 | 5.311 |
| 3.625    | 1.192 | 4.866 | 5.436 |
| 3.75     | 1.192 | 4.991 | 5.561 |
| 3.875    | 1.192 | 5.116 | 5.686 |
| 4        | 1.192 | 5.241 | 5.811 |

## HQCS-A52(1640)



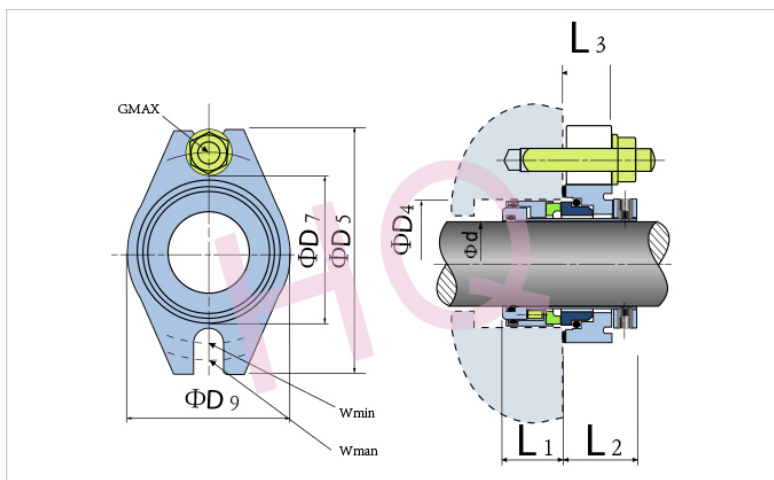
Type: Single Cartridge Seal, Suit for EMU Pumps and MIXERS  
 Replacement: AES 1640  
 Temperature: -40°C to +200°C  
 Pressure:  $\leq 1.2\text{Mpa}$   
 Speed:  $\leq 20\text{m/s}$   
 Material: B,P,E,V,K,G,F,G

| d<br>(mm) | Code | D3  | D2 | D1  | L  |
|-----------|------|-----|----|-----|----|
| 35        | 0.35 | 72  | 47 | 72  | 47 |
| 50        | 0.50 | 92  | 63 | 90  | 52 |
| 75        | 0.75 | 130 | 95 | 128 | 75 |

## HQCS-A53(CONVERTOR II)



Type: Single Cartridge Seal  
 Replacement: AES CONVERTOR II  
 Temperature: -20°C to +210°C  
 Pressure:  $\leq 2.5\text{Mpa}$   
 Speed:  $\leq 15\text{m/s}$   
 Material: Q1,Q2,U2,T,V,M1,F,G,M



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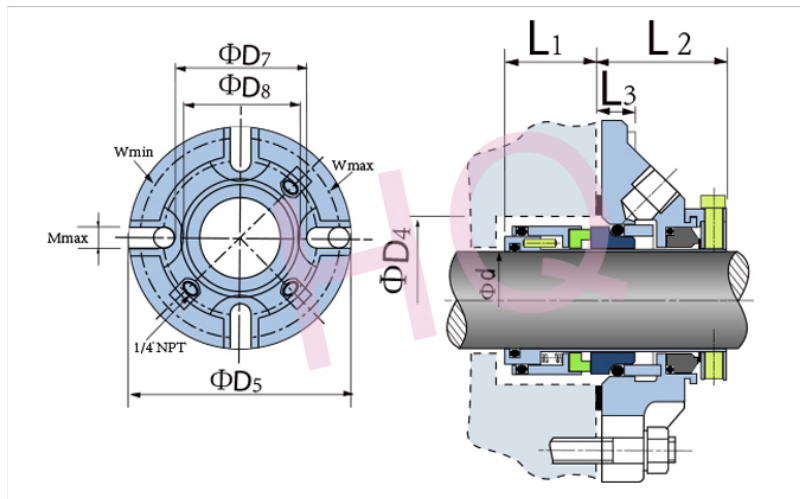
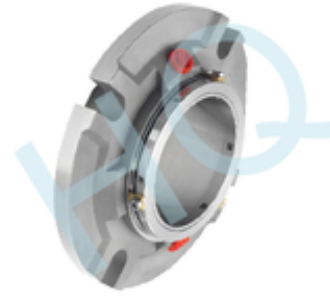
# HQCS-A53(CONVERTOR II)

| d<br>(mm) | D4    |       | D5    | D7    | D9    | W     |       | G  | L1   | L2   | L3   |
|-----------|-------|-------|-------|-------|-------|-------|-------|----|------|------|------|
|           | min   | max   |       |       |       | min   | max   |    |      |      |      |
| 24        | 40.0  | 48.0  | 101.6 | 55.6  | 56.1  | 69.9  | 88.9  | 12 | 28.6 | 31.8 | 20.7 |
| 25        | 41.0  | 48.0  | 101.6 | 55.6  | 56.1  | 69.9  | 88.9  | 12 | 28.6 | 31.8 | 20.7 |
| 28        | 44.0  | 50.0  | 104.8 | 58.8  | 59.3  | 73.1  | 92.1  | 12 | 28.6 | 31.8 | 20.7 |
| 30        | 46.0  | 54.0  | 108.0 | 61.9  | 62.4  | 76.2  | 95.3  | 12 | 28.6 | 31.8 | 20.7 |
| 32        | 48.0  | 54.0  | 108.0 | 61.9  | 62.4  | 76.2  | 95.3  | 12 | 28.6 | 31.8 | 20.7 |
| 33        | 49.0  | 55.0  | 108.0 | 61.9  | 62.4  | 76.2  | 95.3  | 12 | 28.6 | 31.8 | 20.7 |
| 35        | 51.0  | 59.0  | 108.0 | 66.7  | 67.2  | 81.0  | 95.3  | 12 | 28.6 | 31.8 | 20.7 |
| 38        | 57.2  | 62.0  | 114.3 | 71.5  | 72.0  | 85.8  | 101.6 | 12 | 28.6 | 33.4 | 22.3 |
| 40        | 58.0  | 64.0  | 114.3 | 71.5  | 72.0  | 85.8  | 101.6 | 12 | 28.6 | 33.4 | 22.3 |
| 43        | 61.0  | 67.0  | 120.7 | 74.6  | 75.1  | 88.9  | 108.0 | 12 | 28.6 | 33.4 | 22.3 |
| 45        | 63.5  | 69.0  | 127.0 | 77.8  | 78.3  | 92.1  | 114.3 | 12 | 30.2 | 35.0 | 23.8 |
| 48        | 66.7  | 72.0  | 133.4 | 81.0  | 81.5  | 95.3  | 120.7 | 12 | 30.2 | 35.0 | 23.8 |
| 50        | 68.0  | 74.0  | 133.4 | 81.0  | 81.5  | 95.3  | 120.7 | 12 | 30.2 | 35.0 | 23.8 |
| 53        | 71.0  | 77.0  | 139.7 | 84.2  | 84.7  | 101.6 | 123.9 | 16 | 30.2 | 36.5 | 25.4 |
| 55        | 74.0  | 79.0  | 146.1 | 87.3  | 87.8  | 104.8 | 130.2 | 16 | 30.2 | 36.5 | 25.4 |
| 58        | 79.4  | 85.7  | 165.1 | 95.3  | 98.9  | 115.9 | 146.0 | 20 | 30.2 | 36.5 | 25.4 |
| 60        | 79.4  | 85.7  | 165.1 | 95.3  | 98.9  | 115.9 | 146.0 | 20 | 30.2 | 36.5 | 25.4 |
| 63        | 85.8  | 101.6 | 177.8 | 111.2 | 121.2 | 131.8 | 158.7 | 20 | 28.6 | 41.2 | 25.4 |
| 65        | 88.9  | 101.6 | 177.8 | 111.2 | 121.2 | 131.8 | 158.7 | 20 | 28.6 | 41.2 | 25.4 |
| 68        | 92.1  | 101.6 | 177.8 | 111.2 | 121.2 | 131.8 | 158.7 | 20 | 28.6 | 41.2 | 25.4 |
| 70        | 92.1  | 101.6 | 177.8 | 111.2 | 121.2 | 131.8 | 158.7 | 20 | 28.6 | 41.2 | 25.4 |
| 75        | 98.5  | 114.3 | 190.5 | 125.4 | 130.7 | 146.1 | 171.4 | 20 | 30.2 | 50.8 | 31.7 |
| 80        | 101.6 | 114.3 | 190.5 | 125.4 | 130.7 | 146.1 | 171.4 | 20 | 30.2 | 50.8 | 31.7 |
| 85        | 108   | 123.8 | 203.2 | 135.0 | 140.2 | 155.6 | 184.1 | 20 | 30.2 | 50.8 | 31.7 |
| 90        | 114.3 | 133.3 | 215.9 | 144.5 | 149.7 | 165.1 | 196.8 | 20 | 30.2 | 50.8 | 31.7 |
| 95        | 117.5 | 133.3 | 215.9 | 144.5 | 149.7 | 165.1 | 196.8 | 20 | 30.2 | 50.8 | 31.7 |
| 100       | 123.9 | 139.7 | 228.6 | 154.0 | 156.1 | 174.7 | 209.5 | 20 | 30.2 | 50.8 | 31.7 |

| d     | D4    |       | D5    | D7    | D9    | W     |       | G   | L1    | L2    | L3    |
|-------|-------|-------|-------|-------|-------|-------|-------|-----|-------|-------|-------|
|       | min   | max   |       |       |       | min   | max   |     |       |       |       |
| 1.000 | 1.625 | 1.875 | 4.000 | 2.187 | 2.208 | 2.750 | 3.500 | 1/2 | 1.125 | 1.250 | 0.812 |
| 1.125 | 1.750 | 2.000 | 4.125 | 2.312 | 2.333 | 2.875 | 3.625 | 1/2 | 1.125 | 1.250 | 0.812 |
| 1.250 | 1.875 | 2.125 | 4.250 | 2.437 | 2.458 | 3.000 | 3.750 | 1/2 | 1.125 | 1.250 | 0.812 |
| 1.375 | 2.000 | 2.250 | 4.250 | 2.625 | 2.645 | 3.187 | 3.750 | 1/2 | 1.125 | 1.250 | 0.812 |
| 1.500 | 2.250 | 2.500 | 4.500 | 2.812 | 2.833 | 3.375 | 4.000 | 1/2 | 1.125 | 1.312 | 0.875 |
| 1.625 | 2.375 | 2.625 | 4.750 | 2.937 | 2.958 | 3.500 | 4.250 | 1/2 | 1.125 | 1.312 | 0.875 |
| 1.750 | 2.500 | 2.750 | 5.000 | 3.062 | 3.083 | 3.625 | 4.500 | 1/2 | 1.187 | 1.375 | 0.937 |
| 1.875 | 2.625 | 2.875 | 5.250 | 3.187 | 3.207 | 3.750 | 4.750 | 1/2 | 1.187 | 1.375 | 0.937 |
| 2.000 | 2.750 | 3.000 | 5.500 | 3.312 | 3.333 | 4.000 | 4.875 | 5/8 | 1.187 | 1.437 | 1.000 |
| 2.125 | 2.875 | 3.125 | 5.750 | 3.437 | 3.458 | 4.125 | 5.125 | 5/8 | 1.187 | 1.437 | 1.000 |
| 2.250 | 3.000 | 3.375 | 6.500 | 3.750 | 3.895 | 4.562 | 5.750 | 3/4 | 1.187 | 1.437 | 1.000 |
| 2.375 | 3.125 | 3.375 | 6.500 | 3.750 | 3.895 | 4.562 | 5.750 | 3/4 | 1.187 | 1.437 | 1.000 |
| 2.500 | 3.375 | 4.000 | 7.000 | 4.375 | 4.770 | 5.187 | 6.250 | 3/4 | 1.125 | 1.625 | 1.000 |
| 2.625 | 3.500 | 4.000 | 7.000 | 4.375 | 4.770 | 5.187 | 6.250 | 3/4 | 1.125 | 1.625 | 1.000 |
| 2.750 | 3.625 | 4.000 | 7.000 | 4.375 | 4.770 | 5.187 | 6.250 | 3/4 | 1.125 | 1.625 | 1.000 |
| 2.875 | 3.750 | 4.500 | 7.500 | 4.937 | 5.145 | 5.750 | 6.750 | 3/4 | 1.187 | 2.000 | 1.250 |
| 3.000 | 3.875 | 4.500 | 7.500 | 4.937 | 5.145 | 5.750 | 6.750 | 3/4 | 1.187 | 2.000 | 1.250 |
| 3.125 | 4.000 | 4.500 | 7.500 | 4.937 | 5.145 | 5.750 | 6.750 | 3/4 | 1.187 | 2.000 | 1.250 |
| 3.250 | 4.125 | 4.875 | 8.000 | 5.312 | 5.520 | 6.125 | 7.250 | 3/4 | 1.187 | 2.000 | 1.250 |
| 3.375 | 4.250 | 4.875 | 8.000 | 5.312 | 5.520 | 6.125 | 7.250 | 3/4 | 1.187 | 2.000 | 1.250 |
| 3.500 | 4.275 | 4.875 | 8.000 | 5.312 | 5.520 | 6.125 | 7.250 | 3/4 | 1.187 | 2.000 | 1.250 |
| 3.625 | 4.500 | 5.250 | 8.500 | 5.687 | 5.895 | 6.500 | 7.750 | 3/4 | 1.125 | 2.000 | 1.250 |
| 3.750 | 4.625 | 5.250 | 8.500 | 5.687 | 5.895 | 6.500 | 7.750 | 3/4 | 1.125 | 2.000 | 1.250 |
| 3.875 | 4.750 | 5.250 | 8.500 | 5.687 | 5.895 | 6.500 | 7.750 | 3/4 | 1.125 | 2.000 | 1.250 |
| 4.000 | 4.875 | 5.500 | 9.000 | 6.062 | 6.145 | 6.875 | 8.250 | 3/4 | 1.187 | 2.000 | 1.250 |

# HQCS-A54(CURC)

Type: Single Cartridge Seal  
 Replacement: AES CURC  
 Temperature: -20°C to +210°C  
 Pressure:  $\leq 2.5\text{Mpa}$   
 Speed:  $\leq 15\text{m/s}$   
 Material: A,Q1,V1,U2,E,V,Alfas,Karle,F,G,M



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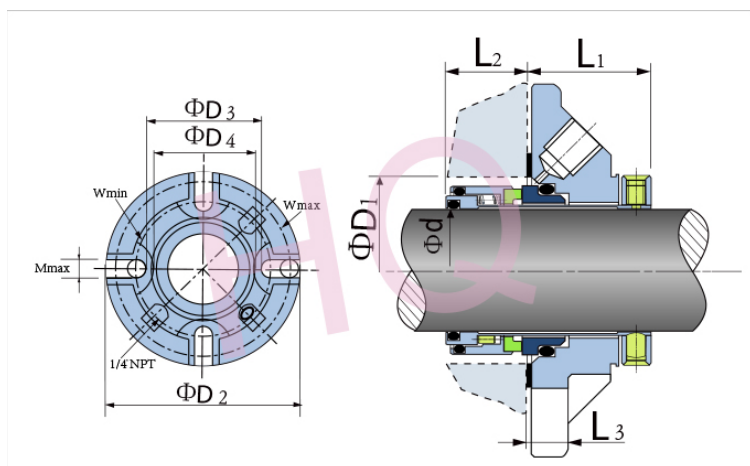
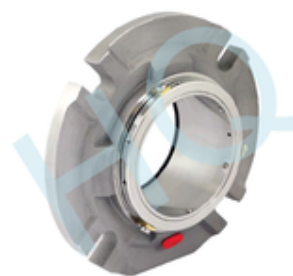


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| d<br>(mm) | D4    |       | D5    | D7    | D8    | W     |       | M  | L1   | L2   | L3   |
|-----------|-------|-------|-------|-------|-------|-------|-------|----|------|------|------|
|           | min   | max   |       |       |       | min   | max   |    |      |      |      |
| 24        | 40.0  | 46.0  | 104.8 | 54.0  | 49.2  | 67.0  | 90.5  | 12 | 28.6 | 40.5 | 13.2 |
| 25        | 41.0  | 49.0  | 104.8 | 54.0  | 49.2  | 67.0  | 90.5  | 12 | 28.6 | 40.5 | 13.2 |
| 28        | 44.0  | 52.3  | 108.0 | 57.0  | 52.4  | 70.3  | 93.6  | 12 | 28.6 | 40.5 | 13.2 |
| 30        | 46.0  | 55.5  | 111.0 | 60.4  | 55.6  | 73.5  | 96.8  | 12 | 28.6 | 40.5 | 13.2 |
| 32        | 48.0  | 55.5  | 111.0 | 60.4  | 55.6  | 73.5  | 96.8  | 12 | 28.6 | 40.5 | 13.2 |
| 33        | 49.0  | 55.5  | 111.0 | 60.4  | 55.6  | 73.5  | 96.8  | 12 | 28.6 | 40.5 | 13.2 |
| 35        | 51.0  | 57.5  | 111.0 | 63.5  | 58.8  | 76.6  | 96.8  | 12 | 28.6 | 40.5 | 13.2 |
| 38        | 57.2  | 60.4  | 127.0 | 71.5  | 65.0  | 85.7  | 114.3 | 12 | 28.6 | 44.5 | 16.4 |
| 40        | 58.0  | 60.4  | 127.0 | 71.5  | 65.0  | 85.7  | 114.3 | 12 | 28.6 | 44.5 | 16.4 |
| 43        | 61.0  | 69.9  | 139.7 | 81.0  | 71.4  | 95.3  | 127.0 | 12 | 28.6 | 44.5 | 16.4 |
| 45        | 63.5  | 69.9  | 139.7 | 81.0  | 71.4  | 95.3  | 127.0 | 12 | 28.6 | 44.5 | 16.4 |
| 48        | 66.7  | 73.0  | 139.7 | 81.0  | 71.4  | 95.3  | 127.0 | 12 | 28.6 | 44.5 | 16.4 |
| 50        | 68.0  | 76.2  | 152.4 | 90.5  | 77.8  | 104.8 | 139.7 | 12 | 28.6 | 44.5 | 16.4 |
| 53        | 71.0  | 76.2  | 152.4 | 90.5  | 77.8  | 104.8 | 139.7 | 12 | 28.6 | 44.5 | 16.4 |
| 55        | 74.0  | 82.5  | 165.1 | 96.8  | 84.1  | 114.3 | 149.2 | 16 | 28.6 | 44.5 | 16.4 |
| 58        | 76.2  | 82.6  | 165.1 | 96.8  | 84.1  | 114.3 | 149.2 | 16 | 28.6 | 44.5 | 16.4 |
| 60        | 79.4  | 85.7  | 165.1 | 96.8  | 84.1  | 114.3 | 149.2 | 16 | 28.6 | 44.5 | 16.4 |
| 63        | 85.8  | 92.1  | 177.8 | 109.5 | 96.8  | 127.0 | 160.3 | 16 | 31.8 | 47.7 | 19.6 |
| 65        | 88.9  | 95.3  | 177.8 | 109.5 | 96.8  | 127.0 | 160.3 | 16 | 31.8 | 47.7 | 19.6 |
| 68        | 92.1  | 98.4  | 177.8 | 109.5 | 96.8  | 127.0 | 160.3 | 16 | 31.8 | 47.7 | 19.6 |
| 70        | 92.1  | 98.4  | 177.8 | 109.5 | 96.8  | 127.0 | 160.3 | 16 | 31.8 | 47.7 | 19.6 |
| 75        | 98.5  | 108.0 | 190.5 | 125.4 | 108.0 | 142.9 | 173.0 | 16 | 31.8 | 47.7 | 19.6 |
| 80        | 101.6 | 111.1 | 190.5 | 125.4 | 108.0 | 142.9 | 173.0 | 16 | 31.8 | 47.7 | 19.6 |
| 85        | 108.0 | 117.5 | 203.2 | 135.0 | 117.5 | 155.6 | 182.5 | 20 | 31.8 | 47.7 | 19.6 |
| 90        | 114.3 | 127.0 | 215.9 | 150.8 | 127.0 | 171.5 | 195.2 | 20 | 31.8 | 47.7 | 19.6 |
| 95        | 117.5 | 130.2 | 215.9 | 150.8 | 127.0 | 171.5 | 195.2 | 20 | 31.8 | 47.7 | 19.6 |
| 100       | 123.9 | 139.7 | 228.6 | 168.3 | 136.5 | 188.9 | 207.9 | 20 | 31.8 | 47.7 | 19.6 |
| 105       | 130.1 | 149.2 | 228.6 | 168.3 | 136.5 | 189.0 | 208.0 | 20 | 31.8 | 47.7 | 19.6 |
| 110       | 136.5 | 158.8 | 241.3 | 177.8 | 146.1 | 198.4 | 220.6 | 20 | 31.8 | 47.7 | 19.6 |
| 115       | 142.9 | 168.3 | 254.0 | 186.6 | 155.6 | 211.1 | 230.2 | 22 | 31.8 | 47.7 | 19.6 |
| 120       | 142.9 | 168.3 | 254.0 | 186.6 | 155.6 | 211.1 | 230.2 | 22 | 31.8 | 47.7 | 19.6 |
| 125       | 142.9 | 168.3 | 254.0 | 186.6 | 155.6 | 211.1 | 230.2 | 22 | 31.8 | 47.7 | 19.6 |

# HQCS-A56(CSS)

Type: Single Cartridge Seal  
 Replacement: AES CSS  
 Temperature: -30°C to +205°C  
 Pressure:  $\leq 2.1\text{Mpa}$   
 Speed:  $\leq 25\text{m/s}$   
 Material: B,A,Q1,Q2,U2,E,V,K,F,G,M



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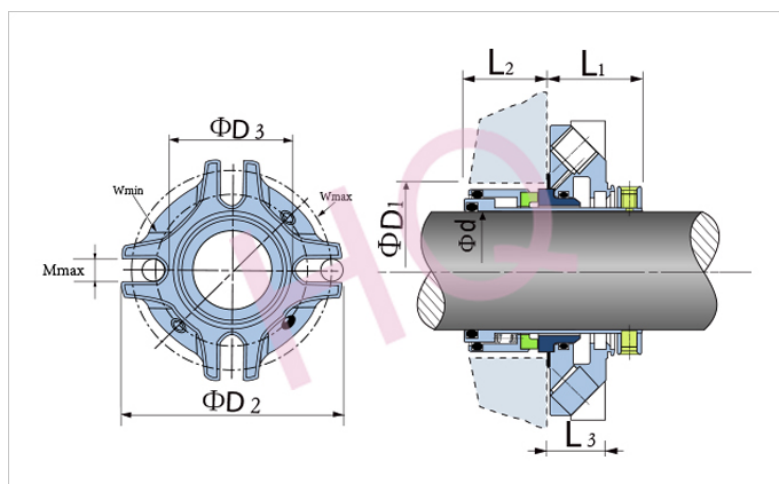
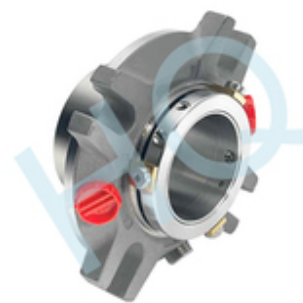
[hq@hqseal.com](mailto:hq@hqseal.com)

| d<br>(mm) | D1    |       |       | D2    | D3    | D     | W     |       | M<br>max | L1   | L2   | L3   |
|-----------|-------|-------|-------|-------|-------|-------|-------|-------|----------|------|------|------|
|           | min   | mint  | max   |       |       |       | min   | max   |          |      |      |      |
| 90        | 114.3 | 115.8 | 127   | 215.9 | 150.8 | 127   | 171.5 | 195.2 | 20       | 49.2 | 31.8 | 19.6 |
| 95        | 117.5 | 119   | 130.2 | 215.9 | 150.8 | 127   | 171.5 | 195.2 | 20       | 49.2 | 31.8 | 19.6 |
| 100       | 123.9 | 125.4 | 139.7 | 228.6 | 168.3 | 136.5 | 188.9 | 207.9 | 20       | 49.2 | 31.8 | 19.6 |
| 105       | 130.1 | 131.6 | 149.2 | 228.6 | 168.3 | 136.5 | 159   | 208   | 20       | 49.2 | 31.8 | 19.6 |
| 110       | 136.5 | 138   | 158.8 | 241.3 | 177.8 | 146.1 | 198.4 | 220.6 | 20       | 49.2 | 31.8 | 19.6 |
| 115       | 142.9 | 144.4 | 168.3 | 254   | 186.6 | 155.6 | 211.1 | 230.2 | 22       | 49.2 | 31.8 | 19.6 |
| 120       | 142.9 | 144.4 | 168.3 | 254   | 186.6 | 155.6 | 211.1 | 230.2 | 22       | 49.2 | 31.8 | 19.6 |

| d<br>(inch) | D1    |       |       | D2   | D3    | D4    | W     |       | M<br>max | L1    | L2   | L3    |
|-------------|-------|-------|-------|------|-------|-------|-------|-------|----------|-------|------|-------|
|             | min   | mint  | max   |      |       |       | min   | max   |          |       |      |       |
| 3.625       | 4.500 | 4.560 | 5.000 | 8.5  | 5.937 | 5.000 | 6.750 | 7.687 | 42433    | 1.937 | 1.25 | 0.769 |
| 3.750       | 4.625 | 4.685 | 5.125 | 8.5  | 5.937 | 5.000 | 6.750 | 7.687 | 42433    | 1.937 | 1.25 | 0.769 |
| 3.875       | 4.750 | 4.810 | 5.250 | 8.5  | 5.937 | 5.000 | 6.750 | 7.687 | 42433    | 1.937 | 1.25 | 0.769 |
| 4.000       | 4.875 | 4.935 | 5.500 | 9.0  | 6.625 | 5.375 | 7.437 | 8.187 | 42433    | 1.937 | 1.25 | 0.769 |
| 4.125       | 5.125 | 5.185 | 5.875 | 9.0  | 6.625 | 5.375 | 7.437 | 8.187 | 42433    | 1.937 | 1.25 | 0.769 |
| 4.250       | 5.125 | 5.185 | 5.875 | 9.0  | 6.625 | 5.375 | 7.437 | 8.187 | 42433    | 1.937 | 1.25 | 0.769 |
| 4.375       | 5.375 | 5.435 | 6.250 | 9.5  | 7.000 | 5.750 | 7.812 | 8.687 | 42433    | 1.937 | 1.25 | 0.769 |
| 4.500       | 5.375 | 5.435 | 6.250 | 9.5  | 7.000 | 5.750 | 7.812 | 8.687 | 42433    | 1.937 | 1.25 | 0.769 |
| 4.625       | 5.625 | 5.685 | 6.625 | 10.0 | 7.345 | 6.125 | 8.312 | 9.062 | 42559    | 1.937 | 1.25 | 0.769 |
| 4.750       | 5.625 | 5.685 | 6.625 | 10.0 | 7.345 | 6.125 | 8.312 | 9.062 | 42559    | 1.937 | 1.25 | 0.769 |

# HQCS-A57(CSSN)

Type: Single Cartridge Seal  
 Replacement: AES CSSN  
 Temperature: -30°C to +205°C  
 Pressure:  $\leq 2.1\text{Mpa}$   
 Speed:  $\leq 25\text{m/s}$   
 Material: B,A,Q1,Q2,U2,E,V,K,F,G,M



<http://www.hqseal.com>

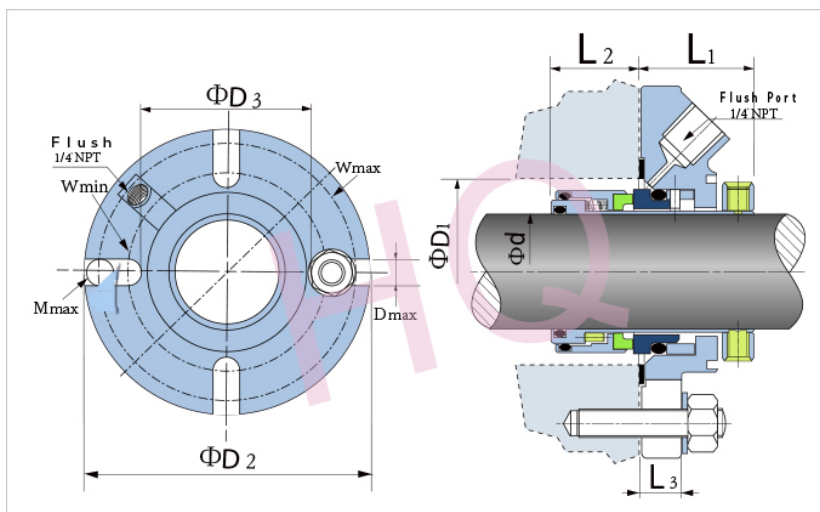


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| d<br>(mm) | D1    |       |       | D2    | D3    | W     |       | M<br>max | L1   | L2   | L3   |
|-----------|-------|-------|-------|-------|-------|-------|-------|----------|------|------|------|
|           | min   | mint  | max   |       |       | min   | max   |          |      |      |      |
| 24        | 40.0  | 41.0  | 46.0  | 104.8 | 60.3  | 74.6  | 92.0  | 12       | 37.3 | 30.7 | 23.5 |
| 25        | 41.0  | 42.0  | 49.2  | 104.8 | 60.3  | 74.6  | 92.0  | 12       | 37.3 | 30.7 | 23.5 |
| 28        | 44.0  | 45.0  | 52.4  | 108.0 | 60.3  | 74.6  | 95.3  | 12       | 37.3 | 30.7 | 23.5 |
| 30        | 46.0  | 47.0  | 55.6  | 111.0 | 63.5  | 77.8  | 98.4  | 12       | 37.3 | 30.7 | 23.5 |
| 32        | 48.0  | 49.0  | 55.6  | 111.0 | 63.5  | 77.8  | 98.4  | 12       | 37.3 | 30.7 | 23.5 |
| 33        | 49.0  | 50.0  | 55.6  | 111.0 | 63.5  | 77.8  | 98.4  | 12       | 37.3 | 30.7 | 23.5 |
| 35        | 50.8  | 51.8  | 58.7  | 111.0 | 66.7  | 80.9  | 98.4  | 12       | 37.3 | 30.7 | 23.5 |
| 38        | 57.2  | 58.2  | 63.5  | 127.0 | 71.9  | 85.7  | 114.3 | 12       | 35.6 | 27.7 | 21.6 |
| 40        | 57.2  | 58.2  | 63.5  | 127.0 | 71.9  | 85.7  | 114.3 | 12       | 35.6 | 27.7 | 21.6 |
| 43        | 60.3  | 61.3  | 63.5  | 127.0 | 71.9  | 85.7  | 114.3 | 12       | 35.6 | 27.7 | 21.6 |
| 45        | 63.5  | 64.5  | 69.8  | 133.4 | 76.7  | 90.5  | 120.7 | 12       | 35.6 | 27.7 | 21.6 |
| 48        | 66.7  | 67.7  | 69.8  | 133.4 | 76.7  | 90.5  | 120.7 | 12       | 35.6 | 27.7 | 21.6 |
| 50        | 68.0  | 69.0  | 69.8  | 133.4 | 76.7  | 90.5  | 120.7 | 12       | 35.6 | 27.7 | 21.6 |
| 53        | 71.0  | 72.0  | 76.2  | 139.7 | 86.0  | 100.0 | 127   | 12       | 35.9 | 29.2 | 21.6 |
| 55        | 73.0  | 74.0  | 84.1  | 146.0 | 93.7  | 111.1 | 130.2 | 12       | 35.9 | 29.2 | 21.6 |
| 58        | 76.2  | 77.2  | 84.1  | 146.0 | 93.7  | 111.1 | 130.2 | 16       | 35.9 | 29.2 | 21.6 |
| 60        | 79.4  | 80.4  | 90.5  | 152.4 | 100   | 117.5 | 136.5 | 16       | 35.9 | 29.2 | 21.6 |
| 63        | 85.7  | 87.2  | 98.4  | 177.8 | 109.5 | 127.0 | 161.9 | 16       | 38.1 | 31.8 | 23.5 |
| 65        | 88.9  | 90.4  | 98.4  | 177.8 | 109.5 | 127.0 | 161.9 | 16       | 38.1 | 31.8 | 23.5 |
| 70        | 92.1  | 93.6  | 98.4  | 177.8 | 109.5 | 127.0 | 161.9 | 16       | 38.1 | 31.8 | 23.5 |
| 75        | 98.5  | 100.0 | 114.3 | 190.5 | 125.4 | 142.9 | 173.0 | 16       | 38.1 | 31.8 | 23.5 |
| 80        | 101.6 | 103.1 | 114.3 | 190.5 | 125.4 | 142.9 | 173.0 | 16       | 38.1 | 31.8 | 23.5 |
| 85        | 108.0 | 109.5 | 123.7 | 203.2 | 135.0 | 152.4 | 185.7 | 16       | 38.1 | 31.8 | 23.5 |

# HQCS-A64(SCUSI)

Type: Single Cartridge Seal  
 Replacement: AES SCUSI  
 Temperature:  $-30^{\circ}\text{C}$  to  $+205^{\circ}\text{C}$   
 Pressure:  $\leq 2.1\text{Mpa}$   
 Speed:  $\leq 25\text{m/s}$   
 Material: B,A,Q1,Q2,U2,E,V,K,F,G,M



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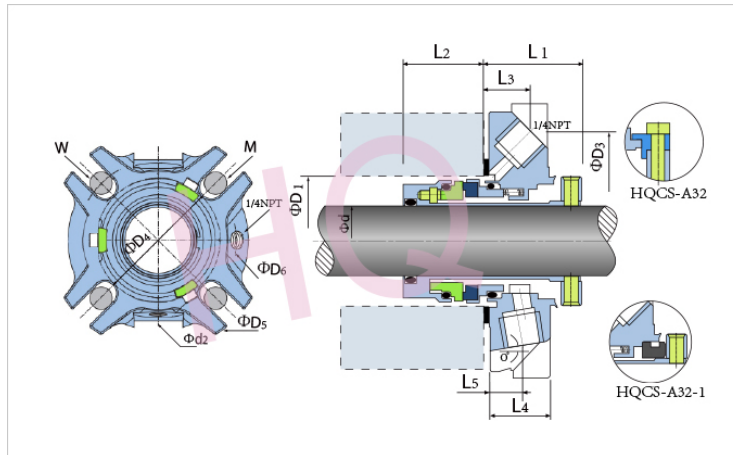


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| d<br>(mm) | D1   |      | D2    | D3    | D    |       | W<br>max | M<br>max | L1   | L2   | L3   |
|-----------|------|------|-------|-------|------|-------|----------|----------|------|------|------|
|           | min  | max  |       |       | max  | min   |          |          |      |      |      |
| 24        | 40.0 | 46.0 | 101.6 | 52.4  | 14.3 | 66.7  | 88.9     | 12       | 34.4 | 26.8 | 12.5 |
| 25        | 41.0 | 49.2 | 104.8 | 55.6  | 14.3 | 69.9  | 92.0     | 12       | 34.4 | 26.8 | 12.5 |
| 28        | 44.0 | 52.4 | 108.0 | 58.7  | 14.3 | 73.0  | 95.3     | 12       | 34.4 | 26.8 | 12.5 |
| 30        | 46.0 | 55.6 | 111.0 | 61.9  | 14.3 | 76.2  | 98.4     | 12       | 34.4 | 26.8 | 12.5 |
| 32        | 48.0 | 55.6 | 111.0 | 61.9  | 14.3 | 76.2  | 98.4     | 12       | 34.4 | 26.8 | 12.5 |
| 33        | 49.0 | 55.6 | 111.0 | 61.9  | 14.3 | 76.2  | 98.4     | 12       | 34.4 | 26.8 | 12.5 |
| 35        | 50.8 | 58.7 | 111.0 | 66.7  | 14.3 | 79.4  | 98.4     | 12       | 34.4 | 26.8 | 12.5 |
| 38        | 57.2 | 63.5 | 127.0 | 73.0  | 14.3 | 87.3  | 114.3    | 12       | 34.4 | 27.7 | 16.4 |
| 40        | 57.2 | 63.5 | 127.0 | 73.0  | 14.3 | 87.3  | 114.3    | 12       | 34.4 | 27.7 | 16.4 |
| 43        | 60.3 | 63.5 | 127.0 | 73.0  | 14.3 | 87.3  | 114.3    | 12       | 34.4 | 27.7 | 16.4 |
| 45        | 63.5 | 66.7 | 133.4 | 76.2  | 14.3 | 90.5  | 120.7    | 12       | 34.4 | 27.7 | 16.4 |
| 48        | 66.7 | 76.2 | 139.7 | 84.1  | 14.3 | 98.4  | 127.0    | 12       | 34.4 | 27.7 | 16.4 |
| 50        | 66.7 | 76.2 | 139.7 | 84.1  | 14.3 | 98.4  | 127.0    | 12       | 34.4 | 27.7 | 16.4 |
| 53        | 69.9 | 76.2 | 139.7 | 84.1  | 14.3 | 98.4  | 127.0    | 12       | 35.9 | 29.2 | 16.4 |
| 55        | 73.0 | 84.1 | 146.0 | 93.7  | 17.5 | 111.1 | 130.2    | 16       | 35.9 | 29.2 | 16.4 |
| 58        | 76.2 | 84.1 | 146.0 | 93.7  | 17.5 | 111.1 | 130.2    | 16       | 35.9 | 29.2 | 16.4 |
| 60        | 79.4 | 90.5 | 152.4 | 100.0 | 17.5 | 117.5 | 136.5    | 16       | 35.9 | 29.2 | 16.4 |
| 63        | 85.7 | 93.7 | 158.8 | 106.4 | 17.5 | 123.8 | 142.9    | 16       | 35.9 | 30.5 | 16.4 |
| 65        | 88.9 | 95.3 | 158.8 | 106.4 | 17.5 | 123.8 | 142.9    | 16       | 35.9 | 30.5 | 16.4 |
| 70        | 92.1 | 98.4 | 158.8 | 106.4 | 17.5 | 123.8 | 142.9    | 16       | 35.9 | 30.5 | 16.4 |

# HQCS-A32(SISS)

Type: Single Cartridge Seal  
 Replacement: AES SISS, SISR  
 Temperature: -30°C to +205°C  
 Pressure:  $\leq 2.1\text{Mpa}$   
 Speed:  $\leq 25\text{m/s}$   
 Material: B, A, Q1, Q2, U2, E, V, K, F, G, M



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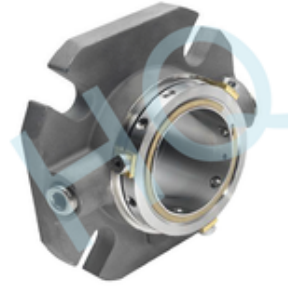


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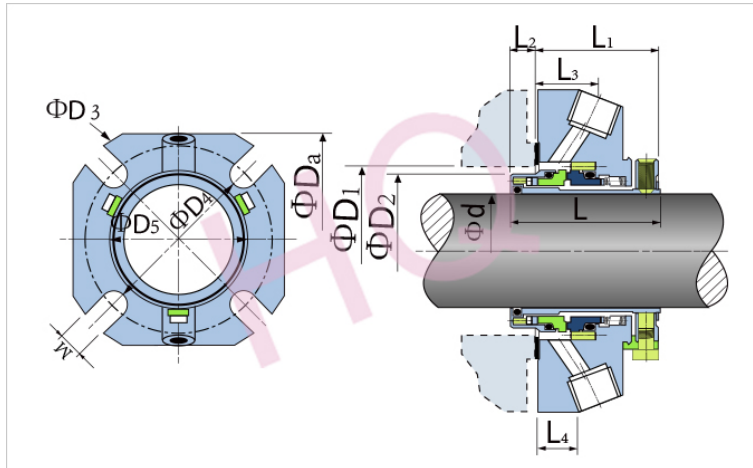
| d   | d2     | D1    |       | D3    | D4    | D5    | D6    | W     |       | M  | L1   | L2   | L3   | L4   | L5   | O  |
|-----|--------|-------|-------|-------|-------|-------|-------|-------|-------|----|------|------|------|------|------|----|
|     |        | min   | max   |       |       |       |       | min   | max   |    |      |      |      |      |      |    |
| 24  | 1/4NPT | 41.0  | 48.6  | 71.4  | 57.2  | 104.8 | 79.1  | 71.2  | 92.8  | 12 | 38.3 | 28.2 | 17.9 | 23.8 | 15.0 | 10 |
| 25  | 1/4NPT | 41.0  | 48.6  | 71.4  | 57.2  | 104.8 | 79.1  | 71.2  | 92.8  | 12 | 38.3 | 28.2 | 17.9 | 23.8 | 15.0 | 10 |
| 28  | 1/4NPT | 44.0  | 52.6  | 76.2  | 60.4  | 108.0 | 82.6  | 74.3  | 96.0  | 12 | 38.3 | 28.2 | 17.0 | 23.8 | 14.1 | 10 |
| 30  | 1/4NPT | 46.0  | 54.7  | 78.0  | 63.5  | 111.1 | 84.1  | 77.5  | 99.0  | 12 | 38.3 | 28.2 | 17.8 | 23.8 | 13.0 | 10 |
| 32  | 1/4NPT | 48.0  | 54.7  | 78.5  | 63.5  | 111.1 | 84.1  | 77.5  | 99.0  | 12 | 38.3 | 28.2 | 17.8 | 23.8 | 13.0 | 10 |
| 33  | 1/4NPT | 49.0  | 54.7  | 78.5  | 63.5  | 111.1 | 84.1  | 77.5  | 99.0  | 12 | 38.3 | 28.2 | 17.8 | 23.8 | 13.0 | 10 |
| 33K | 1/4NPT | 49.0  | 54.7  | 82.5  | 63.5  | 98.5  | 97.0  | 77.5  | 86.5  | 12 | 36.8 | 27.7 | 13.7 | 21.7 | 13.7 | 15 |
| 35  | 1/4NPT | 51.0  | 58.6  | 78.5  | 66.7  | 111.1 | 83.8  | 80.7  | 99.0  | 12 | 38.3 | 28.2 | 17.6 | 23.8 | 13   | 10 |
| 38  | 1/4NPT | 58.0  | 63.6  | 85.7  | 72.0  | 127.0 | 92.1  | 85.9  | 115.0 | 12 | 36.8 | 28.0 | 16.2 | 21.7 | 12.7 | 10 |
| 40  | 1/4NPT | 60.0  | 64.7  | 85.7  | 72.0  | 127.0 | 92.1  | 85.9  | 115.0 | 12 | 36.8 | 28.0 | 16.2 | 21.7 | 12.7 | 10 |
| 43  | 1/4NPT | 63.0  | 68.6  | 89.7  | 76.8  | 133.4 | 94.9  | 90.8  | 121.3 | 12 | 36.8 | 28.0 | 16.1 | 21.7 | 13.0 | 10 |
| 43K | 1/4NPT | 63.0  | 71.7  | 93.5  | 81.0  | 119.7 | 101.6 | 95.0  | 107.6 | 12 | 43.8 | 28.0 | 18.9 | 17.1 | 22.9 | 45 |
| 45  | 1/4NPT | 65.0  | 70.2  | 88.9  | 76.8  | 133.4 | 95.3  | 90.8  | 121.4 | 12 | 36.8 | 28.0 | 16.1 | 21.7 | 12.7 | 10 |
| 48  | 1/4NPT | 67.0  | 70.2  | 88.9  | 76.8  | 133.4 | 95.3  | 90.8  | 121.4 | 12 | 36.8 | 28.0 | 16.2 | 21.7 | 12.7 | 10 |
| 50  | 1/4NPT | 70.0  | 77.7  | 95.3  | 86.0  | 139.7 | 101.6 | 100.0 | 127.7 | 12 | 36.8 | 28.0 | 16.2 | 21.7 | 12.7 | 10 |
| 53  | 1/4NPT | 73.0  | 84.7  | 101.3 | 93.6  | 146.1 | 108.0 | 111.1 | 130.0 | 16 | 36.8 | 28.0 | 16.2 | 21.7 | 13.4 | 10 |
| 55  | 1/4NPT | 75.0  | 84.7  | 101.3 | 93.6  | 146.1 | 108.0 | 111.1 | 130.0 | 16 | 36.8 | 28.0 | 16.2 | 21.7 | 13.4 | 10 |
| 58  | 1/4NPT | 78.0  | 84.7  | 11.3  | 93.6  | 146.1 | 108.0 | 111.1 | 130.0 | 16 | 36.8 | 28.0 | 16.2 | 21.7 | 13.4 | 10 |
| 60  | 1/4NPT | 80.0  | 89.6  | 104.4 | 100   | 152.4 | 114.3 | 117.5 | 136.4 | 16 | 36.8 | 28.0 | 16.2 | 21.7 | 13.7 | 10 |
| 63  | 3/8NPT | 82.6  | 98.6  | 121.2 | 109.5 | 177.8 | 126.8 | 127.0 | 161.8 | 16 | 39.5 | 27.4 | 18.8 | 23.9 | 13.5 | 10 |
| 65  | 3/8NPT | 85.7  | 98.7  | 121.2 | 109.5 | 177.8 | 126.8 | 127.0 | 161.8 | 16 | 39.5 | 27.4 | 18.8 | 23.9 | 13.5 | 10 |
| 70  | 3/8NPT | 90.0  | 98.7  | 121.2 | 109.5 | 177.8 | 126.8 | 127.0 | 161.8 | 16 | 39.5 | 27.4 | 18.8 | 23.9 | 13.5 | 10 |
| 75  | 3/8NPT | 98.4  | 113.5 | 130.6 | 125.4 | 190.5 | 137.2 | 142.9 | 174.5 | 16 | 39.7 | 33.0 | 18.5 | 23.9 | 13.8 | 10 |
| 80  | 3/8NPT | 101.6 | 113.5 | 130.6 | 125.4 | 190.5 | 138.1 | 142.9 | 174.5 | 16 | 39.7 | 33.0 | 18.0 | 23.9 | 13.8 | 10 |
| 85  | 3/8NPT | 108.0 | 121.5 | 140.2 | 135.0 | 203.2 | 146.0 | 156.0 | 185.0 | 20 | 39.7 | 33.0 | 18.9 | 23.9 | 13.4 | 10 |

# HQC-A65(SMSS)

Type: Single Cartridge Seal  
 Replacement: AES SMSS  
 Temperature:  $-30^{\circ}\text{C}$  to  $+205^{\circ}\text{C}$   
 Pressure:  $\leq 2.1\text{Mpa}$   
 Speed:  $\leq 25\text{m/s}$   
 Material: B,A,Q1,Q2,U2,E,V,K,F,G,M



24mm-70mm/1.000'-2.750'



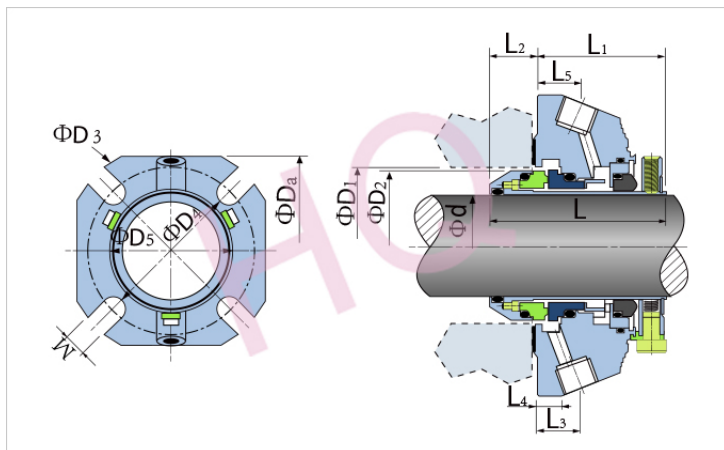
<http://www.hqseal.com>



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| d     | D1    |       | D2    | D3    | D4    | D5    | Da    | M     | L     | L1    | L2    | L3    | L4    |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
|       | min   | max   |       |       |       |       |       |       |       |       |       |       |       |
| 24    | 40.0  | 48.0  | 38.0  | 105.0 | 61.0  | 51.0  | 99.0  | 14.0  | 55.7  | 45.7  | 10    | 20.5  | 11.9  |
| 25    | 41.0  | 51.0  | 39.0  | 105.0 | 61.0  | 51.0  | 11.6  | 14.0  | 55.7  | 45.7  | 10    | 20.5  | 11.9  |
| 28    | 44.0  | 54.0  | 42.6  | 111.0 | 65.0  | 55.5  | 99.0  | 14.0  | 55.7  | 45.7  | 10    | 20.3  | 11.9  |
| 30    | 46.0  | 54.0  | 44.1  | 105.0 | 64.6  | 56.4  | 97.8  | 14.0  | 55.7  | 45.7  | 10    | 20.3  | 11.9  |
| 32    | 49.0  | 57.0  | 47.1  | 105.0 | 66.5  | 59.5  | 99.0  | 14.0  | 55.7  | 45.7  | 10    | 21.2  | 14.0  |
| 33    | 49.0  | 57.0  | 47.1  | 105.0 | 66.5  | 59.5  | 99.0  | 14.0  | 55.7  | 45.7  | 10    | 21.2  | 14.0  |
| 35    | 51.0  | 59.0  | 49.0  | 120.0 | 68.5  | 61.5  | 104.1 | 14.0  | 55.7  | 45.7  | 10    | 21.5  | 13.2  |
| 38    | 57.0  | 70.0  | 52.9  | 135.0 | 80.7  | 70.7  | 114.3 | 14.0  | 57.6  | 47.6  | 10    | 24.6  | 16.0  |
| 40    | 59.0  | 70.5  | 54.8  | 135.0 | 80.7  | 70.7  | 114.3 | 14.0  | 57.6  | 47.6  | 10    | 24.6  | 16.0  |
| 43    | 61.0  | 70.5  | 56.1  | 135.0 | 80.7  | 70.7  | 114.3 | 14.0  | 57.6  | 47.6  | 10    | 20.5  | 15.5  |
| 45    | 64.0  | 75.0  | 59.3  | 139.0 | 83.7  | 75.7  | 117.5 | 14.0  | 57.6  | 47.6  | 10    | 24.3  | 16.0  |
| 48    | 66.6  | 75.0  | 62.4  | 139.0 | 83.7  | 75.7  | 117.5 | 14.0  | 57.6  | 47.6  | 10    | 24.3  | 16.0  |
| 50    | 70.0  | 78.0  | 65.3  | 150.0 | 87.6  | 79.0  | 124.5 | 17.5  | 57.6  | 47.6  | 10    | 24.3  | 16.0  |
| 53    | 73.0  | 87.0  | 68.8  | 150.0 | 97.0  | 85.0  | 136.5 | 17.5  | 57.6  | 47.6  | 10    | 22.5  | 15.5  |
| 55    | 73.0  | 87.0  | 68.8  | 150.0 | 97.0  | 85.0  | 136.5 | 17.5  | 57.6  | 47.6  | 10    | 22.5  | 15.5  |
| 58    | 76.2  | 92.0  | 72.0  | 164.5 | 102.4 | 88.7  | 139.7 | 17.5  | 57.6  | 47.6  | 10    | 24.6  | 16.0  |
| 60    | 80.0  | 92.0  | 75.2  | 164.5 | 102.4 | 88.7  | 139.7 | 17.5  | 57.6  | 47.6  | 10    | 24.6  | 16.0  |
| 63    | 83.0  | 98.5  | 78.3  | 171.0 | 108.7 | 96.1  | 147.4 | 17.5  | 57.6  | 47.6  | 10    | 23.7  | 16.0  |
| 65    | 86.0  | 98.5  | 81.5  | 171.0 | 108.7 | 96.1  | 147.4 | 17.5  | 57.6  | 47.6  | 10    | 23.7  | 16.0  |
| 70    | 89.0  | 100.0 | 84.7  | 180.5 | 111.9 | 98.3  | 152.4 | 17.5  | 57.6  | 47.6  | 10    | 24.3  | 16.0  |
| 1.000 | 1.625 | 2.000 | 1.538 | 4.134 | 2.401 | 2.008 | 3.900 | 0.551 | 2.194 | 1.800 | 0.394 | 0.807 | 0.469 |
| 1.125 | 1.750 | 2.125 | 1.678 | 4.375 | 2.559 | 2.183 | 4.000 | 0.551 | 2.194 | 1.800 | 0.394 | 0.800 | 0.469 |
| 1.250 | 1.875 | 2.250 | 1.823 | 4.134 | 2.618 | 2.340 | 3.900 | 0.551 | 2.194 | 1.800 | 0.394 | 0.835 | 0.551 |
| 1.375 | 2.000 | 2.312 | 1.932 | 4.375 | 2.697 | 2.418 | 4.100 | 0.551 | 2.194 | 1.800 | 0.394 | 0.846 | 0.520 |
| 1.500 | 2.250 | 2.750 | 2.084 | 5.315 | 3.177 | 2.783 | 4.500 | 0.551 | 2.269 | 1.875 | 0.394 | 0.970 | 0.630 |
| 1.625 | 2.375 | 2.750 | 2.209 | 5.315 | 3.177 | 2.783 | 4.500 | 0.551 | 2.269 | 1.875 | 0.394 | 0.807 | 0.610 |
| 1.750 | 2.500 | 2.937 | 2.334 | 5.475 | 3.297 | 2.982 | 4.625 | 0.551 | 2.269 | 1.875 | 0.394 | 0.957 | 0.630 |
| 1.875 | 2.625 | 2.937 | 2.459 | 5.475 | 3.297 | 2.982 | 4.625 | 0.551 | 2.269 | 1.875 | 0.394 | 0.957 | 0.630 |
| 2.000 | 2.750 | 3.062 | 2.569 | 5.906 | 3.450 | 3.108 | 4.900 | 0.689 | 2.269 | 1.875 | 0.394 | 0.970 | 0.630 |
| 2.125 | 2.875 | 3.437 | 2.709 | 5.906 | 3.821 | 3.346 | 5.375 | 0.689 | 2.269 | 1.875 | 0.394 | 0.970 | 0.610 |
| 2.250 | 3.000 | 3.625 | 2.834 | 6.475 | 4.030 | 3.493 | 5.500 | 0.689 | 2.269 | 1.875 | 0.394 | 0.970 | 0.630 |
| 2.375 | 3.125 | 3.625 | 2.959 | 6.475 | 4.030 | 3.493 | 5.500 | 0.689 | 2.269 | 1.875 | 0.394 | 0.970 | 0.630 |
| 2.500 | 3.250 | 3.875 | 3.084 | 6.725 | 4.280 | 3.785 | 5.800 | 0.689 | 2.269 | 1.875 | 0.394 | 0.933 | 0.630 |
| 2.625 | 3.375 | 3.875 | 3.209 | 6.725 | 4.280 | 3.785 | 5.800 | 0.689 | 2.269 | 1.875 | 0.394 | 0.933 | 0.630 |

75mm-125mm/2.875'-5.000'



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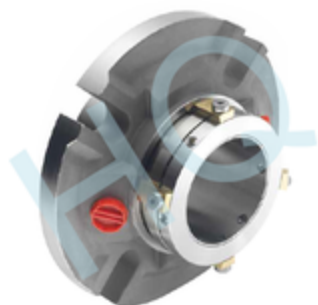


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| d     | D1    |       | D2    | D3    | D4    | D5    | Da    | M     | L     | L1   | L2    | L3    | L4    | L5    |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|-------|-------|-------|-------|
|       | min   | max   |       |       |       |       |       |       |       |      |       |       |       |       |
| 75    | 101.6 | 117.5 | 98.0  | 189.3 | 131.4 | 115.3 | 169.4 | 17.5  | 83.5  | 63.5 | 20    | 23    | 25.8  | 36.1  |
| 80    | 108.0 | 127.0 | 104.4 | 201.9 | 131.4 | 115.3 | 169.4 | 21.0  | 83.5  | 63.5 | 20    | 23    | 25.8  | 36.1  |
| 85    | 111.1 | 127.0 | 107.6 | 201.9 | 142.5 | 124.8 | 182.1 | 21.0  | 83.5  | 63.5 | 20    | 23    | 25.8  | 36.1  |
| 90    | 117.5 | 136.5 | 113.9 | 214.6 | 152.0 | 134.4 | 194.8 | 21.0  | 83.5  | 63.5 | 20    | 23    | 25.8  | 36.1  |
| 95    | 120.0 | 136.5 | 117.1 | 214.6 | 152.0 | 134.4 | 194.8 | 21.0  | 83.5  | 63.5 | 20    | 23    | 25.8  | 36.1  |
| 100   | 127.0 | 139.7 | 123.4 | 227.3 | 155.2 | 137.5 | 207.5 | 21.0  | 83.5  | 63.5 | 20    | 23    | 25.8  | 36.1  |
| 105   | 133.4 | 152.4 | 129.8 | 240.0 | 168.0 | 150.2 | 216.2 | 21.0  | 83.5  | 63.5 | 20    | 23    | 25.8  | 36.1  |
| 110   | 139.7 | 152.4 | 136.1 | 240.0 | 168.0 | 150.2 | 216.2 | 21.0  | 83.5  | 63.5 | 20    | 23    | 25.8  | 36.1  |
| 115   | 146.1 | 165.1 | 142.5 | 252.7 | 180.6 | 162.9 | 235.7 | 24.0  | 83.5  | 63.5 | 20    | 23    | 25.8  | 36.1  |
| 120   | 146.1 | 165.1 | 142.5 | 252.7 | 180.6 | 162.9 | 235.7 | 24.0  | 83.5  | 63.5 | 20    | 23    | 25.8  | 36.1  |
| 125   | 152.4 | 165.1 | 148.8 | 252.7 | 180.6 | 162.9 | 235.7 | 24.0  | 83.5  | 63.5 | 20    | 23    | 25.8  | 36.1  |
| 2.875 | 3.875 | 4.625 | 3.735 | 7.45  | 5.173 | 4.539 | 6.670 | 0.689 | 3.286 | 2.5  | 0.786 | 0.906 | 1.015 | 1.423 |
| 3.000 | 4.000 | 4.625 | 3.860 | 7.45  | 5.173 | 4.539 | 6.670 | 0.689 | 3.286 | 2.5  | 0.786 | 0.906 | 1.015 | 1.423 |
| 3.125 | 4.125 | 4.625 | 3.985 | 7.45  | 5.173 | 4.539 | 6.670 | 0.689 | 3.286 | 2.5  | 0.786 | 0.906 | 1.015 | 1.423 |
| 3.500 | 4.250 | 5.000 | 4.110 | 7.95  | 5.611 | 4.914 | 7.170 | 0.827 | 3.286 | 2.5  | 0.786 | 0.906 | 1.015 | 1.423 |
| 3.375 | 4.375 | 5.000 | 4.235 | 7.95  | 5.611 | 4.914 | 7.170 | 0.827 | 3.286 | 2.5  | 0.786 | 0.906 | 1.015 | 1.423 |
| 3.500 | 4.500 | 5.000 | 4.360 | 7.95  | 5.611 | 4.914 | 7.170 | 0.827 | 3.286 | 2.5  | 0.786 | 0.906 | 1.015 | 1.423 |
| 3.625 | 4.625 | 5.375 | 4.485 | 8.45  | 5.986 | 5.289 | 7.670 | 0.827 | 3.286 | 2.5  | 0.786 | 0.906 | 1.015 | 1.423 |
| 3.750 | 4.750 | 5.375 | 4.610 | 8.45  | 5.986 | 5.289 | 7.670 | 0.827 | 3.286 | 2.5  | 0.786 | 0.906 | 1.015 | 1.423 |
| 3.875 | 5.000 | 5.500 | 4.860 | 8.95  | 6.111 | 5.414 | 8.170 | 0.827 | 3.286 | 2.5  | 0.786 | 0.906 | 1.015 | 1.423 |
| 4.000 | 5.000 | 5.500 | 4.860 | 8.95  | 6.111 | 5.414 | 8.170 | 0.827 | 3.286 | 2.5  | 0.786 | 0.906 | 1.015 | 1.423 |
| 4.125 | 5.250 | 6.000 | 5.110 | 9.45  | 6.611 | 5.914 | 8.510 | 0.827 | 3.286 | 2.5  | 0.786 | 0.906 | 1.015 | 1.423 |
| 4.250 | 5.250 | 6.000 | 5.110 | 9.45  | 6.611 | 5.914 | 8.510 | 0.827 | 3.286 | 2.5  | 0.786 | 0.906 | 1.015 | 1.423 |
| 4.375 | 5.500 | 6.000 | 5.360 | 9.45  | 6.611 | 5.914 | 8.510 | 0.827 | 3.286 | 2.5  | 0.786 | 0.906 | 1.015 | 1.423 |
| 4.500 | 5.500 | 6.000 | 5.360 | 9.45  | 6.611 | 5.914 | 8.510 | 0.827 | 3.286 | 2.5  | 0.786 | 0.906 | 1.015 | 1.423 |
| 4.625 | 5.750 | 6.500 | 5.610 | 9.95  | 7.110 | 6.414 | 8.884 | 0.945 | 3.286 | 2.5  | 0.786 | 0.906 | 1.015 | 1.423 |
| 4.750 | 5.750 | 6.500 | 5.610 | 9.95  | 7.110 | 6.414 | 8.884 | 0.945 | 3.286 | 2.5  | 0.786 | 0.906 | 1.015 | 1.423 |
| 4.875 | 6.000 | 6.500 | 5.860 | 9.95  | 7.110 | 6.414 | 8.884 | 0.945 | 3.286 | 2.5  | 0.786 | 0.906 | 1.015 | 1.423 |
| 5.000 | 6.000 | 6.500 | 5.860 | 9.95  | 7.110 | 6.414 | 8.884 | 0.945 | 3.286 | 2.5  | 0.786 | 0.906 | 1.015 | 1.423 |



# HQCS-A58(CDP)



Type: Double Cartridge Seal

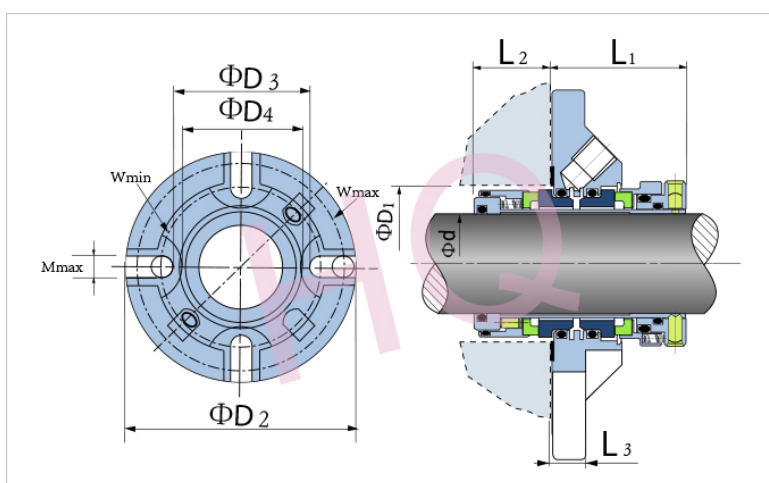
Replacement: AES CDP

Temperature:  $-30^{\circ}\text{C}$  to  $+205^{\circ}\text{C}$

Pressure:  $\leq 2.1\text{Mpa}$

Speed:  $\leq 25\text{m/s}$

Material: B,A,Q1,Q2,U2,E,V,K,F,G,M



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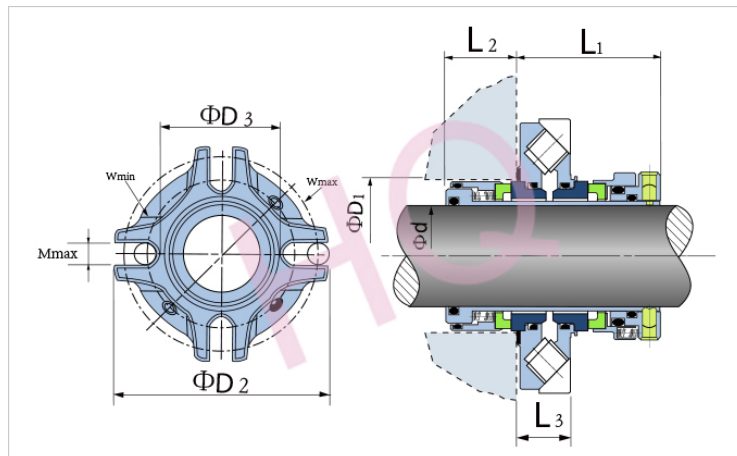
[hq@hqseal.com](mailto:hq@hqseal.com)

| d<br>(mm) | D1    |       |       | D2    | D3    | D4    | W     |       | M  | L1   | L2   | L3   |
|-----------|-------|-------|-------|-------|-------|-------|-------|-------|----|------|------|------|
|           | min   | mint  | max   |       |       |       | min   | max   |    |      |      |      |
| 90        | 114.3 | 115.8 | 127.0 | 215.9 | 150.8 | 127.0 | 171.5 | 195.2 | 20 | 60.3 | 31.8 | 19.6 |
| 95        | 117.5 | 119.0 | 130.2 | 215.9 | 150.8 | 127.0 | 171.5 | 195.2 | 20 | 60.3 | 31.8 | 19.6 |
| 100       | 123.9 | 125.0 | 139.7 | 228.6 | 168.3 | 136.5 | 188.9 | 207.9 | 20 | 60.3 | 31.8 | 19.6 |
| 115       | 142.9 | 144.4 | 168.3 | 254.0 | 186.6 | 155.6 | 211.1 | 230.2 | 22 | 60.3 | 31.8 | 19.6 |
| 120       | 142.9 | 144.4 | 168.3 | 254.0 | 186.6 | 155.6 | 211.1 | 230.2 | 22 | 60.3 | 31.8 | 19.6 |

| d<br>(inch) | D1    |       |       | D2   | D3    | D4    | W     |       | M   | L1    | L2   | L3    |
|-------------|-------|-------|-------|------|-------|-------|-------|-------|-----|-------|------|-------|
|             | min   | mint  | max   |      |       |       | min   | max   |     |       |      |       |
| 3.625       | 4.500 | 4.560 | 5.000 | 8.5  | 5.937 | 5.000 | 6.750 | 7.687 | 3/4 | 2.375 | 1.25 | 0.769 |
| 3.750       | 4.625 | 4.685 | 5.125 | 8.5  | 5.937 | 5.000 | 6.750 | 7.687 | 3/4 | 2.375 | 1.25 | 0.769 |
| 3.875       | 4.750 | 4.810 | 5.250 | 8.5  | 5.937 | 5.000 | 6.750 | 7.687 | 3/4 | 2.375 | 1.25 | 0.769 |
| 4.000       | 4.875 | 4.935 | 5.500 | 9.0  | 6.625 | 5.375 | 7.437 | 8.187 | 3/4 | 2.375 | 1.25 | 0.769 |
| 4.625       | 5.625 | 5.685 | 6.625 | 10.0 | 7.345 | 6.125 | 8.312 | 9.062 | 3/4 | 2.375 | 1.25 | 0.769 |
| 4.750       | 5.625 | 5.685 | 6.625 | 10.0 | 7.345 | 6.125 | 8.312 | 9.062 | 3/4 | 2.375 | 1.25 | 0.769 |

# HQCS-A59(CDPN)

Type: Double Cartridge Seal  
 Replacement: AES CDPN  
 Temperature:  $-30^{\circ}\text{C}$  to  $+205^{\circ}\text{C}$   
 Pressure:  $\leq 2.1\text{Mpa}$   
 Speed:  $\leq 25\text{m/s}$   
 Material: B,A,Q1,Q2,U2,E,V,K,F,G,M



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| d  | D1    |       |       | D2    | D3    | W     |       | M  | L1   | L2   | L3   |
|----|-------|-------|-------|-------|-------|-------|-------|----|------|------|------|
|    | min   | mint  | max   |       |       | min   | max   |    |      |      |      |
| 24 | 40.0  | 41.0  | 46.0  | 104.8 | 60.3  | 74.6  | 92.0  | 12 | 51.3 | 30.7 | 23.5 |
| 25 | 41.0  | 42.0  | 49.2  | 104.8 | 60.3  | 74.6  | 92.0  | 12 | 51.3 | 30.7 | 23.5 |
| 28 | 44.0  | 45.0  | 52.4  | 108.0 | 60.3  | 74.6  | 95.3  | 12 | 51.3 | 30.7 | 23.5 |
| 30 | 46.0  | 47.0  | 55.6  | 111.0 | 63.5  | 77.8  | 98.4  | 12 | 51.3 | 30.7 | 23.5 |
| 32 | 48.0  | 49.0  | 55.6  | 111.0 | 63.5  | 77.8  | 98.4  | 12 | 51.3 | 30.7 | 23.5 |
| 33 | 49.0  | 50.0  | 55.6  | 111.0 | 63.5  | 77.8  | 98.4  | 12 | 51.3 | 30.7 | 23.5 |
| 35 | 50.8  | 51.8  | 58.7  | 111.0 | 66.7  | 80.9  | 98.4  | 12 | 51.3 | 30.7 | 23.5 |
| 38 | 57.2  | 58.2  | 63.5  | 127.0 | 71.9  | 85.7  | 114.3 | 12 | 56.5 | 27.7 | 21.6 |
| 40 | 57.2  | 58.2  | 63.5  | 127.0 | 71.9  | 85.7  | 114.3 | 12 | 56.5 | 27.7 | 21.6 |
| 43 | 60.3  | 61.3  | 63.5  | 127.0 | 71.9  | 85.7  | 114.3 | 12 | 56.5 | 27.7 | 21.6 |
| 45 | 63.5  | 64.5  | 69.8  | 133.4 | 76.7  | 90.5  | 120.7 | 12 | 56.5 | 27.7 | 21.6 |
| 48 | 66.7  | 67.7  | 69.8  | 133.4 | 76.7  | 90.5  | 120.7 | 12 | 56.5 | 27.7 | 21.6 |
| 50 | 68.0  | 69.0  | 69.8  | 133.4 | 76.7  | 90.5  | 120.7 | 12 | 56.5 | 27.7 | 21.6 |
| 53 | 71.0  | 72.0  | 76.2  | 139.7 | 86.0  | 100.0 | 127.0 | 12 | 57.2 | 29.2 | 21.6 |
| 55 | 73.0  | 74.0  | 84.1  | 146.0 | 93.7  | 111.1 | 130.2 | 12 | 57.2 | 29.2 | 21.6 |
| 58 | 76.2  | 77.2  | 84.1  | 146.0 | 93.7  | 111.1 | 130.2 | 16 | 57.2 | 29.2 | 21.6 |
| 60 | 79.4  | 80.4  | 90.5  | 152.4 | 100.0 | 117.5 | 136.5 | 16 | 57.2 | 29.2 | 21.6 |
| 63 | 85.7  | 87.2  | 98.4  | 177.8 | 109.5 | 127.0 | 161.9 | 16 | 63.8 | 31.8 | 23.5 |
| 65 | 88.9  | 90.4  | 98.4  | 177.8 | 109.5 | 127.0 | 161.9 | 16 | 63.8 | 31.8 | 23.5 |
| 70 | 92.1  | 93.6  | 98.4  | 177.8 | 109.5 | 127.0 | 161.9 | 16 | 63.8 | 31.8 | 23.5 |
| 75 | 98.5  | 100.0 | 114.3 | 190.5 | 125.4 | 142.9 | 173.0 | 16 | 63.8 | 31.8 | 23.5 |
| 80 | 101.6 | 103.1 | 114.3 | 190.5 | 125.4 | 142.9 | 173.0 | 16 | 63.8 | 31.8 | 23.5 |
| 85 | 108.0 | 109.5 | 123.7 | 203.2 | 135.0 | 152.4 | 185.7 | 16 | 63.8 | 31.8 | 23.5 |

# HQCS-A59(CDPN)

| d     | D1    |       |       | D2    | D3    | W     |       | M   | L1    | L2    | L3    |
|-------|-------|-------|-------|-------|-------|-------|-------|-----|-------|-------|-------|
|       | min   | mint  | max   |       |       | min   | max   |     |       |       |       |
| 1.000 | 1.625 | 1.665 | 1.937 | 4.125 | 2.375 | 2.937 | 3.625 | 1/2 | 2.020 | 1.209 | 0.927 |
| 1.125 | 1.750 | 1.790 | 2.062 | 4.25  | 2.375 | 2.937 | 3.750 | 1/2 | 2.020 | 1.209 | 0.927 |
| 1.250 | 1.875 | 1.915 | 2.187 | 4.375 | 2.500 | 3.062 | 3.875 | 1/2 | 2.020 | 1.209 | 0.927 |
| 1.375 | 2.000 | 2.040 | 2.312 | 4.375 | 2.625 | 3.186 | 3.875 | 1/2 | 2.020 | 1.209 | 0.927 |
| 1.500 | 2.250 | 2.290 | 2.500 | 5.000 | 2.832 | 3.375 | 4.500 | 1/2 | 2.226 | 1.090 | 0.852 |
| 1.625 | 2.375 | 2.415 | 2.500 | 5.000 | 2.832 | 3.375 | 4.500 | 1/2 | 2.226 | 1.090 | 0.852 |
| 1.750 | 2.500 | 2.540 | 2.750 | 5.250 | 3.022 | 3.562 | 4.750 | 1/2 | 2.226 | 1.090 | 0.852 |
| 1.875 | 2.625 | 2.665 | 2.750 | 5.250 | 3.022 | 3.562 | 4.750 | 1/2 | 2.226 | 1.090 | 0.852 |
| 2.000 | 2.750 | 2.790 | 3.000 | 5.500 | 3.386 | 3.937 | 5.000 | 1/2 | 2.250 | 1.150 | 0.852 |
| 2.125 | 2.875 | 2.915 | 3.312 | 5.750 | 3.687 | 4.375 | 5.125 | 5/8 | 2.250 | 1.150 | 0.852 |
| 2.250 | 3.000 | 3.040 | 3.312 | 5.750 | 3.687 | 4.375 | 5.125 | 5/8 | 2.250 | 1.150 | 0.852 |
| 2.375 | 3.125 | 3.165 | 3.562 | 6.000 | 3.937 | 4.625 | 5.375 | 5/8 | 2.250 | 1.150 | 0.852 |
| 2.500 | 3.375 | 3.435 | 3.875 | 7.000 | 4.312 | 5.000 | 6.375 | 5/8 | 2.510 | 1.250 | 0.926 |
| 2.625 | 3.500 | 3.560 | 3.875 | 7.000 | 4.312 | 5.000 | 6.375 | 5/8 | 2.510 | 1.250 | 0.926 |
| 2.750 | 3.625 | 3.685 | 3.875 | 7.000 | 4.312 | 5.000 | 6.375 | 5/8 | 2.510 | 1.250 | 0.926 |
| 2.875 | 3.750 | 3.810 | 4.500 | 7.500 | 4.937 | 5.625 | 6.812 | 5/8 | 2.510 | 1.250 | 0.926 |
| 3.000 | 3.875 | 3.935 | 4.500 | 7.500 | 4.937 | 5.625 | 6.812 | 5/8 | 2.510 | 1.250 | 0.926 |
| 3.125 | 4.000 | 4.060 | 4.500 | 7.500 | 4.937 | 5.625 | 6.812 | 5/8 | 2.510 | 1.250 | 0.926 |
| 3.250 | 4.125 | 4.185 | 4.875 | 8.000 | 5.312 | 6.000 | 7.312 | 5/8 | 2.510 | 1.250 | 0.926 |
| 3.375 | 4.250 | 4.310 | 4.875 | 8.000 | 5.312 | 6.000 | 7.312 | 5/8 | 2.510 | 1.250 | 0.926 |
| 3.500 | 4.375 | 4.435 | 4.875 | 8.000 | 5.312 | 6.000 | 7.312 | 5/8 | 2.510 | 1.250 | 0.926 |



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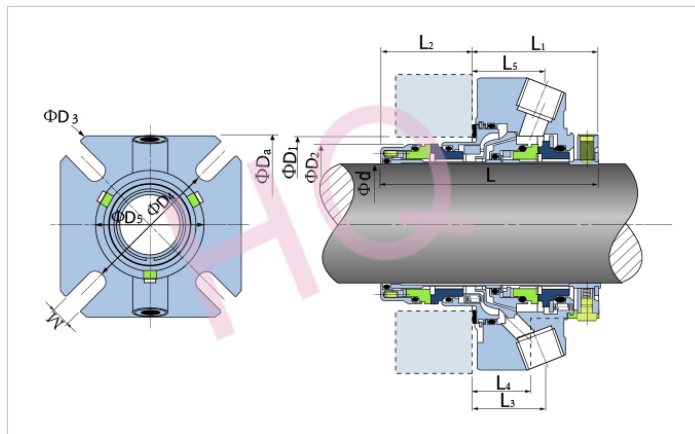
[hq@hqseal.com](mailto:hq@hqseal.com)

# HQCS-A60(DMSF)

Type: Double Cartridge Seal  
 Replacement: AES DMSF  
 Temperature: -30°C to +205°C  
 Pressure:  $\leq 2.1\text{Mpa}$   
 Speed:  $\leq 25\text{m/s}$   
 Material: B,A,Q1,Q2,U2,E,V,K,F,G,M



24MM-70MM/1.000"-2.750"



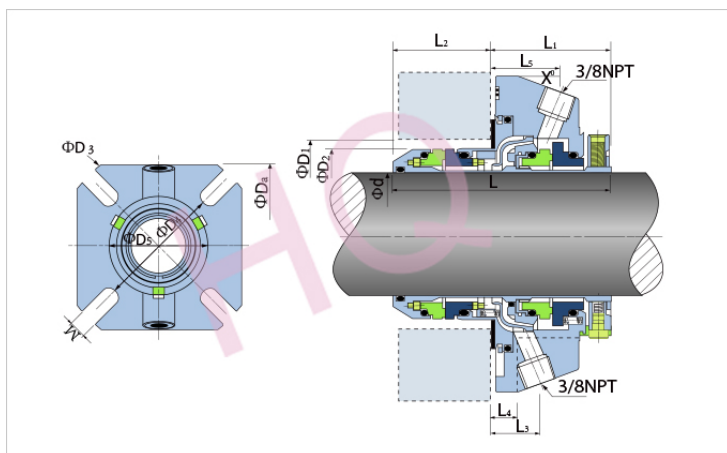
<http://www.hqseal.com>



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| d     | D1    |       | D2    | D3    | D4    | D5    | Da    | L     | L1    | L2    | L3    | L4    | L5    | M     | X   |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-----|
|       | min   | max   |       |       |       |       |       |       |       |       |       |       |       |       |     |
| 24    | 43.0  | 48.0  | 40.8  | 105.0 | 57.7  | 50.4  | 99.0  | 92.0  | 53.1  | 38.9  | 28.2  | 19.2  | 29.2  | 14    | 20° |
| 25    | 44.0  | 51.0  | 41.8  | 105.0 | 62.0  | 51.0  | 99.0  | 92.0  | 53.1  | 38.9  | 27.8  | 19.2  | 29.2  | 14    | 20° |
| 28    | 47.0  | 54.0  | 45.4  | 111.0 | 65.0  | 55.5  | 101.6 | 92.0  | 53.1  | 38.9  | 27.5  | 19.2  | 29.4  | 14    | 20° |
| 30    | 49.0  | 54.0  | 46.8  | 105.0 | 64.6  | 56.4  | 97.8  | 92.0  | 53.1  | 38.9  | 27.4  | 19.2  | 29.7  | 14    | 20° |
| 32    | 51.0  | 57.0  | 49.8  | 105.0 | 66.5  | 59.4  | 99.0  | 92.0  | 53.1  | 38.9  | 28.4  | 21.5  | 30.9  | 14    | 25° |
| 33    | 51.0  | 57.0  | 49.8  | 105.0 | 66.5  | 59.4  | 99.0  | 92.0  | 53.1  | 38.9  | 28.4  | 21.5  | 30.9  | 14    | 25° |
| 35    | 53.0  | 59.0  | 51.8  | 120.0 | 68.5  | 61.4  | 104.1 | 92.0  | 53.1  | 38.9  | 29.3  | 20.7  | 29.3  | 14    | 15° |
| 38    | 57.0  | 69.9  | 55.7  | 135.0 | 80.7  | 70.8  | 114.3 | 92.0  | 53.1  | 38.9  | 30.1  | 21.3  | 30.1  | 14    | 20° |
| 40    | 59.0  | 70.5  | 57.6  | 135.0 | 80.7  | 70.8  | 114.3 | 93.2  | 53.1  | 40.1  | 30.1  | 21.3  | 30.1  | 14    | 20° |
| 43    | 61.0  | 70.5  | 58.6  | 135.0 | 80.7  | 70.8  | 114.3 | 93.2  | 53.1  | 40.1  | 26.7  | 21.3  | 29.8  | 14    | 15° |
| 45    | 64.0  | 75.0  | 62.0  | 139.0 | 84.6  | 73.8  | 117.5 | 93.2  | 53.1  | 40.1  | 30.5  | 21.9  | 30.5  | 14    | 20° |
| 48    | 66.6  | 74.6  | 65.2  | 139.0 | 83.7  | 75.7  | 117.5 | 93.2  | 53.1  | 40.1  | 29.3  | 21.3  | 29.9  | 14    | 20° |
| 50    | 70.0  | 78.0  | 68.0  | 150.0 | 87.6  | 78.9  | 124.5 | 93.2  | 53.1  | 40.1  | 30.5  | 21.6  | 30.5  | 17.5  | 20° |
| 53    | 73.0  | 87.0  | 71.6  | 150.0 | 97.0  | 85.0  | 136.5 | 93.2  | 53.1  | 40.1  | 25.7  | 21.3  | 29.5  | 17.5  | 15° |
| 55    | 73.0  | 87.0  | 71.6  | 150.0 | 97.0  | 85.0  | 136.5 | 93.2  | 53.1  | 40.1  | 25.7  | 21.3  | 29.5  | 17.5  | 15° |
| 58    | 76.2  | 92.0  | 74.7  | 150.0 | 102.4 | 88.0  | 139.7 | 93.2  | 53.1  | 40.1  | 30.1  | 21.3  | 30.1  | 17.5  | 20° |
| 60    | 80.0  | 92.0  | 77.9  | 164.5 | 102.4 | 88.0  | 139.7 | 93.2  | 53.1  | 40.1  | 30.5  | 21.6  | 30.5  | 17.5  | 20° |
| 63    | 83.0  | 98.5  | 81.1  | 171.0 | 108.7 | 94.4  | 147.3 | 93.2  | 53.1  | 40.1  | 29.8  | 21.6  | 29.8  | 17.5  | 15° |
| 65    | 86.0  | 98.5  | 84.3  | 171.0 | 108.7 | 94.4  | 147.3 | 93.2  | 53.1  | 40.1  | 29.4  | 21.3  | 29.4  | 17.5  | 15° |
| 70    | 89.0  | 100.0 | 87.4  | 180.5 | 112.0 | 98.3  | 152.4 | 93.2  | 53.1  | 40.1  | 29.7  | 21.3  | 29.7  | 17.5  | 20° |
| 1.000 | 1.750 | 2.000 | 1.646 | 4.134 | 2.441 | 2.008 | 3.900 | 3.622 | 2.091 | 1.531 | 1.093 | 0.755 | 1.15  | 0.551 | 20° |
| 1.125 | 1.875 | 2.125 | 1.786 | 4.375 | 2.559 | 2.183 | 4.000 | 3.622 | 2.091 | 1.531 | 1.084 | 0.755 | 1.159 | 0.551 | 20° |
| 1.250 | 2.000 | 2.250 | 1.961 | 4.134 | 2.618 | 2.340 | 3.900 | 3.622 | 2.091 | 1.531 | 1.120 | 0.847 | 1.215 | 0.551 | 25° |
| 1.375 | 2.125 | 2.312 | 2.040 | 4.725 | 2.697 | 2.418 | 4.100 | 3.622 | 2.091 | 1.531 | 1.154 | 0.815 | 1.154 | 0.551 | 15° |
| 1.500 | 2.250 | 2.750 | 2.192 | 5.315 | 3.177 | 2.786 | 4.500 | 3.622 | 2.091 | 1.531 | 1.185 | 0.837 | 1.185 | 0.551 | 20° |
| 1.625 | 2.375 | 2.750 | 2.317 | 5.315 | 3.177 | 2.786 | 4.500 | 3.671 | 2.091 | 1.580 | 1.052 | 0.841 | 1.173 | 0.551 | 15° |
| 1.750 | 2.500 | 2.937 | 2.442 | 5.475 | 3.337 | 2.907 | 4.625 | 3.671 | 2.091 | 1.580 | 1.200 | 0.862 | 1.200 | 0.551 | 20° |
| 1.875 | 2.625 | 2.937 | 2.567 | 5.475 | 3.297 | 2.982 | 4.625 | 3.671 | 2.091 | 1.580 | 1.152 | 0.837 | 1.175 | 0.551 | 20° |
| 2.000 | 2.750 | 3.062 | 2.677 | 5.906 | 3.450 | 3.108 | 4.900 | 3.671 | 2.091 | 1.580 | 1.200 | 0.852 | 1.200 | 0.689 | 20° |
| 2.125 | 2.875 | 3.437 | 2.817 | 5.906 | 3.819 | 3.346 | 5.375 | 3.671 | 2.091 | 1.580 | 1.013 | 0.84  | 1.163 | 0.689 | 15° |
| 2.250 | 3.000 | 3.625 | 2.942 | 6.475 | 4.030 | 3.466 | 5.500 | 3.671 | 2.091 | 1.580 | 1.185 | 0.837 | 1.185 | 0.689 | 20° |
| 2.375 | 3.125 | 3.625 | 3.067 | 6.475 | 4.030 | 3.466 | 5.500 | 3.671 | 2.091 | 1.580 | 1.200 | 0.852 | 1.200 | 0.689 | 20° |
| 2.500 | 3.250 | 3.875 | 3.192 | 6.725 | 4.280 | 3.716 | 5.800 | 3.671 | 2.091 | 1.580 | 1.173 | 0.852 | 1.173 | 0.689 | 15° |

75MM-125MM/2.875"-5.0 00"



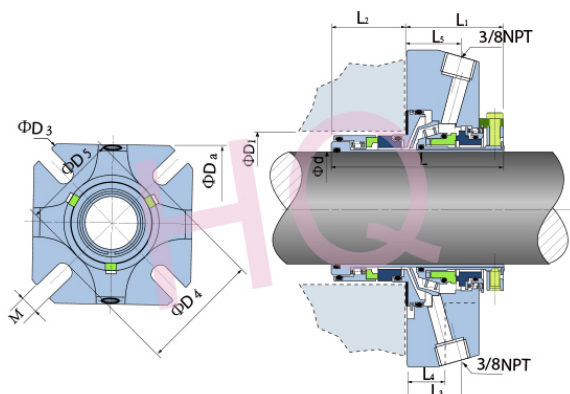
<http://www.hqseal.com>



[hq@hqseal.com](mailto:hq@hqseal.com)

| d     | D1    |       | D2    | D3    | D4    | D5    | Da    | L     | L1   | L2    | L3    | L4    | L5    | M     | X   |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|-------|-------|-------|-------|-------|-----|
|       | min   | max   |       |       |       |       |       |       |      |       |       |       |       |       |     |
| 75    | 101.6 | 117.5 | 98.0  | 189.3 | 131.4 | 116.5 | 169.4 | 115.9 | 63.5 | 52.4  | 25.0  | 25.8  | 36.3  | 17.5  | 20° |
| 80    | 108.0 | 127.0 | 104.4 | 201.9 | 142.5 | 126.0 | 169.4 | 115.9 | 63.5 | 52.4  | 25.0  | 25.8  | 36.3  | 21.0  | 20° |
| 85    | 111.1 | 127.0 | 107.6 | 201.9 | 142.5 | 126.0 | 182.1 | 115.9 | 63.5 | 52.4  | 25.0  | 25.8  | 36.3  | 21.0  | 20° |
| 90    | 117.5 | 136.5 | 113.9 | 214.6 | 152.0 | 135.5 | 194.8 | 115.9 | 63.5 | 52.4  | 26.2  | 25.8  | 36.3  | 21.0  | 20° |
| 95    | 120.0 | 136.5 | 117.1 | 214.6 | 152.0 | 135.5 | 194.8 | 115.9 | 63.5 | 52.4  | 26.2  | 25.8  | 36.3  | 21.0  | 20° |
| 100   | 127.0 | 139.7 | 123.4 | 227.3 | 155.2 | 138.7 | 207.5 | 115.9 | 63.5 | 52.4  | 26.2  | 25.8  | 36.3  | 21.0  | 20° |
| 105   | 133.4 | 152.4 | 129.8 | 240.0 | 167.9 | 151.4 | -     | 115.9 | 63.5 | 52.4  | 36.0  | 23.8  | 40.1  | 21.0  | 45° |
| 110   | 139.7 | 152.4 | 136.1 | 240.0 | 167.9 | 151.4 | -     | 115.9 | 63.5 | 52.4  | 36.0  | 23.8  | 40.1  | 21.0  | 45° |
| 115   | 146.1 | 165.1 | 142.5 | 252.7 | 180.6 | 164.1 | -     | 115.9 | 63.5 | 52.4  | 36.0  | 23.8  | 40.1  | 24.0  | 45° |
| 120   | 146.1 | 165.1 | 142.5 | 252.7 | 180.6 | 164.1 | -     | 115.9 | 63.5 | 52.4  | 36.0  | 23.8  | 40.1  | 24.0  | 45° |
| 125   | 152.4 | 165.1 | 148.8 | 252.7 | 180.6 | 164.1 | -     | 115.9 | 63.5 | 52.4  | 36.0  | 23.8  | 40.1  | 24.0  | 45° |
| 2.875 | 3.875 | 4.625 | 3.735 | 7.45  | 5.173 | 4.585 | 6.67  | 4.562 | 2.5  | 2.062 | 0.986 | 1.014 | 1.429 | 0.689 | 20° |
| 3.000 | 4.000 | 4.625 | 3.860 | 7.45  | 5.173 | 4.585 | 6.67  | 4.562 | 2.5  | 2.062 | 0.986 | 1.014 | 1.429 | 0.689 | 20° |
| 3.125 | 4.125 | 4.625 | 3.985 | 7.45  | 5.173 | 4.585 | 6.67  | 4.562 | 2.5  | 2.062 | 0.986 | 1.014 | 1.429 | 0.689 | 20° |
| 3.250 | 4.250 | 5.000 | 4.110 | 7.95  | 5.610 | 4.960 | 7.17  | 4.562 | 2.5  | 2.062 | 0.986 | 1.014 | 1.429 | 0.827 | 20° |
| 3.375 | 4.375 | 5.000 | 4.235 | 7.95  | 5.610 | 4.960 | 7.17  | 4.562 | 2.5  | 2.062 | 0.986 | 1.014 | 1.429 | 0.827 | 20° |
| 3.500 | 4.500 | 5.000 | 4.360 | 7.95  | 5.610 | 4.960 | 7.17  | 4.562 | 2.5  | 2.062 | 0.986 | 1.014 | 1.429 | 0.827 | 20° |
| 3.625 | 4.625 | 5.375 | 4.485 | 8.45  | 5.985 | 5.335 | 7.67  | 4.562 | 2.5  | 2.062 | 1.033 | 1.014 | 1.429 | 0.827 | 20° |
| 3.750 | 4.750 | 5.375 | 4.610 | 8.45  | 5.985 | 5.335 | 7.67  | 4.562 | 2.5  | 2.062 | 1.033 | 1.014 | 1.429 | 0.827 | 20° |
| 3.875 | 5.000 | 5.500 | 4.860 | 8.95  | 6.110 | 5.460 | 8.17  | 4.562 | 2.5  | 2.062 | 1.033 | 1.014 | 1.429 | 0.827 | 20° |
| 4.000 | 5.000 | 5.500 | 4.860 | 8.95  | 6.110 | 5.460 | 8.17  | 4.562 | 2.5  | 2.062 | 1.033 | 1.014 | 1.429 | 0.827 | 20° |
| 4.125 | 5.250 | 6.000 | 5.110 | 9.45  | 6.610 | 5.960 | -     | 4.562 | 2.5  | 2.062 | 1.418 | 0.937 | 1.578 | 0.827 | 45° |
| 4.250 | 5.250 | 6.000 | 5.110 | 9.45  | 6.610 | 5.960 | -     | 4.562 | 2.5  | 2.062 | 1.418 | 0.937 | 1.578 | 0.827 | 45° |
| 4.375 | 5.500 | 6.000 | 5.360 | 9.45  | 6.610 | 5.960 | -     | 4.562 | 2.5  | 2.062 | 1.418 | 0.937 | 1.578 | 0.827 | 45° |
| 4.500 | 5.500 | 6.000 | 5.360 | 9.45  | 6.610 | 5.960 | -     | 4.562 | 2.5  | 2.062 | 1.418 | 0.937 | 1.578 | 0.827 | 45° |
| 4.625 | 5.750 | 6.500 | 5.610 | 9.95  | 7.110 | 6.460 | -     | 4.562 | 2.5  | 2.062 | 1.418 | 0.937 | 1.578 | 0.945 | 45° |
| 4.750 | 5.750 | 6.500 | 5.610 | 9.95  | 7.110 | 6.460 | -     | 4.562 | 2.5  | 2.062 | 1.418 | 0.937 | 1.578 | 0.945 | 45° |
| 4.875 | 6.000 | 6.500 | 5.860 | 9.95  | 7.110 | 6.460 | -     | 4.562 | 2.5  | 2.062 | 1.418 | 0.937 | 1.578 | 0.945 | 45° |
| 5.000 | 6.000 | 6.500 | 5.860 | 9.95  | 7.110 | 6.460 | -     | 4.562 | 2.5  | 2.062 | 1.418 | 0.937 | 1.578 | 0.945 | 45° |

# HQCS-A61(CDFC)



Type: Double Cartridge Seal  
 Replacement: AES CDFC  
 Temperature: -30°C to +205°C  
 Pressure:  $\leq 2.1$  Mpa  
 Speed:  $\leq 25$  m/s  
 Material: B,A,Q1,Q2,U2,E,V,K,F,G,M

## 28MM-65MM/1.125"-2.625"

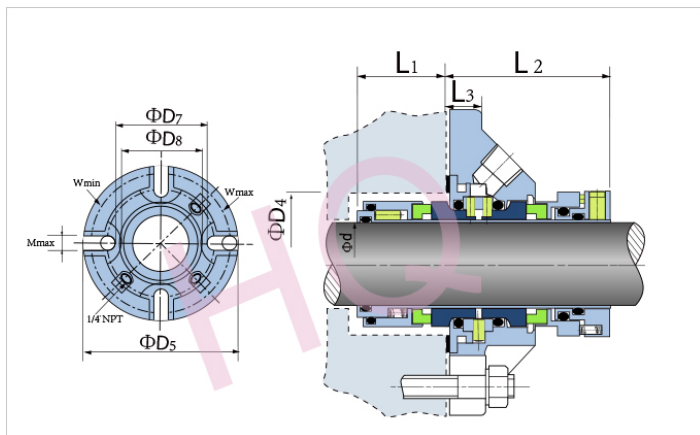
| d       | D1    |       | D3    | D4    | D5    | M     | L     | L1    | L2    | L3    | L4    | L5    |
|---------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
|         | min   | max   |       |       |       |       |       |       |       |       |       |       |
| 28      | 44.0  | 52.0  | 111.1 | 62.2  | 57.2  | 14.0  | 90.0  | 52.4  | 37.6  | 20.6  | 19.1  | 28.6  |
| 35      | 51.0  | 60.3  | 104.1 | 71.8  | 67.0  | 14.0  | 90.0  | 52.4  | 37.6  | 20.6  | 19.1  | 28.6  |
| 45      | 63.5  | 73.0  | 139.1 | 83.8  | 75.7  | 14.0  | 92.8  | 53.1  | 39.7  | 31.5  | 19.1  | 33.0  |
| 55      | 74.0  | 90.5  | 150.0 | 100.3 | 86.6  | 17.5  | 94.4  | 53.1  | 41.3  | 25.3  | 22.2  | 29.0  |
| 60      | 79.4  | 95.0  | 170.8 | 108.7 | 94.4  | 17.5  | 94.4  | 53.1  | 41.3  | 26.5  | 19.1  | 29.7  |
| 63      | 85.8  | 95.0  | 170.8 | 108.7 | 94.4  | 17.5  | 95.5  | 53.1  | 42.4  | 31.5  | 19.1  | 33.0  |
| 65      | 88.9  | 98.0  | 180.3 | 111.9 | 98.3  | 17.5  | 95.5  | 53.1  | 42.4  | 31.5  | 19.1  | 33.0  |
| 1.125   | 1.750 | 2.062 | 4.375 | 2.449 | 2.25  | 0.551 | 3.546 | 2.062 | 1.484 | 0.812 | 0.75  | 1.125 |
| 1.375   | 2.000 | 2.375 | 4.100 | 2.827 | 2.638 | 0.551 | 3.546 | 2.062 | 1.484 | 0.812 | 0.75  | 1.125 |
| 1.750   | 2.500 | 2.875 | 5.475 | 3.297 | 2.982 | 0.551 | 3.653 | 2.091 | 1.562 | 1.240 | 0.75  | 1.299 |
| 1.875   | 2.625 | 3.000 | 5.906 | 3.450 | 3.108 | 0.689 | 3.653 | 2.091 | 1.562 | 1.240 | 0.75  | 1.299 |
| 1.875-D | 2.625 | 2.875 | 4.875 | 3.325 | 3.025 | 0.472 | 3.653 | 2.091 | 1.562 | 1.150 | 0.8   | 1.150 |
| 2.125   | 2.875 | 3.562 | 5.906 | 3.950 | 3.408 | 0.689 | 3.716 | 2.091 | 1.625 | 0.995 | 0.875 | 1.140 |
| 2.375   | 3.125 | 3.750 | 6.725 | 4.280 | 3.716 | 0.689 | 3.716 | 2.091 | 1.625 | 1.043 | 0.75  | 1.170 |
| 2.500   | 3.375 | 3.750 | 6.725 | 4.280 | 3.716 | 0.689 | 3.761 | 2.091 | 1.670 | 1.240 | 0.75  | 1.299 |
| 2.625   | 3.500 | 3.875 | 7.100 | 4.405 | 3.871 | 0.689 | 3.761 | 2.091 | 1.670 | 1.240 | 0.75  | 1.299 |

## 75MM-100MM/2.750"-4.000"

| d     | D1    |       | D3    | D4    | D5    | M     | L    | L1   | L2   | L3    | L4    | L5    |
|-------|-------|-------|-------|-------|-------|-------|------|------|------|-------|-------|-------|
|       | min   | max   |       |       |       |       |      |      |      |       |       |       |
| 75    | 98.5  | 117.4 | 189.2 | 131.4 | 116.5 | 17.5  | 106  | 63.5 | 42.5 | 36    | 23.8  | 40.1  |
| 80    | 101.6 | 127.0 | 201.9 | 142.5 | 126.0 | 21.0  | 106  | 63.5 | 42.5 | 36    | 23.8  | 40.1  |
| 85    | 108.0 | 127.0 | 201.9 | 142.5 | 126.0 | 21.0  | 106  | 63.5 | 42.5 | 36    | 23.8  | 40.1  |
| 90    | 114.3 | 136.5 | 214.6 | 152   | 135.5 | 21.0  | 106  | 63.5 | 42.5 | 36    | 23.8  | 40.1  |
| 95    | 117.5 | 139.7 | 227.3 | 155.2 | 138.7 | 21.0  | 106  | 63.5 | 42.5 | 36    | 23.8  | 40.1  |
| 100   | 123.9 | 152.4 | 240.0 | 167.9 | 151.4 | 21.0  | 106  | 63.5 | 42.5 | 36    | 23.8  | 40.1  |
| 2.750 | 3.625 | 4.625 | 7.45  | 5.173 | 4.585 | 0.689 | 4.17 | 2.5  | 1.67 | 1.418 | 0.937 | 1.578 |
| 2.875 | 3.750 | 4.625 | 7.45  | 5.173 | 4.585 | 0.689 | 4.17 | 2.5  | 1.67 | 1.418 | 0.937 | 1.578 |
| 3.000 | 3.875 | 4.625 | 7.45  | 5.173 | 4.585 | 0.689 | 4.17 | 2.5  | 1.67 | 1.418 | 0.937 | 1.578 |
| 3.125 | 4.000 | 5.000 | 7.95  | 5.610 | 4.960 | 0.827 | 4.17 | 2.5  | 1.67 | 1.418 | 0.937 | 1.578 |
| 3.250 | 4.125 | 5.000 | 7.95  | 5.610 | 4.960 | 0.827 | 4.17 | 2.5  | 1.67 | 1.418 | 0.937 | 1.578 |
| 3.375 | 4.250 | 5.000 | 7.95  | 5.610 | 4.960 | 0.827 | 4.17 | 2.5  | 1.67 | 1.418 | 0.937 | 1.578 |
| 3.500 | 4.375 | 5.375 | 8.45  | 5.985 | 5.335 | 0.827 | 4.17 | 2.5  | 1.67 | 1.418 | 0.937 | 1.578 |
| 3.625 | 4.500 | 5.375 | 8.45  | 5.985 | 5.335 | 0.827 | 4.17 | 2.5  | 1.67 | 1.418 | 0.937 | 1.578 |
| 3.750 | 4.625 | 5.500 | 8.95  | 6.110 | 5.460 | 0.827 | 4.17 | 2.5  | 1.67 | 1.418 | 0.937 | 1.578 |
| 3.875 | 4.75  | 5.500 | 8.95  | 6.110 | 5.460 | 0.827 | 4.17 | 2.5  | 1.67 | 1.418 | 0.937 | 1.578 |
| 4.000 | 4.875 | 6.000 | 9.45  | 6.610 | 5.960 | 0.827 | 4.17 | 2.5  | 1.67 | 1.418 | 0.937 | 1.578 |

# HQCS-A55(CDSA)

Type: Double Cartridge Seal  
 Replacement: AES CDSA  
 Temperature: -30°C to +205°C  
 Pressure:  $\leq 2.1\text{Mpa}/1.3\text{Mpa}$   
 Speed:  $\leq 25\text{m/s}$   
 Material: Q1,Q2,U2,T,P,M1,F,G,M



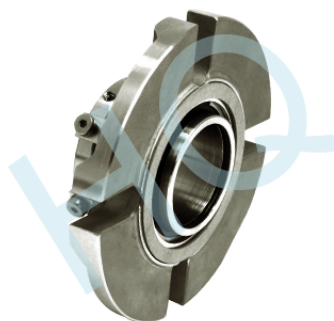
<http://www.hqseal.com>



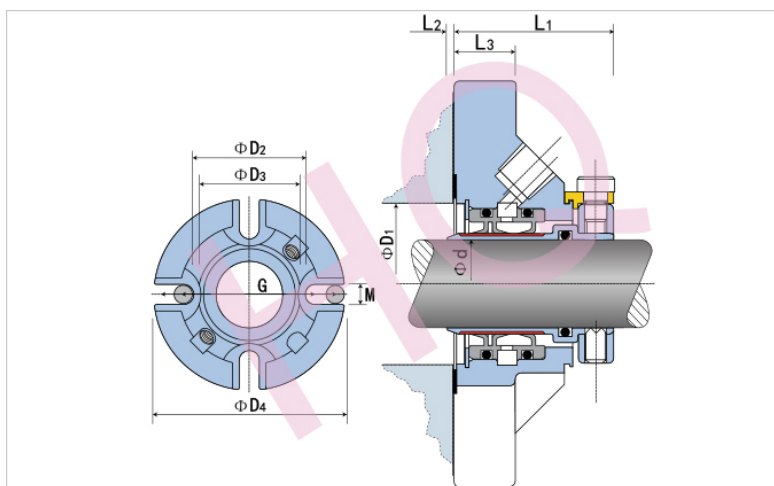
[hq@hqseal.com](mailto:hq@hqseal.com)

| d<br>(mm) | D4    |       | D5    | D7    | D8    | W     |       | M  | L1   | L2   | L3   |
|-----------|-------|-------|-------|-------|-------|-------|-------|----|------|------|------|
|           | min   | max   |       |       |       | min   | max   |    |      |      |      |
| 24        | 40.0  | 46.0  | 104.8 | 54.0  | 49.2  | 67.0  | 90.5  | 12 | 32.5 | 52.4 | 13.2 |
| 25        | 41.0  | 49.0  | 104.8 | 54.0  | 49.2  | 67.0  | 90.5  | 12 | 32.5 | 52.4 | 13.2 |
| 28        | 44.0  | 52.3  | 108.0 | 57.2  | 52.4  | 70.3  | 93.6  | 12 | 32.5 | 52.4 | 13.2 |
| 30        | 46.0  | 55.5  | 111.0 | 60.4  | 55.6  | 73.5  | 96.8  | 12 | 32.5 | 52.4 | 13.2 |
| 32        | 48.0  | 55.5  | 111.0 | 60.4  | 55.6  | 73.5  | 96.8  | 12 | 32.5 | 52.4 | 13.2 |
| 33        | 49.0  | 55.5  | 111.0 | 60.4  | 55.6  | 73.5  | 96.8  | 12 | 32.5 | 52.4 | 13.2 |
| 35        | 51.0  | 57.5  | 111.0 | 63.5  | 58.8  | 76.6  | 96.8  | 12 | 32.5 | 52.4 | 13.2 |
| 38        | 57.2  | 60.3  | 127.0 | 71.5  | 65.0  | 85.7  | 114.3 | 12 | 33.3 | 54.0 | 16.4 |
| 40        | 58.0  | 60.4  | 127.0 | 71.5  | 65.0  | 85.7  | 114.3 | 12 | 33.3 | 54.0 | 16.4 |
| 43        | 61.0  | 63.5  | 127.0 | 71.5  | 65.0  | 85.7  | 114.3 | 12 | 33.3 | 54.0 | 16.4 |
| 45        | 63.5  | 69.9  | 139.7 | 81.0  | 71.4  | 95.3  | 127.0 | 12 | 33.3 | 54.0 | 16.4 |
| 48        | 66.7  | 73.0  | 139.7 | 81.0  | 71.4  | 95.3  | 127.0 | 12 | 33.3 | 54.0 | 16.4 |
| 50        | 68.0  | 73.0  | 139.7 | 81.0  | 71.4  | 95.3  | 127.0 | 12 | 33.3 | 54.0 | 16.4 |
| 53        | 71.0  | 76.2  | 152.4 | 90.5  | 77.8  | 104.8 | 139.7 | 12 | 35.0 | 54.0 | 16.4 |
| 55        | 74.0  | 79.4  | 152.4 | 90.5  | 77.8  | 104.8 | 139.7 | 12 | 35.0 | 54.0 | 16.4 |
| 58        | 76.2  | 82.5  | 165.1 | 96.8  | 84.1  | 114.3 | 149.2 | 16 | 35.0 | 54.0 | 16.4 |
| 60        | 79.4  | 85.7  | 165.1 | 96.8  | 84.1  | 114.3 | 149.2 | 16 | 35.0 | 54.0 | 16.4 |
| 63        | 85.8  | 92.1  | 177.8 | 109.5 | 96.8  | 127.0 | 160.3 | 16 | 38.1 | 60.3 | 19.6 |
| 65        | 88.9  | 95.3  | 177.8 | 109.5 | 96.8  | 127.0 | 160.3 | 16 | 38.1 | 60.3 | 19.6 |
| 68        | 92.1  | 98.4  | 177.8 | 109.5 | 96.8  | 127.0 | 160.3 | 16 | 38.1 | 60.3 | 19.6 |
| 70        | 92.1  | 98.4  | 177.8 | 109.5 | 96.8  | 127.0 | 160.3 | 16 | 38.1 | 60.3 | 19.6 |
| 75        | 98.5  | 108.0 | 190.5 | 125.4 | 108.0 | 142.9 | 173.0 | 16 | 38.1 | 60.3 | 19.6 |
| 80        | 101.6 | 111.1 | 190.5 | 125.4 | 108.0 | 142.9 | 173.0 | 16 | 38.1 | 60.3 | 19.6 |
| 85        | 108.0 | 117.5 | 203.2 | 135.0 | 117.5 | 155.6 | 182.5 | 20 | 38.1 | 60.3 | 19.6 |
| 90        | 114.3 | 127.0 | 215.9 | 150.8 | 127.0 | 171.5 | 195.2 | 20 | 38.1 | 60.3 | 19.6 |
| 95        | 117.5 | 130.2 | 215.9 | 150.8 | 127.0 | 171.5 | 195.2 | 20 | 38.1 | 60.3 | 19.6 |
| 100       | 123.9 | 139.7 | 228.6 | 168.3 | 136.5 | 189.0 | 208.0 | 20 | 38.1 | 60.3 | 19.6 |
| 105       | 130.1 | 149.2 | 228.6 | 168.3 | 136.5 | 189.0 | 208.0 | 20 | 38.1 | 60.3 | 19.6 |
| 110       | 136.5 | 158.8 | 241.3 | 177.8 | 146.2 | 198.4 | 220.6 | 20 | 38.1 | 60.3 | 19.6 |
| 115       | 142.9 | 168.3 | 254.0 | 186.6 | 155.8 | 211.1 | 230.2 | 23 | 38.1 | 60.3 | 19.6 |
| 120       | 142.9 | 168.3 | 254.0 | 186.6 | 155.8 | 211.1 | 230.2 | 23 | 38.1 | 60.3 | 19.6 |
| 125       | 142.9 | 168.3 | 254.0 | 186.6 | 155.8 | 211.1 | 230.2 | 23 | 38.1 | 60.3 | 19.6 |

# HQCS-A72(CLIP)



Type: Cartridge Lip Seal  
 Replacement: AES CLIP  
 Temperature: -15 to +210°C  
 Pressure:  $\leq 2.5\text{Mpa}$   
 Speed:  $\leq 20\text{m/s}$   
 Material: Q1,Q2,U2,T,V,M1,F,G,M



| d<br>(inch) | D1<br>(max) | D2    | D3    | D4    | G     |       | L1    | L2   | L3    | M     | K     |
|-------------|-------------|-------|-------|-------|-------|-------|-------|------|-------|-------|-------|
|             |             |       |       |       | min   | max   |       |      |       |       |       |
| 1.437       | 2.312       | 2.870 | n/a   | 4.000 | 3.375 | 3.562 | 1.625 | 0.12 | 1.055 | 0.438 | 0.570 |
| 1.500       | 2.375       | 2.812 | 2.562 | 4.990 | 3.375 | 4.437 | 1.710 | 0.05 | 0.644 | 0.500 | 0.933 |
| 1.625       | 2.500       | 2.812 | 2.562 | 4.990 | 3.375 | 4.437 | 1.710 | 0.05 | 0.644 | 0.500 | 0.933 |
| 2.437       | 3.625       | 4.312 | 3.812 | 6.687 | 5.000 | 6.062 | 1.875 | 0.06 | 0.769 | 0.625 | 1.129 |
| 2.500       | 3.625       | 4.312 | 3.812 | 6.990 | 5.000 | 6.312 | 1.875 | 0.06 | 0.769 | 0.625 | 0.129 |



<http://www.hqseal.com>



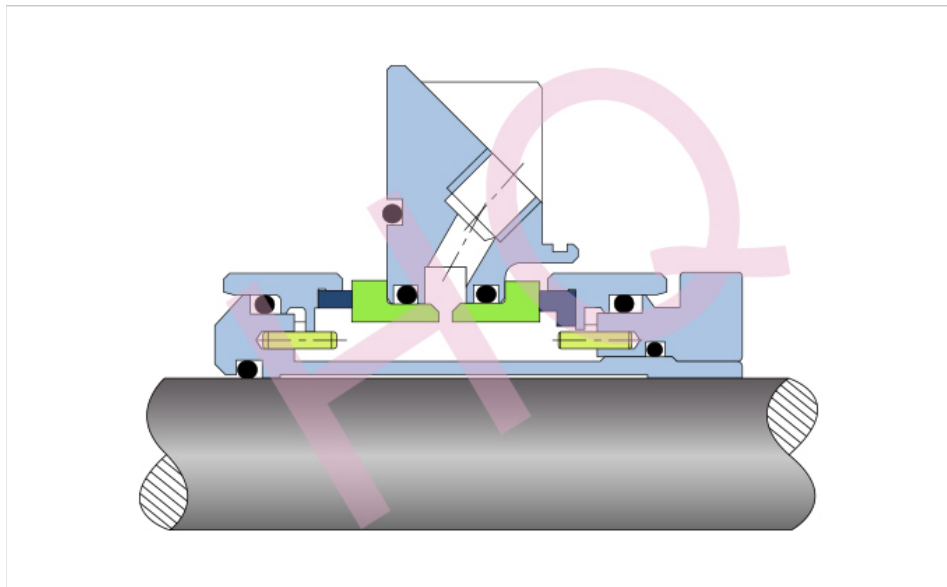
[hq@hqseal.com](mailto:hq@hqseal.com)



## HQS-A-CDPH



Type: Slurry Pumps Seal  
 Replacement: AES CDPH  
 Temperature:  $\leq 180^{\circ}\text{C}$   
 Pressure:  $\leq 0.80\text{Mpa}$   
 Speed:  $\leq 10\text{r/min}$   
 Material: Q1, Q2, A, B, U1, U2, P, E, V, T, F, G, T2, M5



**\* Product description:**

Double seal suitable for all mining and mineral ore production applications.

Seal face technology designed to accommodate process upsets

Robust construction designed for ease of installation.

Upgrade service from OEM or non-AESSEAL seals.

Rapid delivery on engineered customized designs.



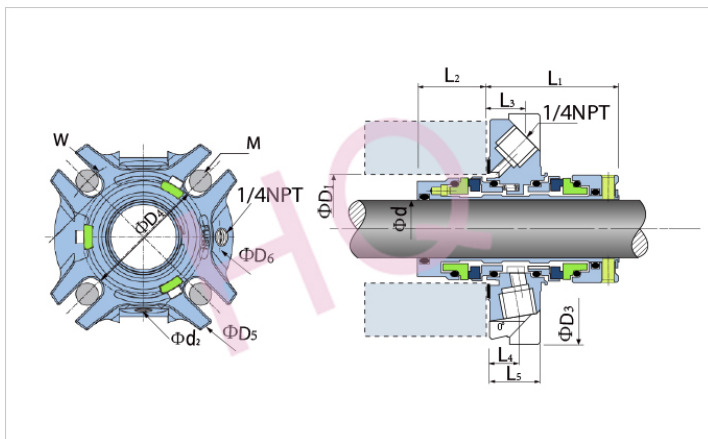
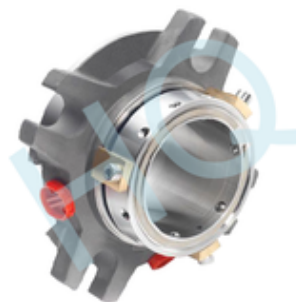
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# HQCS-A63(DISP)

Type: Double Cartridge Seal  
 Replacement: AES DISP  
 Temperature: -30°C to +205°C  
 Pressure:  $\leq 2.1\text{Mpa}$   
 Speed:  $\leq 25\text{m/s}$   
 Material: B,A,Q1,Q2,U2,E,V,K,F,G,M



<http://www.hqseal.com>

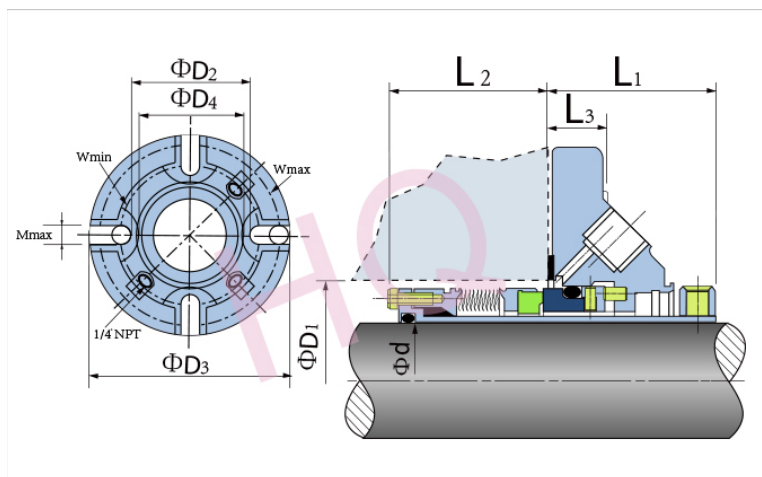
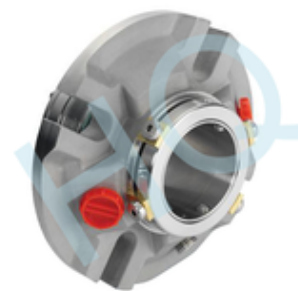


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| d   | d2<br>(NPT) | D1    |       | D3    | D4    | D5    | D6    | W     |       | M  | L1   | L2   | L3   | L4   | L5   | O  |
|-----|-------------|-------|-------|-------|-------|-------|-------|-------|-------|----|------|------|------|------|------|----|
|     |             | min   | max   |       |       |       |       | min   | max   |    |      |      |      |      |      |    |
| 24  | 1/4         | 41.0  | 48.6  | 71.4  | 57.2  | 104.8 | 79.1  | 71.2  | 92.8  | 12 | 52.6 | 28.2 | 17.9 | 15.0 | 23.8 | 10 |
| 25  | 1/4         | 41.0  | 48.6  | 71.4  | 57.2  | 104.8 | 79.1  | 71.2  | 92.8  | 12 | 52.6 | 28.2 | 17.9 | 15.0 | 23.8 | 10 |
| 28  | 1/4         | 44.0  | 52.6  | 76.2  | 60.4  | 108.0 | 82.6  | 74.3  | 96.0  | 12 | 52.6 | 28.2 | 17.0 | 14.1 | 23.8 | 10 |
| 30  | 1/4         | 46.0  | 54.7  | 78.0  | 63.5  | 111.1 | 84.1  | 77.5  | 99.0  | 12 | 52.6 | 28.2 | 17.8 | 13.0 | 23.8 | 10 |
| 32  | 1/4         | 48.0  | 54.7  | 78.5  | 63.5  | 111.1 | 84.1  | 77.5  | 99.0  | 12 | 52.6 | 28.2 | 17.8 | 13.0 | 23.8 | 10 |
| 33  | 1/4         | 49.0  | 54.7  | 78.5  | 63.5  | 111.1 | 84.1  | 77.5  | 99.0  | 12 | 52.6 | 28.2 | 17.8 | 13.0 | 23.8 | 10 |
| 33K | 1/4         | 49.0  | 54.7  | 82.5  | 63.5  | 98.5  | 97.0  | 77.5  | 86.5  | 12 | 53.3 | 27.7 | 13.7 | 13.7 | 21.7 | 15 |
| 35  | 1/4         | 51.0  | 58.6  | 78.5  | 66.7  | 111.1 | 83.8  | 80.7  | 99.0  | 12 | 52.6 | 28.2 | 17.6 | 13.0 | 23.8 | 10 |
| 38  | 1/4         | 58.0  | 63.6  | 85.7  | 72.0  | 127.0 | 92.1  | 85.9  | 115.0 | 12 | 53.3 | 28.0 | 16.2 | 12.7 | 21.7 | 10 |
| 40  | 1/4         | 60.0  | 64.7  | 85.7  | 72.0  | 127.0 | 92.1  | 85.9  | 115.0 | 12 | 53.3 | 28.0 | 16.2 | 12.7 | 21.7 | 10 |
| 43  | 1/4         | 63.0  | 68.6  | 89.7  | 76.8  | 133.4 | 94.9  | 90.8  | 121.3 | 12 | 53.3 | 28.0 | 16.1 | 13.0 | 21.7 | 10 |
| 43K | 1/4         | 63.0  | 71.7  | 93.5  | 81.0  | 119.7 | 101.6 | 95.0  | 107.6 | 12 | 53.3 | 28.0 | 18.9 | 22.9 | 17.1 | 45 |
| 45  | 1/4         | 65.0  | 70.2  | 88.9  | 76.8  | 133.4 | 95.3  | 90.8  | 121.4 | 12 | 53.3 | 28.0 | 16.1 | 12.7 | 21.7 | 10 |
| 48  | 1/4         | 67.0  | 70.2  | 88.9  | 76.8  | 133.4 | 95.3  | 90.8  | 121.4 | 12 | 53.3 | 28.0 | 16.2 | 12.7 | 21.7 | 10 |
| 50  | 1/4         | 70.0  | 77.7  | 95.3  | 86.0  | 139.7 | 101.6 | 100.0 | 127.7 | 12 | 53.3 | 28.0 | 16.2 | 12.7 | 21.7 | 10 |
| 53  | 1/4         | 73.0  | 84.7  | 101.3 | 93.6  | 146.1 | 108.0 | 111.1 | 130.0 | 16 | 53.3 | 28.0 | 16.2 | 13.4 | 21.7 | 10 |
| 55  | 1/4         | 75.0  | 84.7  | 101.3 | 93.6  | 146.1 | 108.0 | 111.1 | 130.0 | 16 | 53.3 | 28.0 | 16.2 | 13.4 | 21.7 | 10 |
| 58  | 1/4         | 78.0  | 84.7  | 11.3  | 93.6  | 146.1 | 108.0 | 111.1 | 130.0 | 16 | 53.3 | 28.0 | 16.2 | 13.4 | 21.7 | 10 |
| 60  | 1/4         | 80.0  | 89.6  | 104.4 | 100.0 | 152.4 | 114.3 | 117.5 | 136.4 | 16 | 53.3 | 28.0 | 16.2 | 13.7 | 21.7 | 10 |
| 63  | 3/8         | 82.6  | 98.6  | 121.2 | 109.5 | 177.8 | 126.8 | 127.0 | 161.8 | 16 | 53.9 | 27.4 | 18.8 | 13.5 | 23.9 | 10 |
| 65  | 3/8         | 85.7  | 98.7  | 121.2 | 109.5 | 177.8 | 126.8 | 127.0 | 161.8 | 16 | 53.9 | 27.4 | 18.8 | 13.5 | 23.9 | 10 |
| 70  | 3/8         | 90.0  | 98.7  | 121.2 | 109.5 | 177.8 | 126.8 | 127.0 | 161.8 | 16 | 53.9 | 27.4 | 18.8 | 13.5 | 23.9 | 10 |
| 75  | 3/8         | 98.4  | 113.5 | 130.6 | 125.4 | 190.5 | 137.2 | 142.9 | 14.5  | 16 | 60.2 | 33.0 | 18.5 | 13.8 | 23.9 | 10 |
| 80  | 3/8         | 101.6 | 113.5 | 130.6 | 125.4 | 190.5 | 138.1 | 142.9 | 174.5 | 16 | 60.2 | 33.0 | 18.0 | 13.8 | 23.9 | 10 |
| 85  | 3/8         | 108.0 | 121.5 | 140.2 | 135.0 | 203.2 | 146.0 | 156.0 | 185.0 | 20 | 60.2 | 33.0 | 18.9 | 13.4 | 23.9 | 10 |

# HQMB-A50(BQFD)

Type: Metal Bellow Seal  
 Replacement: AES BQFD  
 Temperature: -40°C to +204°C  
 Pressure:  $\leq 2.0\text{Mpa}$   
 Speed:  $\leq 20\text{m/s}$   
 Material: A,B,Q1,Q2,U1,U2,T,Graphite,V,G,F,M,T6



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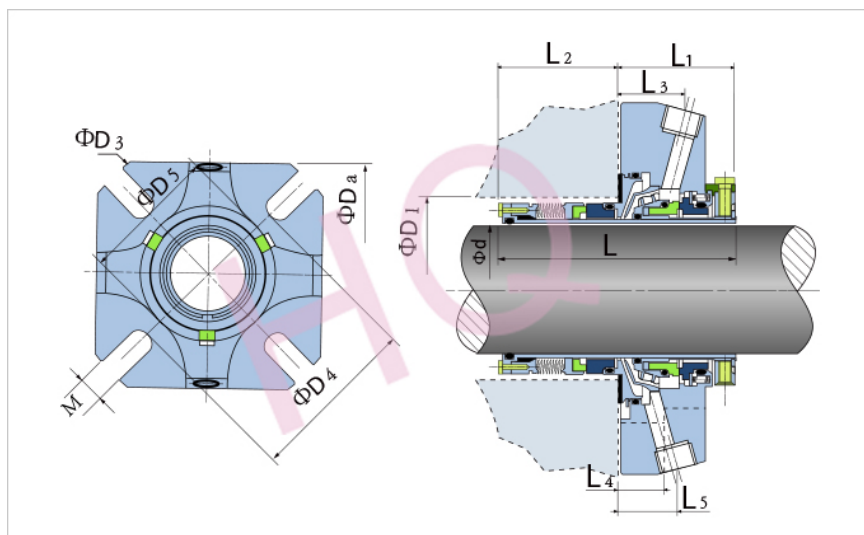


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| d<br>(mm) | D3    | D2    | D4    | L3   | D1(min) | D1(max) | W(min) | W(max) | M(max) | L2   | L1   |
|-----------|-------|-------|-------|------|---------|---------|--------|--------|--------|------|------|
| 24        | 104.8 | 54.0  | 49.2  | 13.2 | 41.0    | 49.0    | 67.0   | 90.5   | 12     | 38.9 | 40.5 |
| 25        | 104.8 | 54.0  | 49.2  | 13.2 | 41.0    | 49.0    | 67.0   | 90.5   | 12     | 38.9 | 40.5 |
| 28        | 108.0 | 57.2  | 52.4  | 13.2 | 44.0    | 52.3    | 70.3   | 93.6   | 12     | 38.9 | 40.5 |
| 30        | 111.0 | 60.4  | 55.6  | 13.2 | 46.0    | 55.5    | 73.5   | 96.8   | 12     | 38.9 | 40.5 |
| 32        | 111.0 | 60.4  | 55.6  | 13.2 | 48.0    | 55.5    | 73.5   | 96.8   | 12     | 38.9 | 40.5 |
| 33        | 111.0 | 60.4  | 55.6  | 13.2 | 49.0    | 55.5    | 73.5   | 96.8   | 12     | 38.9 | 40.5 |
| 35        | 111.0 | 63.5  | 58.8  | 13.2 | 51.0    | 57.5    | 76.6   | 96.8   | 12     | 38.9 | 40.5 |
| 38        | 127.0 | 71.5  | 65.0  | 16.4 | 57.2    | 60.4    | 85.7   | 114.3  | 12     | 42.9 | 44.5 |
| 40        | 127.0 | 71.5  | 65.0  | 16.4 | 58.0    | 60.4    | 85.7   | 114.3  | 12     | 42.9 | 44.5 |
| 43        | 139.7 | 81.0  | 71.4  | 16.4 | 61.0    | 69.9    | 95.3   | 127.0  | 12     | 42.9 | 44.5 |
| 45        | 139.7 | 81.0  | 71.4  | 16.4 | 63.5    | 69.9    | 95.3   | 127.0  | 12     | 42.9 | 44.5 |
| 48        | 139.7 | 81.0  | 71.4  | 16.4 | 66.7    | 73.0    | 95.3   | 127.0  | 12     | 42.9 | 44.5 |
| 50        | 152.4 | 90.5  | 77.8  | 16.4 | 68.0    | 76.2    | 104.8  | 139.7  | 12     | 44.5 | 44.5 |
| 53        | 152.4 | 90.5  | 77.8  | 16.4 | 71.0    | 76.2    | 104.8  | 139.7  | 12     | 44.5 | 44.5 |
| 55        | 165.1 | 96.8  | 84.1  | 16.4 | 74.0    | 82.5    | 114.3  | 149.2  | 16     | 44.5 | 44.5 |
| 58        | 165.1 | 96.8  | 84.1  | 16.4 | 76.2    | 82.6    | 114.3  | 149.2  | 16     | 44.5 | 44.5 |
| 60        | 165.1 | 96.8  | 84.1  | 16.4 | 79.4    | 85.7    | 114.3  | 149.2  | 16     | 44.5 | 44.5 |
| 63        | 177.8 | 109.5 | 96.8  | 19.6 | 85.8    | 92.1    | 127.0  | 160.3  | 16     | 51.6 | 47.7 |
| 65        | 177.8 | 109.5 | 96.8  | 19.6 | 88.9    | 95.3    | 127.0  | 160.3  | 16     | 51.6 | 47.7 |
| 68        | 177.8 | 109.5 | 96.8  | 19.6 | 92.1    | 98.4    | 127.0  | 160.3  | 16     | 51.6 | 47.7 |
| 70        | 177.8 | 109.5 | 96.8  | 19.6 | 92.1    | 98.4    | 127.0  | 160.3  | 16     | 54.6 | 47.7 |
| 75        | 190.5 | 125.4 | 108.0 | 19.6 | 98.5    | 108.0   | 142.9  | 173.0  | 16     | 54.6 | 47.7 |
| 80        | 190.5 | 125.4 | 108.0 | 19.6 | 101.6   | 111.1   | 142.9  | 173.0  | 16     | 54.6 | 47.7 |
| 85        | 203.2 | 135.0 | 117.5 | 19.6 | 108.0   | 117.5   | 155.6  | 182.5  | 20     | 54.6 | 47.7 |
| 90        | 215.9 | 150.8 | 127.0 | 19.6 | 114.3   | 127.0   | 171.5  | 195.2  | 20     | 54.6 | 47.7 |
| 95        | 215.9 | 150.8 | 127.0 | 19.6 | 117.5   | 130.2   | 171.5  | 195.2  | 20     | 54.6 | 47.7 |
| 100       | 228.6 | 168.3 | 136.0 | 19.6 | 123.9   | 139.7   | 188.9  | 207.9  | 20     | 54.6 | 47.7 |

# HQMB-A51(BDFC)

Type: Metal Bellow Seal  
 Replacement: AES BDFC  
 Temperature:  $-30^{\circ}\text{C}$  to  $+204^{\circ}\text{C}$   
 Pressure:  $\leq 2.0\text{Mpa}$   
 Speed:  $\leq 20\text{m/s}$   
 Material: A,B,Q1,Q2,U1,U2,T,Graphite,V,G,F,M,T6



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| d       | D1    |       | D3    | D4    | D5    | M     | L     | L1    | L2    | L3    | L4    | L5    |
|---------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
|         | min   | max   |       |       |       |       |       |       |       |       |       |       |
| 28      | 44.0  | 52    | 111.1 | 62.2  | 57.2  | 14.0  | 100.8 | 52.4  | 48.4  | 28.6  | 19.1  | 20.6  |
| 35      | 51.0  | 60.3  | 104.1 | 71.8  | 67.0  | 11.0  | 100.8 | 52.4  | 48.4  | 28.6  | 19.1  | 20.6  |
| 45      | 63.5  | 73.0  | 139.1 | 83.8  | 75.7  | 14.0  | 106.7 | 53.1  | 53.6  | 33.0  | 19.1  | 31.5  |
| 55      | 74.0  | 90.5  | 150.0 | 100.3 | 86.6  | 17.5  | 108.7 | 53.1  | 55.6  | 29.0  | 22.2  | 25.3  |
| 60      | 79.4  | 95.0  | 170.8 | 108.7 | 94.4  | 17.5  | 108.7 | 53.1  | 55.6  | 29.7  | 19.1  | 26.5  |
| 63      | 85.8  | 95.0  | 170.8 | 108.7 | 94.4  | 17.5  | 114.9 | 53.1  | 61.8  | 33.0  | 19.1  | 31.5  |
| 65      | 88.9  | 98.0  | 180.3 | 111.9 | 98.3  | 17.5  | 114.9 | 53.1  | 61.8  | 33.0  | 19.1  | 31.5  |
| 1.125   | 1.750 | 2.062 | 4.375 | 2.449 | 2.250 | 0.551 | 3.970 | 2.062 | 1.908 | 1.125 | 0.750 | 0.812 |
| 1.375   | 2.000 | 2.375 | 4.100 | 2.827 | 2.638 | 0.433 | 3.970 | 2.062 | 1.908 | 1.125 | 0.750 | 0.812 |
| 1.750   | 2.500 | 2.875 | 5.475 | 3.297 | 2.982 | 0.551 | 4.20  | 2.091 | 2.109 | 1.299 | 0.750 | 1.240 |
| 1.875   | 2.625 | 3.000 | 5.906 | 3.450 | 3.108 | 0.689 | 4.20  | 2.091 | 2.109 | 1.299 | 0.750 | 1.240 |
| 1.875-D | 2.625 | 2.875 | 4.875 | 3.325 | 3.025 | 0.472 | 4.20  | 2.091 | 2.109 | 1.150 | 0.800 | 1.150 |
| 2.125   | 2.875 | 3.562 | 5.906 | 3.950 | 3.408 | 0.689 | 4.280 | 2.091 | 2.189 | 1.140 | 0.875 | 0.995 |
| 2.375   | 3.125 | 3.750 | 6.725 | 4.280 | 3.716 | 0.689 | 4.280 | 2.091 | 2.189 | 1.170 | 0.750 | 1.043 |
| 2.500   | 3.375 | 3.750 | 6.725 | 4.280 | 3.716 | 0.689 | 4.525 | 2.091 | 2.434 | 1.299 | 0.750 | 1.240 |
| 2.625   | 3.500 | 3.875 | 7.100 | 4.405 | 3.871 | 0.689 | 4.525 | 2.091 | 2.434 | 1.299 | 0.750 | 1.240 |

# HQMB-A51(BDFC)

| d     | D1    |       | D3    | D4    | D5    | M     | L     | L1   | L2    | L3    | L4    | L5    |
|-------|-------|-------|-------|-------|-------|-------|-------|------|-------|-------|-------|-------|
|       | min   | max   |       |       |       |       |       |      |       |       |       |       |
| 75    | 98.5  | 117.4 | 189.2 | 131.4 | 116.5 | 17.5  | 115.9 | 63.5 | 69.9  | 40.1  | 23.8  | 36    |
| 80    | 101.6 | 127.0 | 201.9 | 142.5 | 126.0 | 21.0  | 115.9 | 63.5 | 69.9  | 40.1  | 23.8  | 36    |
| 85    | 108.0 | 127.0 | 201.9 | 142.5 | 126.0 | 21.0  | 115.9 | 63.5 | 69.9  | 40.1  | 23.8  | 36    |
| 90    | 114.3 | 136.5 | 214.6 | 152.0 | 135.5 | 21.0  | 115.9 | 63.5 | 69.9  | 40.1  | 23.8  | 36    |
| 95    | 117.5 | 139.7 | 227.3 | 155.2 | 138.7 | 21.0  | 115.9 | 63.5 | 69.9  | 40.1  | 23.8  | 36    |
| 100   | 123.9 | 152.4 | 240.0 | 167.9 | 151.4 | 21.0  | 115.9 | 63.5 | 69.9  | 40.1  | 23.8  | 36    |
| 2.750 | 3.625 | 4.625 | 7.45  | 5.173 | 4.585 | 0.689 | 4.937 | 2.5  | 2.437 | 1.578 | 0.937 | 1.418 |
| 2.875 | 3.750 | 4.625 | 7.45  | 5.173 | 4.585 | 0.689 | 5.000 | 2.5  | 2.500 | 1.578 | 0.937 | 1.418 |
| 3.000 | 3.875 | 4.625 | 7.45  | 5.173 | 4.585 | 0.689 | 5.000 | 2.5  | 2.500 | 1.578 | 0.937 | 1.418 |
| 3.125 | 4.000 | 5.000 | 7.95  | 5.610 | 4.960 | 0.827 | 5.000 | 2.5  | 2.500 | 1.578 | 0.937 | 1.418 |
| 3.250 | 4.125 | 5.000 | 7.95  | 5.610 | 4.960 | 0.827 | 5.000 | 2.5  | 2.500 | 1.578 | 0.937 | 1.418 |
| 3.375 | 4.250 | 5.000 | 7.95  | 5.610 | 4.960 | 0.827 | 5.000 | 2.5  | 2.500 | 1.578 | 0.937 | 1.418 |
| 3.500 | 4.375 | 5.375 | 8.45  | 5.985 | 5.335 | 0.827 | 5.000 | 2.5  | 2.500 | 1.578 | 0.937 | 1.418 |
| 3.625 | 4.500 | 5.375 | 8.45  | 5.985 | 5.335 | 0.827 | 5.000 | 2.5  | 2.500 | 1.578 | 0.937 | 1.418 |
| 3.750 | 4.625 | 5.500 | 8.95  | 6.110 | 5.460 | 0.827 | 5.000 | 2.5  | 2.500 | 1.578 | 0.937 | 1.418 |
| 3.875 | 4.750 | 5.500 | 8.95  | 6.110 | 5.460 | 0.827 | 5.000 | 2.5  | 2.500 | 1.578 | 0.937 | 1.418 |
| 4.000 | 4.875 | 6.000 | 9.45  | 6.610 | 5.960 | 0.827 | 5.000 | 2.5  | 2.500 | 1.578 | 0.937 | 1.418 |

| d     | D1    |       | D3    | D4    | D5    | Da    | M     | L     | L1    | L2    | L3    | L4    | L5    |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
|       | min   | max   |       |       |       |       |       |       |       |       |       |       |       |
| 1.125 | 1.750 | 2.750 | 5     | 3.199 | 2.323 | 3.990 | 0.551 | 3.970 | 2.062 | 1.908 | 1.125 | 0.750 | 1.125 |
| 1.375 | 2.000 | 3.062 | 5.375 | 3.449 | 2.638 | 4.250 | 0.551 | 3.970 | 2.062 | 1.908 | 1.125 | 0.750 | 1.125 |
| 1.750 | 3.500 | 4.000 | 6.750 | 4.449 | 3.100 | 5.480 | 0.551 | 4.200 | 2.000 | 2.200 | 1.087 | 0.790 | 1.087 |
| 1.875 | 3.500 | 4.000 | 6.750 | 4.449 | 3.500 | 5.480 | 0.551 | 4.200 | 2.000 | 2.200 | 1.087 | 0.619 | 1.087 |
| 2.125 | 3.875 | 4.187 | 7.600 | 4.661 | 3.715 | 6.205 | 0.689 | 4.200 | 2.000 | 2.280 | 1.125 | 0.619 | 1.125 |
| 2.500 | 4.500 | 4.812 | 8.225 | 5.411 | 4.525 | 6.705 | 0.689 | 4.525 | 2.091 | 2.434 | 1.231 | 0.760 | 1.231 |
| 2.625 | 4.500 | 4.812 | 8.225 | 5.411 | 4.525 | 6.705 | 0.689 | 4.525 | 2.091 | 2.434 | 1.093 | 0.760 | 1.093 |



# HQMB-A52(BDTP)

Type: Metal Bellow Seal

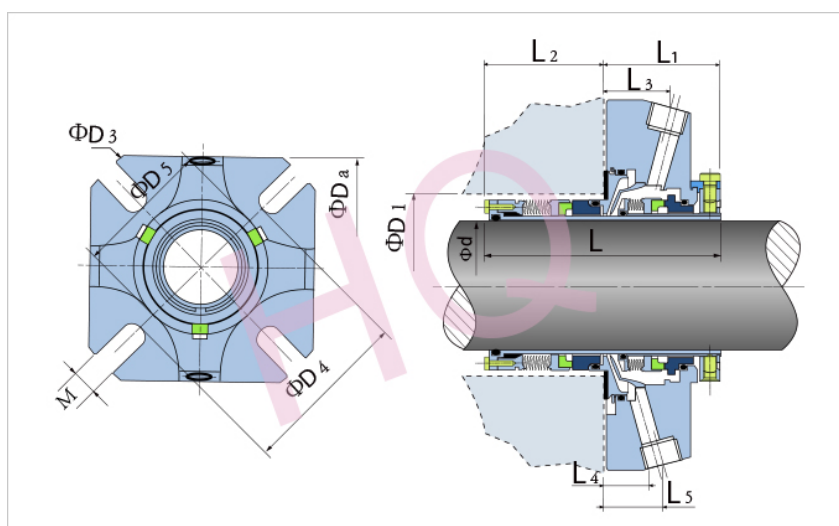
Replacement: AES BDTP

Temperature: -30°C to +204°C

Pressure:  $\leq 2.0\text{Mpa}$  Speed:

Material:  $\leq 20\text{m/s}$

A,B,Q1,Q2,U1,U2,T,Graphite,V,G,F,M,T6



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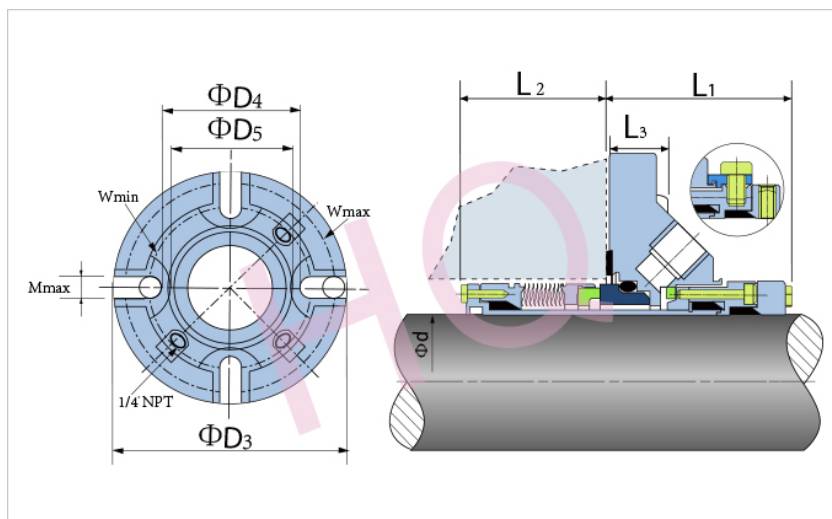
[hq@hqseal.com](mailto:hq@hqseal.com)

| d\mm | D1<br>(min) | D1<br>(max) | D3    | D4    | D5   | L     | L1   | L2   | L3   | L4   | L5   | M    |
|------|-------------|-------------|-------|-------|------|-------|------|------|------|------|------|------|
| 28   | 44.0        | 52.0        | 111.1 | 62.2  | 57.2 | 100.8 | 52.4 | 48.4 | 28.6 | 19.1 | 20.6 | 14.0 |
| 35   | 51.0        | 60.3        | 104.1 | 71.8  | 67.0 | 100.8 | 52.4 | 48.4 | 28.6 | 19.1 | 20.6 | 11.0 |
| 45   | 63.5        | 73.0        | 139.1 | 83.8  | 75.7 | 106.7 | 53.1 | 53.6 | 33.0 | 19.1 | 31.5 | 14.0 |
| 55   | 74.0        | 90.5        | 150.0 | 100.3 | 86.6 | 108.7 | 53.1 | 55.6 | 29.0 | 22.2 | 25.3 | 17.5 |
| 60   | 79.4        | 95.0        | 170.8 | 108.7 | 94.4 | 108.7 | 53.1 | 55.6 | 29.7 | 19.1 | 26.5 | 17.5 |
| 63   | 85.8        | 95.0        | 170.8 | 108.7 | 94.4 | 114.9 | 53.1 | 61.8 | 33.0 | 19.1 | 31.5 | 17.5 |
| 65   | 88.9        | 98.0        | 180.3 | 111.9 | 98.3 | 114.9 | 53.1 | 61.8 | 33.0 | 19.1 | 31.5 | 17.5 |

| d<br>(inch) | D1(min) | D1(max) | D3    | D4    | D5    | L     | L1    | L2    | L3    | L4    | L5    | M     |
|-------------|---------|---------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1.125       | 1.750   | 2.062   | 4.375 | 2.449 | 2.250 | 3.970 | 2.062 | 1.908 | 1.125 | 0.750 | 0.812 | 0.551 |
| 1.375       | 2.000   | 2.375   | 4.100 | 2.827 | 2.638 | 3.970 | 2.062 | 1.908 | 1.125 | 0.750 | 0.812 | 0.433 |
| 1.750       | 2.500   | 2.875   | 5.475 | 3.297 | 2.982 | 4.200 | 2.091 | 2.109 | 1.299 | 0.750 | 1.240 | 0.551 |
| 1.875       | 2.625   | 3.000   | 5.906 | 3.450 | 3.108 | 4.200 | 2.091 | 2.109 | 1.299 | 0.750 | 1.240 | 0.689 |
| 1.875-D     | 2.625   | 2.875   | 4.875 | 3.325 | 3.025 | 4.200 | 2.091 | 2.109 | 1.150 | 0.800 | 1.15  | 0.472 |
| 2.125       | 2.875   | 3.562   | 5.906 | 3.950 | 3.408 | 4.280 | 2.091 | 2.109 | 1.140 | 0.875 | 0.995 | 0.689 |
| 2.375       | 3.125   | 3.750   | 6.725 | 4.280 | 3.718 | 4.280 | 2.091 | 2.109 | 1.170 | 0.750 | 1.043 | 0.689 |
| 2.500       | 3.375   | 3.750   | 6.725 | 4.280 | 3.718 | 4.525 | 2.091 | 2.437 | 1.299 | 0.750 | 1.240 | 0.689 |
| 2.625       | 3.500   | 3.875   | 7.100 | 4.405 | 3.871 | 4.525 | 2.091 | 2.437 | 1.299 | 0.750 | 1.240 | 0.689 |

# HQMB-A53(BSFG)

Type: Metal Bellow Seal  
 Replacement: AES BSFG  
 Temperature:  $-30^{\circ}\text{C}$  to  $+204^{\circ}\text{C}$   
 Pressure:  $\leq 2.0\text{Mpa}$   
 Speed:  $\leq 20\text{m/s}$   
 Material: A,B,Q1,Q2,U1,U2,T,Graphite,V,G,F,M,T6



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| d<br>(mm) | D1<br>(min) | D1<br>(max) | D3    | D4    | D5    | W<br>(min) | W<br>(max) | M  | L1   | L2   | L3   |
|-----------|-------------|-------------|-------|-------|-------|------------|------------|----|------|------|------|
| 24        | 41.0        | 49.0        | 104.8 | 54.0  | 49.2  | 67.0       | 90.5       | 12 | 52.3 | 38.1 | 13.2 |
| 25        | 41.0        | 49.0        | 104.8 | 54.0  | 49.2  | 67.0       | 90.5       | 12 | 52.3 | 38.1 | 13.2 |
| 28        | 44.0        | 52.3        | 108.0 | 57.2  | 52.4  | 70.3       | 93.6       | 12 | 52.3 | 38.1 | 13.2 |
| 30        | 46.0        | 55.5        | 111.0 | 60.4  | 55.6  | 73.5       | 96.8       | 12 | 52.3 | 38.1 | 13.2 |
| 32        | 49.0        | 55.5        | 111.0 | 60.4  | 55.6  | 73.5       | 96.8       | 12 | 52.3 | 38.1 | 13.2 |
| 33        | 49.0        | 55.5        | 111.0 | 60.4  | 55.6  | 73.5       | 96.8       | 12 | 52.3 | 38.1 | 13.2 |
| 35        | 51.0        | 57.5        | 111.0 | 63.5  | 58.8  | 76.6       | 96.8       | 12 | 52.3 | 38.1 | 13.2 |
| 38        | 57.2        | 60.3        | 127.0 | 71.5  | 65.0  | 85.7       | 114.3      | 12 | 52.3 | 41.3 | 16.4 |
| 40        | 58.0        | 60.4        | 127.0 | 71.5  | 65.0  | 85.7       | 114.3      | 12 | 52.3 | 41.3 | 16.4 |
| 43        | 61.0        | 63.5        | 127.0 | 71.5  | 65.0  | 85.7       | 114.3      | 12 | 52.3 | 41.3 | 16.4 |
| 45        | 63.5        | 69.9        | 139.7 | 81.0  | 71.4  | 95.3       | 127.0      | 12 | 52.3 | 41.3 | 16.4 |
| 48        | 66.7        | 73.0        | 139.7 | 81.0  | 71.4  | 95.3       | 127.0      | 12 | 52.3 | 41.3 | 16.4 |
| 50        | 68.0        | 73.0        | 139.7 | 81.0  | 71.4  | 95.3       | 127.0      | 12 | 52.3 | 41.3 | 16.4 |
| 53        | 71.0        | 76.2        | 152.4 | 90.5  | 77.8  | 104.8      | 139.7      | 12 | 52.3 | 44.5 | 16.4 |
| 55        | 74.0        | 79.4        | 152.4 | 90.5  | 77.8  | 104.8      | 139.7      | 12 | 52.3 | 44.5 | 16.4 |
| 58        | 76.2        | 82.5        | 165.1 | 96.8  | 84.1  | 114.3      | 149.2      | 16 | 52.3 | 44.5 | 16.4 |
| 60        | 79.4        | 85.7        | 165.1 | 96.8  | 84.1  | 114.3      | 149.2      | 16 | 52.3 | 44.5 | 16.4 |
| 63        | 85.8        | 92.1        | 177.8 | 109.5 | 96.8  | 127.0      | 160.3      | 16 | 62.0 | 49.2 | 19.6 |
| 65        | 88.9        | 95.3        | 177.8 | 109.5 | 96.8  | 127.0      | 160.3      | 16 | 62.0 | 49.2 | 19.6 |
| 68        | 92.1        | 98.4        | 177.8 | 109.5 | 96.8  | 127.0      | 160.3      | 16 | 62.0 | 49.2 | 19.6 |
| 70        | 92.1        | 98.4        | 177.8 | 109.5 | 96.8  | 127.0      | 160.3      | 16 | 62.0 | 50.8 | 19.6 |
| 75        | 98.5        | 108.0       | 190.5 | 125.4 | 108.0 | 142.9      | 173.0      | 16 | 62.0 | 50.8 | 19.6 |
| 80        | 101.6       | 111.1       | 190.5 | 125.4 | 108.0 | 142.9      | 173.0      | 16 | 62.0 | 50.8 | 19.6 |
| 85        | 108.0       | 117.5       | 203.2 | 135.0 | 117.0 | 155.6      | 182.5      | 20 | 62.0 | 50.8 | 19.6 |
| 90        | 114.3       | 127.0       | 215.9 | 150.8 | 127.0 | 171.5      | 195.2      | 20 | 62.0 | 50.8 | 19.6 |
| 95        | 117.5       | 130.2       | 215.9 | 150.8 | 127.0 | 171.5      | 195.2      | 20 | 62.0 | 50.8 | 19.6 |
| 100       | 123.9       | 139.7       | 228.6 | 168.3 | 136.5 | 188.9      | 207.9      | 20 | 62.0 | 50.8 | 19.6 |

# HQMB-A53(BSFG)

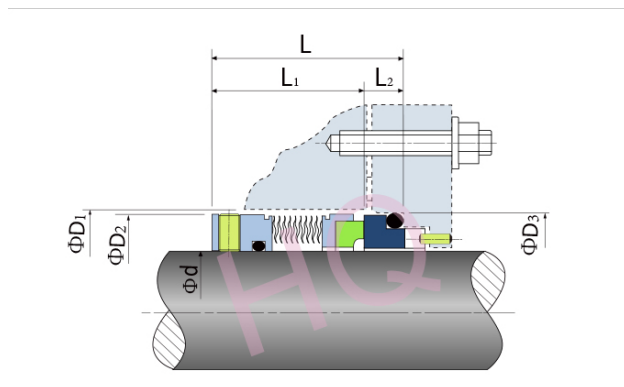
| d<br>(inch) | D1<br>(min) | D1<br>(max) | D3    | D4    | D5    | W<br>(min) | W<br>(max) | M   | L1    | L2    | L3    |
|-------------|-------------|-------------|-------|-------|-------|------------|------------|-----|-------|-------|-------|
| 1.000       | 1.625       | 1.937       | 4.125 | 2.125 | 1.937 | 2.687      | 3.562      | 1/2 | 2.062 | 1.500 | 0.519 |
| 1.125       | 1.750       | 2.062       | 4.250 | 2.250 | 2.063 | 2.812      | 3.687      | 1/2 | 2.062 | 1.500 | 0.519 |
| 1.250       | 1.875       | 2.187       | 4.375 | 2.375 | 2.187 | 3.937      | 3.812      | 1/2 | 2.062 | 1.500 | 0.519 |
| 1.375       | 2.000       | 2.250       | 4.375 | 2.500 | 2.312 | 3.062      | 3.812      | 1/2 | 2.062 | 1.500 | 0.519 |
| 1.500       | 2.250       | 2.375       | 5.000 | 2.812 | 2.562 | 3.375      | 4.437      | 1/2 | 2.062 | 1.625 | 0.644 |
| 1.625       | 2.375       | 2.500       | 5.000 | 2.812 | 2.562 | 3.375      | 4.437      | 1/2 | 2.062 | 1.625 | 0.644 |
| 1.750       | 2.500       | 2.750       | 5.500 | 3.187 | 2.812 | 3.75       | 4.937      | 1/2 | 2.062 | 1.625 | 0.644 |
| 1.875       | 2.625       | 2.875       | 5.500 | 3.187 | 2.812 | 3.75       | 4.937      | 1/2 | 2.062 | 1.625 | 0.644 |
| 2.000       | 2.750       | 3.000       | 6.000 | 3.562 | 3.063 | 4.125      | 5.437      | 1/2 | 2.062 | 1.750 | 0.644 |
| 2.0-AC      | 2.750       | 3.000       | 5.250 | 3.450 | 3.035 | 4.000      | 4.750      | 1/2 | 2.062 | 1.750 | 0.644 |
| 2.125       | 2.875       | 3.125       | 6.000 | 3.562 | 3.063 | 4.125      | 5.437      | 1/2 | 2.062 | 1.750 | 0.644 |
| 2.250       | 3.000       | 3.250       | 6.500 | 3.812 | 3.312 | 4.500      | 5.812      | 5/8 | 2.062 | 1.750 | 0.644 |
| 2.375       | 3.125       | 3.375       | 6.500 | 3.812 | 3.312 | 4.500      | 5.812      | 5/8 | 2.062 | 1.750 | 0.644 |
| 2.500       | 3.375       | 3.625       | 7.000 | 4.312 | 3.812 | 5.000      | 6.312      | 5/8 | 2.437 | 1.937 | 0.769 |
| 2.625       | 3.500       | 3.750       | 7.000 | 4.312 | 3.812 | 5.000      | 6.312      | 5/8 | 2.437 | 1.937 | 0.769 |
| 2.750       | 3.625       | 3.875       | 7.000 | 4.312 | 3.812 | 5.000      | 6.312      | 5/8 | 2.437 | 1.937 | 0.769 |
| 2.875       | 3.750       | 4.125       | 7.500 | 4.937 | 4.250 | 5.625      | 6.812      | 5/8 | 2.437 | 1.937 | 0.769 |
| 3.000       | 3.875       | 4.250       | 7.500 | 4.937 | 4.250 | 5.625      | 6.812      | 5/8 | 2.437 | 2.000 | 0.769 |
| 3.125       | 4.000       | 4.375       | 7.500 | 4.937 | 4.250 | 5.625      | 6.812      | 3/4 | 2.437 | 2.000 | 0.769 |
| 3.250       | 4.125       | 4.500       | 8.000 | 5.312 | 4.625 | 6.125      | 7.187      | 3/4 | 2.437 | 2.000 | 0.769 |
| 3.375       | 4.250       | 4.625       | 8.000 | 5.312 | 4.625 | 6.125      | 7.187      | 3/4 | 2.437 | 2.000 | 0.769 |
| 3.500       | 4.375       | 4.750       | 8.000 | 5.132 | 4.625 | 6.125      | 7.187      | 3/4 | 2.437 | 2.000 | 0.769 |
| 3.625       | 4.500       | 5.000       | 8.500 | 5.937 | 5.000 | 6.750      | 7.687      | 3/4 | 2.437 | 2.000 | 0.769 |
| 3.750       | 4.625       | 5.125       | 8.500 | 5.937 | 5.000 | 6.750      | 7.687      | 3/4 | 2.437 | 2.000 | 0.769 |
| 3.875       | 4.875       | 5.500       | 9.000 | 6.625 | 5.375 | 7.437      | 8.187      | 3/4 | 2.437 | 2.000 | 0.769 |
| 4.000       | 4.875       | 5.500       | 9.000 | 6.625 | 5.375 | 7.437      | 8.187      | 3/4 | 2.437 | 2.000 | 0.769 |





# HQMB-A54(BSAI)

Type: Metal Bellow Seal  
 Replacement: AES BSAI  
 Temperature: -30°C to +204°C  
 Pressure:  $\leq 2.0\text{Mpa}$   
 Speed:  $\leq 20\text{m/s}$   
 Material: A,B,Q1,Q2,U1,U2,T,T6,V,G,F,M,M1



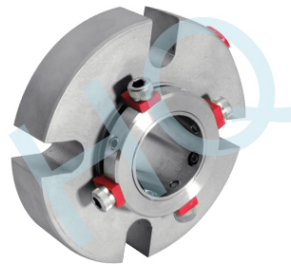
<http://www.hqseal.com>



[hq@hqseal.com](mailto:hq@hqseal.com)

| d<br>(mm) | L    | L1   | L2   | D1  | D2  | D3  |
|-----------|------|------|------|-----|-----|-----|
| 24        | 40.0 | 29.9 | 10.1 | 40  | 38  | 39  |
| 25        | 40.0 | 29.9 | 10.1 | 41  | 39  | 40  |
| 28        | 42.5 | 32.4 | 10.1 | 44  | 42  | 43  |
| 30        | 42.5 | 32.4 | 10.1 | 46  | 44  | 45  |
| 32        | 42.5 | 32.4 | 10.1 | 48  | 46  | 48  |
| 33        | 42.5 | 32.4 | 10.1 | 49  | 47  | 48  |
| 35        | 42.5 | 32.4 | 10.1 | 51  | 49  | 50  |
| 38        | 45.0 | 33.9 | 11.1 | 58  | 54  | 56  |
| 40        | 45.0 | 33.9 | 11.1 | 60  | 56  | 58  |
| 43        | 45.0 | 33.9 | 11.1 | 63  | 59  | 61  |
| 45        | 45.0 | 33.9 | 11.1 | 65  | 61  | 63  |
| 48        | 45.0 | 33.9 | 11.1 | 68  | 64  | 66  |
| 50        | 47.5 | 34.4 | 13.1 | 70  | 66  | 70  |
| 53        | 47.5 | 34.4 | 13.1 | 73  | 69  | 73  |
| 55        | 47.5 | 34.4 | 13.1 | 75  | 71  | 75  |
| 58        | 52.5 | 38.9 | 13.6 | 83  | 78  | 78  |
| 60        | 52.5 | 38.9 | 13.6 | 85  | 80  | 80  |
| 63        | 52.5 | 38.9 | 13.6 | 88  | 83  | 83  |
| 65        | 52.5 | 38.9 | 13.6 | 90  | 85  | 85  |
| 68        | 52.5 | 38.9 | 15.1 | 93  | 88  | 90  |
| 70        | 60.0 | 44.9 | 15.1 | 95  | 90  | 92  |
| 75        | 60.0 | 44.9 | 15.1 | 104 | 99  | 97  |
| 80        | 60.0 | 44.2 | 15.8 | 109 | 104 | 105 |
| 85        | 60.0 | 44.2 | 15.8 | 114 | 109 | 110 |
| 90        | 65.0 | 49.2 | 15.8 | 119 | 114 | 115 |
| 95        | 65.0 | 49.2 | 15.8 | 124 | 119 | 120 |
| 100       | 65.0 | 49.2 | 15.8 | 129 | 124 | 125 |

# HQCS-AP01(S1)



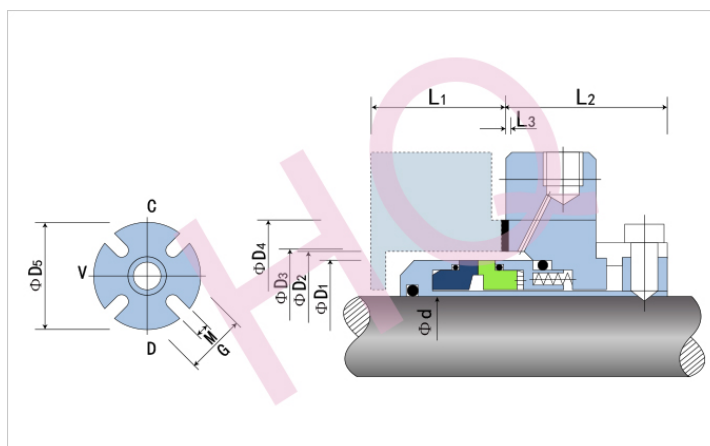
Type: Single Cartridge Seal  
 Replacement: APEX S1  
 Temperature: -40 to +240°C  
 Pressure: ≤15Mpa  
 Speed: ≤10m/s  
 Material: Q1,Q2,U2,T,V,M1,F,G,M



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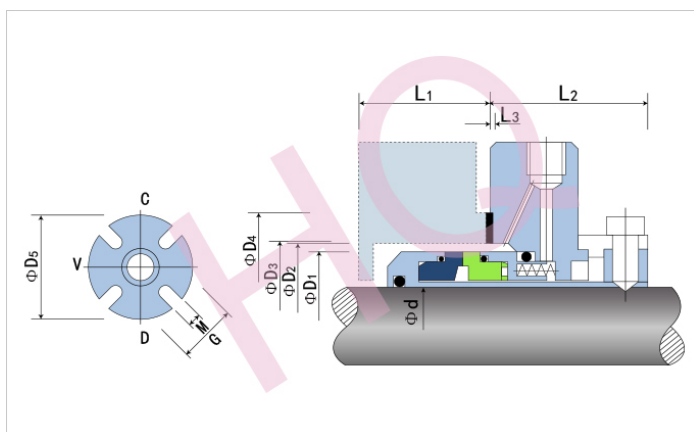
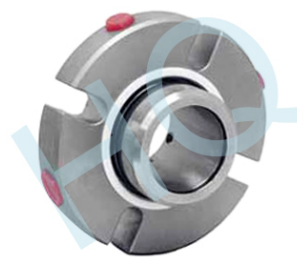
[hq@hqseal.com](mailto:hq@hqseal.com)



| d<br>(inch) | D1    | D2<br>(min) | D3    | D4    | D5     | G     | L1    | L2    | L3    | M     |
|-------------|-------|-------------|-------|-------|--------|-------|-------|-------|-------|-------|
| 1.000       | 1.595 | 1.625       | 1.771 | 2.106 | 4.000  | 2.224 | 0.952 | 1.460 | 0.063 | 0.551 |
| 1.125       | 1.708 | 1.750       | 1.909 | 2.283 | 4.125  | 2.421 | 0.952 | 1.460 | 0.063 | 0.551 |
| 1.250       | 1.865 | 2.000       | 2.037 | 2.362 | 4.250  | 2.500 | 0.952 | 1.460 | 0.063 | 0.551 |
| 1.375       | 1.950 | 2.000       | 2.145 | 2.539 | 4.250  | 2.696 | 0.952 | 1.460 | 0.063 | 0.551 |
| 1.500       | 2.172 | 2.250       | 2.368 | 2.736 | 5.000  | 2.815 | 0.952 | 1.460 | 0.063 | 0.551 |
| 1.625       | 2.283 | 2.375       | 2.460 | 2.854 | 4.500  | 2.972 | 0.952 | 1.460 | 0.063 | 0.551 |
| 1.750       | 2.401 | 2.500       | 2.578 | 2.992 | 5.000  | 3.062 | 0.952 | 1.460 | 0.063 | 0.551 |
| 1.875       | 2.537 | 2.625       | 2.755 | 3.110 | 5.250  | 3.188 | 0.952 | 1.460 | 0.063 | 0.551 |
| 2.000       | 2.670 | 2.750       | 2.834 | 3.267 | 5.500  | 3.307 | 0.952 | 1.460 | 0.063 | 0.551 |
| 2.125       | 2.796 | 2.875       | 2.952 | 3.386 | 5.750  | 3.503 | 0.952 | 1.460 | 0.063 | 0.709 |
| 2.250       | 2.913 | 3.000       | 3.110 | 3.504 | 6.500  | 3.622 | 0.952 | 1.460 | 0.063 | 0.709 |
| 2.375       | 3.037 | 3.125       | 3.228 | 3.700 | 6.500  | 3.818 | 0.952 | 1.460 | 0.063 | 0.709 |
| 2.500       | 3.288 | 3.375       | 3.464 | 3.858 | 6.500  | 3.976 | 1.311 | 1.622 | 0.063 | 0.709 |
| 2.625       | 3.410 | 3.500       | 3.543 | 3.937 | 7.000  | 4.055 | 1.311 | 1.622 | 0.063 | 0.709 |
| 2.750       | 3.562 | 3.625       | 3.780 | 4.252 | 7.000  | 4.370 | 1.311 | 1.622 | 0.063 | 0.709 |
| 2.875       | 3.685 | 3.750       | 3.905 | 4.377 | 7.500  | 4.614 | 1.311 | 1.772 | 0.063 | 0.709 |
| 3.000       | 3.795 | 4.000       | 4.188 | 4.944 | 7.480  | 5.079 | 1.311 | 1.772 | 0.063 | 0.709 |
| 3.125       | 3.937 | 4.125       | 4.307 | 5.062 | 7.677  | 5.197 | 1.311 | 1.772 | 0.063 | 0.709 |
| 3.250       | 4.045 | 4.250       | 4.425 | 5.181 | 7.677  | 5.315 | 1.311 | 1.772 | 0.063 | 0.709 |
| 3.375       | 4.170 | 4.375       | 4.543 | 5.299 | 7.795  | 5.472 | 1.311 | 1.772 | 0.063 | 0.866 |
| 3.500       | 4.350 | 4.500       | 4.681 | 5.437 | 7.795  | 5.591 | 1.354 | 1.772 | 0.063 | 0.866 |
| 3.625       | 4.438 | 4.625       | 4.799 | 5.555 | 8.071  | 5.709 | 1.354 | 1.772 | 0.063 | 0.866 |
| 3.750       | 4.547 | 4.750       | 4.937 | 5.692 | 8.189  | 5.827 | 1.354 | 1.897 | 0.063 | 0.866 |
| 3.875       | 4.670 | 4.875       | 5.059 | 5.826 | 8.189  | 5.945 | 1.354 | 1.897 | 0.063 | 0.866 |
| 4.000       | 4.795 | 5.000       | 5.157 | 5.944 | 8.583  | 6.063 | 1.354 | 1.897 | 0.063 | 0.866 |
| 4.250       | 5.045 | 5.250       | 5.413 | 6.181 | 9.000  | 6.625 | 1.394 | 2.094 | 0.063 | 0.866 |
| 4.500       | 5.295 | 5.500       | 5.669 | 6.456 | 9.500  | 7.000 | 1.394 | 2.094 | 0.063 | 0.866 |
| 4.750       | 5.545 | 5.750       | 5.905 | 6.692 | 10.000 | 7.322 | 1.394 | 2.094 | 0.063 | 0.944 |
| 5.000       | 5.881 | 6.000       | 6.122 | 6.751 | 10.000 | 7.322 | 1.394 | 2.094 | 0.063 | 0.944 |

# HQCS-AP02(S1CVD)

Type: Single Cartridge Seal  
 Replacement: APEX S1CVD  
 Temperature: -40 to +270°C  
 Pressure:  $\leq 150\text{Bar}$   
 Speed:  $\leq 16\text{m/s}$   
 Material: Q1,Q2,U2,T,V,M1,F,G,M



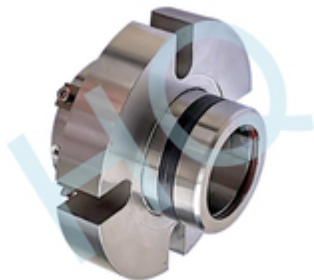
<http://www.hqseal.com>



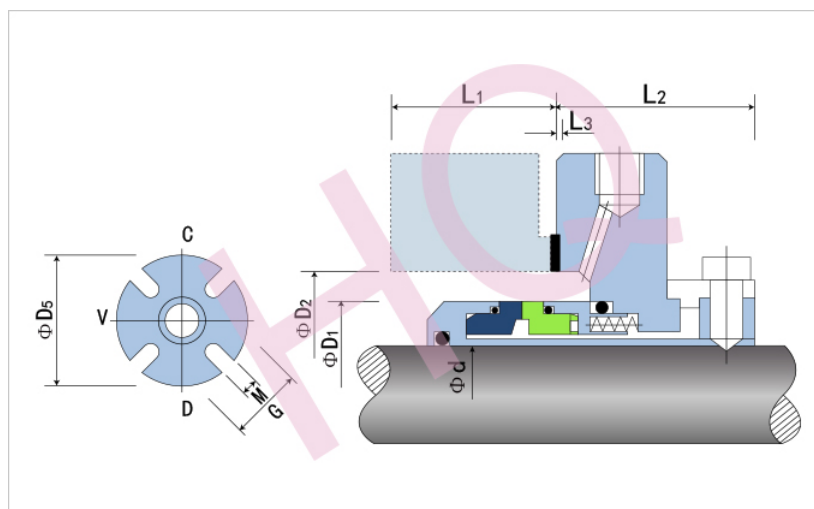
[hq@hqseal.com](mailto:hq@hqseal.com)

| d<br>(inch) | D1    | D2<br>(min) | D3    | D4    | D5    | G     | L1    | L2    | L3    | M     |
|-------------|-------|-------------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1.000       | 1.595 | 1.625       | 1.771 | 2.106 | 4.000 | 2.224 | 0.952 | 1.460 | 0.063 | 0.551 |
| 1.125       | 1.708 | 1.750       | 1.909 | 2.283 | 4.125 | 2.421 | 0.952 | 1.460 | 0.063 | 0.551 |
| 1.250       | 1.865 | 2.000       | 2.037 | 2.362 | 4.250 | 2.500 | 0.952 | 1.460 | 0.063 | 0.551 |
| 1.375       | 1.950 | 2.000       | 2.145 | 2.539 | 4.250 | 2.696 | 0.952 | 1.460 | 0.063 | 0.551 |
| 1.500       | 2.172 | 2.250       | 2.368 | 2.736 | 5.000 | 2.815 | 0.952 | 1.460 | 0.063 | 0.551 |
| 1.625       | 2.283 | 2.375       | 2.460 | 2.854 | 4.500 | 2.972 | 0.952 | 1.460 | 0.063 | 0.551 |
| 1.750       | 2.401 | 2.500       | 2.578 | 2.992 | 5.000 | 3.062 | 0.952 | 1.460 | 0.063 | 0.551 |
| 1.875       | 2.537 | 2.625       | 2.755 | 3.110 | 5.250 | 3.188 | 0.952 | 1.460 | 0.063 | 0.551 |
| 2.000       | 2.670 | 2.750       | 2.834 | 3.267 | 5.500 | 3.307 | 0.952 | 1.460 | 0.063 | 0.551 |
| 2.125       | 2.796 | 2.875       | 2.952 | 3.386 | 5.750 | 3.503 | 0.952 | 1.460 | 0.063 | 0.709 |
| 2.250       | 2.913 | 3.000       | 3.110 | 3.504 | 6.500 | 3.622 | 0.952 | 1.460 | 0.063 | 0.709 |
| 2.375       | 3.037 | 3.125       | 3.228 | 3.700 | 6.500 | 3.818 | 0.952 | 1.460 | 0.063 | 0.709 |
| 2.500       | 3.288 | 3.375       | 3.464 | 3.858 | 6.500 | 3.976 | 1.311 | 1.622 | 0.063 | 0.709 |
| 2.625       | 3.410 | 3.500       | 3.543 | 3.937 | 7.000 | 4.055 | 1.311 | 1.622 | 0.063 | 0.709 |
| 2.750       | 3.562 | 3.625       | 3.780 | 4.252 | 7.000 | 4.370 | 1.311 | 1.622 | 0.063 | 0.709 |
| 2.875       | 3.685 | 3.75        | 3.905 | 4.377 | 7.500 | 4.614 | 1.311 | 1.772 | 0.063 | 0.709 |
| 3.000       | 3.795 | 4.000       | 4.188 | 4.944 | 7.480 | 5.079 | 1.311 | 1.772 | 0.063 | 0.709 |
| 3.125       | 3.937 | 4.125       | 4.307 | 5.062 | 7.677 | 5.197 | 1.311 | 1.772 | 0.063 | 0.709 |
| 3.250       | 4.045 | 4.250       | 4.425 | 5.181 | 7.677 | 5.315 | 1.311 | 1.772 | 0.063 | 0.709 |
| 3.375       | 4.170 | 4.375       | 4.543 | 5.299 | 7.795 | 5.472 | 1.311 | 1.772 | 0.063 | 0.866 |
| 3.500       | 4.350 | 4.500       | 4.681 | 5.437 | 7.795 | 5.591 | 1.354 | 1.772 | 0.063 | 0.866 |
| 3.625       | 4.438 | 4.625       | 4.799 | 5.555 | 8.071 | 5.709 | 1.354 | 1.772 | 0.063 | 0.866 |
| 3.750       | 4.547 | 4.750       | 4.937 | 5.692 | 8.189 | 5.827 | 1.354 | 1.897 | 0.063 | 0.866 |
| 3.875       | 4.670 | 4.875       | 5.059 | 5.826 | 8.189 | 5.945 | 1.354 | 1.897 | 0.063 | 0.866 |
| 4.000       | 4.795 | 5.000       | 5.157 | 5.944 | 8.583 | 6.063 | 1.354 | 1.897 | 0.063 | 0.866 |
| 4.250       | 5.045 | 5.250       | 5.413 | 6.181 | 9.000 | 6.625 | 1.394 | 2.094 | 0.063 | 0.866 |
| 4.500       | 5.295 | 5.500       | 5.669 | 6.456 | 9.500 | 7.000 | 1.394 | 2.094 | 0.063 | 0.866 |
| 4.750       | 5.545 | 5.750       | 5.905 | 6.692 | 10.00 | 7.322 | 1.394 | 2.094 | 0.063 | 0.944 |
| 5.000       | 5.881 | 6.000       | 6.122 | 6.751 | 10.00 | 7.322 | 1.394 | 2.094 | 0.063 | 0.944 |

# HQCS-AP03(S1BB)



Type: Single Cartridge Seal  
 Replacement: APEX S1BB  
 Temperature: -40°C to +300°C  
 Pressure:  $\leq 15.0\text{Mpa}$   
 Speed:  $\leq 10\text{m/s}$   
 Material: Q1,Q2,U2,T,V,M1,F,G,M



| d<br>(inch) | D1    | D2<br>(min) | D2<br>(max) | D5    | G     | L1    | L2    | L3    | M     |
|-------------|-------|-------------|-------------|-------|-------|-------|-------|-------|-------|
| 1.125       | 1.708 | 2.625       | 2.750       | 4.900 | 3.108 | 0.952 | 1.460 | 0.063 | 0.551 |
| 1.375       | 1.950 | 2.725       | 3.000       | 5.250 | 3.548 | 0.952 | 1.460 | 0.063 | 0.551 |
| 1.750       | 2.401 | 3.500       | 3.750       | 6.500 | 4.369 | 0.952 | 1.460 | 0.063 | 0.551 |
| 1.875       | 2.537 | 3.625       | 3.875       | 6.500 | 4.154 | 0.952 | 1.460 | 0.063 | 0.551 |
| 2.125       | 2.795 | 3.880       | 4.000       | 7.250 | 4.622 | 0.952 | 1.460 | 0.063 | 0.709 |
| 2.250       | 2.913 | 4.000       | 4.250       | 7.250 | 4.741 | 0.952 | 1.460 | 0.063 | 0.709 |
| 2.500       | 3.288 | 4.500       | 5.000       | 8.250 | 5.497 | 1.311 | 1.622 | 0.063 | 0.709 |
| 2.625       | 3.410 | 4.625       | 4.750       | 8.000 | 5.122 | 1.311 | 1.622 | 0.063 | 0.709 |
| 3.000       | 3.795 | 4.875       | 5.125       | 8.250 | 5.622 | 1.311 | 1.772 | 0.063 | 0.709 |



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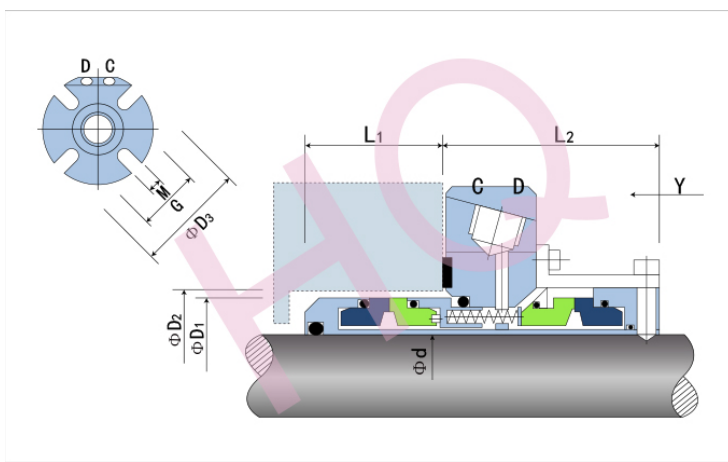


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# HQCS-AP04(D2PR)



Type: Double Cartridge Seal  
 Replacement: APEX D2PR  
 Temperature: -40 to +260°C  
 Pressure:  $\leq 25$  Bar  
 Speed:  $\leq 10$  m/s  
 Material: Q1, Q2, U2, T, V, M1, F, G, M



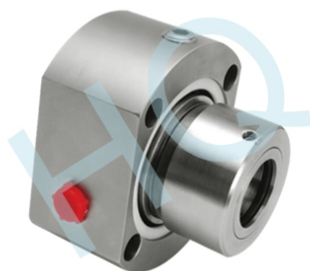
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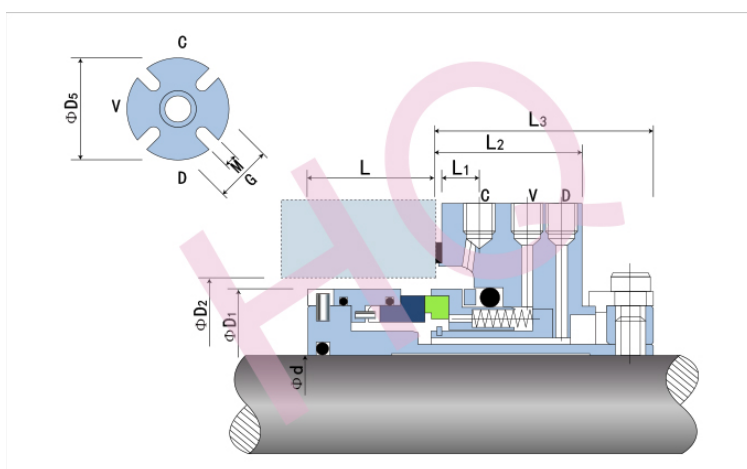
[hq@hqseal.com](mailto:hq@hqseal.com)

| d<br>(inch) | D1    | D2    | D3    | G     | L1    | L2    | M     |
|-------------|-------|-------|-------|-------|-------|-------|-------|
| 1.000       | 1.594 | 1.625 | 4.000 | 2.224 | 1.129 | 2.047 | 0.551 |
| 1.125       | 1.708 | 1.750 | 4.125 | 2.421 | 1.129 | 2.047 | 0.551 |
| 1.250       | 1.865 | 2.000 | 4.250 | 2.500 | 1.129 | 2.047 | 0.551 |
| 1.375       | 1.950 | 2.000 | 4.250 | 2.696 | 1.129 | 2.047 | 0.551 |
| 1.500       | 2.172 | 2.250 | 5.000 | 2.815 | 1.129 | 2.047 | 0.551 |
| 1.625       | 2.283 | 2.375 | 4.500 | 2.972 | 1.129 | 2.047 | 0.551 |
| 1.750       | 2.401 | 2.500 | 5.000 | 3.062 | 1.129 | 2.047 | 0.551 |
| 1.875       | 2.537 | 2.625 | 5.250 | 3.189 | 1.129 | 2.047 | 0.551 |
| 2.000       | 2.670 | 2.750 | 5.500 | 3.307 | 1.129 | 2.188 | 0.551 |
| 2.125       | 2.795 | 2.875 | 5.750 | 3.503 | 1.129 | 2.188 | 0.709 |
| 2.250       | 2.913 | 3.000 | 6.500 | 3.622 | 1.129 | 2.188 | 0.709 |
| 2.375       | 3.037 | 3.125 | 6.500 | 3.818 | 1.129 | 2.188 | 0.709 |
| 2.500       | 3.288 | 3.375 | 7.000 | 3.976 | 1.488 | 2.720 | 0.709 |
| 2.625       | 3.410 | 3.500 | 7.000 | 4.055 | 1.488 | 2.720 | 0.709 |
| 2.750       | 3.617 | 3.625 | 7.000 | 4.370 | 1.488 | 2.720 | 0.709 |
| 3.000       | 3.795 | 4.000 | 7.480 | 5.079 | 1.488 | 2.720 | 0.709 |

# HQCS-AP05(HDS)



Type: Heavy Duty Single Cartridge Seal  
 Replacement: APEX HDS  
 Temperature: -40 to +260°C  
 Pressure:  $\leq 25$  Bar  
 Speed:  $\leq 12$  m/s  
 Material: Q1, Q2, U2, T, V, M1, F, G, M



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| d<br>(inch) | D1    | D2<br>(min) | D2<br>(max) | D5    | G     | L     | L1   | L2    | L3    | M     |
|-------------|-------|-------------|-------------|-------|-------|-------|------|-------|-------|-------|
| 0.500       | 1.811 | 1.929       | 2.244       | 4.133 | 2.637 | 1.338 | 0.59 | 1.519 | 2.047 | 0.452 |
| 0.750       | 2.062 | 2.181       | 2.372       | 4.330 | 2.755 | 1.338 | 0.59 | 1.519 | 2.047 | 0.452 |
| 0.875       | 2.185 | 2.303       | 2.498       | 4.527 | 2.875 | 1.338 | 0.59 | 1.519 | 2.047 | 0.452 |
| 1.000       | 2.311 | 2.429       | 2.625       | 4.645 | 2.992 | 1.338 | 0.59 | 1.519 | 2.047 | 0.452 |
| 1.125       | 2.437 | 2.555       | 2.750       | 4.901 | 3.107 | 1.338 | 0.59 | 1.519 | 2.047 | 0.452 |
| 1.250       | 2.562 | 2.692       | 2.818       | 4.039 | 3.228 | 1.338 | 0.59 | 1.519 | 2.047 | 0.452 |
| 1.375       | 2.688 | 2.807       | 3.000       | 5.250 | 3.548 | 1.338 | 0.59 | 1.519 | 2.047 | 0.452 |
| 1.500       | 2.811 | 2.929       | 3.055       | 5.433 | 3.622 | 1.338 | 0.59 | 1.519 | 2.047 | 0.531 |
| 1.625       | 2.937 | 3.055       | 3.181       | 5.629 | 3.779 | 1.338 | 0.59 | 1.519 | 2.047 | 0.531 |
| 1.750       | 3.062 | 3.181       | 3.750       | 6.500 | 4.368 | 1.397 | 0.59 | 1.519 | 2.047 | 0.531 |
| 1.875       | 3.188 | 3.307       | 3.875       | 6.500 | 4.153 | 1.397 | 0.59 | 1.519 | 2.047 | 0.531 |
| 2.000       | 3.311 | 3.429       | 3.779       | 6.692 | 4.251 | 1.397 | 0.59 | 1.519 | 2.047 | 0.531 |
| 2.125       | 3.437 | 3.555       | 4.000       | 7.250 | 4.622 | 1.456 | 0.59 | 1.519 | 2.149 | 0.688 |
| 2.250       | 3.562 | 3.681       | 4.212       | 7.519 | 4.763 | 1.456 | 0.59 | 1.519 | 2.149 | 0.688 |
| 2.375       | 3.688 | 3.807       | 4.448       | 7.716 | 4.921 | 1.456 | 0.59 | 1.519 | 2.149 | 0.688 |
| 2.500       | 3.818 | 3.944       | 5.000       | 8.250 | 5.496 | 1.456 | 0.59 | 1.519 | 2.149 | 0.688 |
| 2.625       | 4.153 | 4.279       | 4.750       | 8.000 | 5.121 | 1.456 | 0.59 | 1.519 | 2.149 | 0.688 |
| 3.000       | 4.685 | 4.811       | 5.125       | 8.250 | 5.621 | 1.456 | 0.59 | 1.519 | 2.149 | 0.688 |

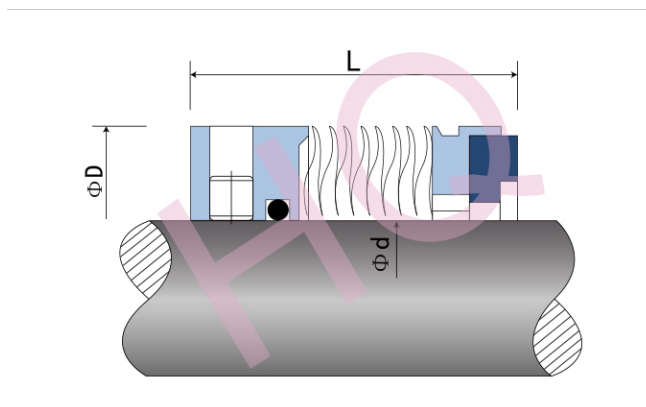


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# HQMB-AP01(WB400/450/500)



Type: Welded Bellow Component  
 Replacement: APEX WB400/450/500  
 Temperature: -50°C to +400°C  
 Pressure:  $\leq 25$  Bar  
 Speed:  $\leq 10$  m/s  
 Material: Q1, Q2, U2, T, V, M1, F, G, M

WB400: Retainer: SS316, Core: Hastelloy C, Hub: SS316.

WB450: Retainer: SS316, Core: AM350, Hub: SS316.

WB500: Retainer: Hastelloy C, Core: Hastelloy C, Hub: Hastelloy C

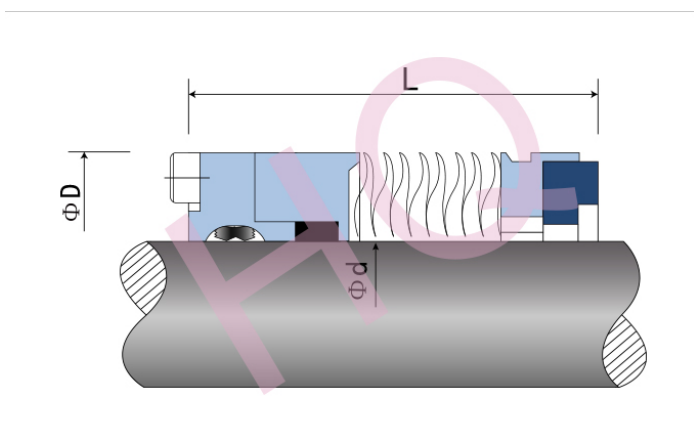
| d<br>(inch) | D     | L     |
|-------------|-------|-------|
| 0.750       | 1.312 | 1.250 |
| 0.875       | 1.437 | 1.250 |
| 0.937       | 1.500 | 1.250 |
| 1.000       | 1.457 | 1.250 |
| 1.125       | 1.687 | 1.250 |
| 1.250       | 1.812 | 1.312 |
| 1.250X      | 1.694 | 1.312 |
| 1.375       | 1.937 | 1.437 |
| 1.500       | 2.062 | 1.437 |
| 1.500X      | 1.944 | 1.437 |
| 1.625       | 2.187 | 1.437 |
| 1.750       | 2.312 | 1.437 |
| 1.875       | 2.437 | 1.500 |
| 2.000       | 2.562 | 1.500 |
| 2.125       | 2.687 | 1.500 |
| 2.250       | 2.812 | 1.562 |
| 2.375       | 2.937 | 1.562 |
| 2.500       | 3.187 | 1.562 |
| 2.625       | 3.312 | 1.625 |
| 2.750       | 3.437 | 1.625 |
| 2.875       | 3.625 | 1.687 |
| 3.000       | 3.750 | 1.687 |
| 3.125       | 3.875 | 1.750 |
| 3.250       | 4.000 | 1.750 |
| 3.375       | 4.125 | 1.750 |
| 3.500       | 4.250 | 1.875 |
| 3.625       | 4.375 | 1.875 |
| 3.750       | 4.500 | 1.875 |
| 3.875       | 4.625 | 1.875 |
| 4.000       | 4.750 | 1.875 |



# HQMB-AP02(WB800)



Type: High Temperature Bellow Component  
 Replacement: APEX WB800  
 Temperature:  $\leq 300^{\circ}\text{C}$   
 Pressure:  $\leq 25$  Bar  
 Speed:  $\leq 15\text{m/s}$   
 Material: Q1,Q2,U2,T,V,M1,F,G,M



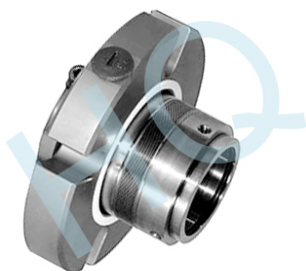
<http://www.hqseal.com>



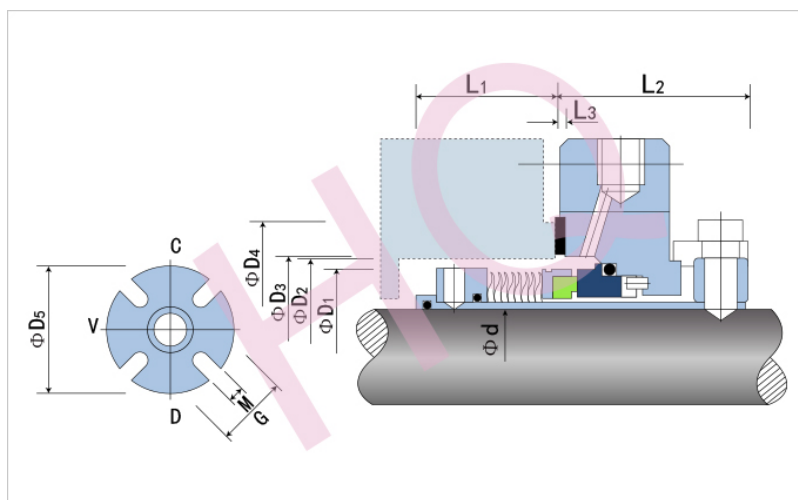
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| d<br>(inch) | D     | L      |
|-------------|-------|--------|
| 1.000       | 1.625 | 1. 531 |
| 1.125       | 1.750 | 1. 562 |
| 1.250       | 1.875 | 1. 593 |
| 1.375       | 2.000 | 1. 593 |
| 1.500       | 2.125 | 1. 593 |
| 1.625       | 2.250 | 1. 593 |
| 1.750       | 2.375 | 1. 625 |
| 1.875       | 2.500 | 1. 625 |
| 2.000       | 2.625 | 1. 656 |
| 2.125       | 2.750 | 1. 656 |
| 2.250       | 2.875 | 1. 719 |
| 2.375       | 3.000 | 1. 719 |
| 2.500       | 3.250 | 1. 750 |
| 2.625       | 3.375 | 1. 781 |
| 2.750       | 3.500 | 1. 781 |
| 2.875       | 3.687 | 1. 875 |
| 3.000       | 3.812 | 1. 875 |

# HQMB-AP03(S1WBC)



Type: Single Welded Bellow Cartridge Seal  
 Replacement: APEX S1WBC  
 Temperature:  $\leq 300^{\circ}\text{C}$   
 Pressure:  $\leq 20.7$  Bar  
 Speed:  $\leq 12\text{m/s}$   
 Material: Q1, Q2, U2, T, V, M1, F, G, M



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| d<br>(inch) | D1    | D2<br>(min) | D3    | D4    | D5    | G     | L1    | L2    | L3    | M     |
|-------------|-------|-------------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1.000       | 1.687 | 1.750       | 1.771 | 2.106 | 4.000 | 2.224 | 1.383 | 1.460 | 0.063 | 0.551 |
| 1.125       | 1.694 | 1.750       | 1.909 | 2.283 | 4.125 | 2.421 | 1.445 | 1.460 | 0.063 | 0.551 |
| 1.250       | 1.937 | 2.000       | 2.037 | 2.362 | 4.250 | 2.500 | 1.570 | 1.460 | 0.063 | 0.551 |
| 1.375       | 1.944 | 2.000       | 2.145 | 2.539 | 4.250 | 2.696 | 1.570 | 1.460 | 0.063 | 0.551 |
| 1.500       | 2.187 | 2.250       | 2.368 | 2.736 | 5.000 | 2.815 | 1.570 | 1.460 | 0.063 | 0.551 |
| 1.625       | 2.311 | 2.375       | 2.46  | 2.854 | 4.500 | 2.972 | 1.570 | 1.460 | 0.063 | 0.551 |
| 1.750       | 2.437 | 2.500       | 2.578 | 2.992 | 5.000 | 3.062 | 1.633 | 1.460 | 0.063 | 0.551 |
| 1.875       | 2.561 | 2.625       | 2.755 | 3.11  | 5.250 | 3.188 | 1.633 | 1.460 | 0.063 | 0.551 |
| 2.000       | 2.687 | 2.750       | 2.834 | 3.267 | 5.500 | 3.307 | 1.633 | 1.460 | 0.063 | 0.551 |
| 2.125       | 2.811 | 2.875       | 2.952 | 3.386 | 5.750 | 3.503 | 1.696 | 1.460 | 0.063 | 0.709 |
| 2.250       | 2.937 | 3.000       | 3.110 | 3.504 | 6.500 | 3.622 | 1.696 | 1.460 | 0.063 | 0.709 |
| 2.375       | 3.187 | 3.125       | 3.228 | 3.700 | 6.500 | 3.818 | 1.696 | 1.460 | 0.063 | 0.709 |
| 2.500       | 3.311 | 3.375       | 3.464 | 3.858 | 6.500 | 3.976 | 1.838 | 1.622 | 0.063 | 0.709 |
| 2.625       | 3.437 | 3.500       | 3.543 | 3.937 | 7.000 | 4.055 | 1.838 | 1.622 | 0.063 | 0.709 |
| 2.750       | 3.562 | 3.625       | 3.78  | 4.252 | 7.000 | 4.370 | 1.838 | 1.622 | 0.063 | 0.709 |



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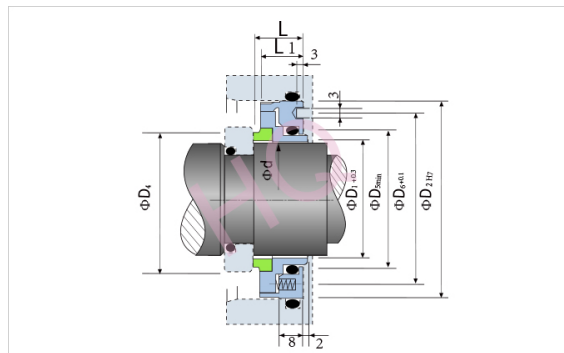
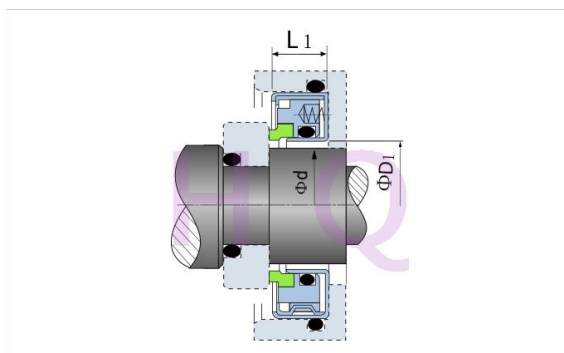


Pressure:  $\leq 2.5\text{Mpa}$  Speed:

Material:  $\leq 35\text{m/s}$ 

A,Q1,Q2,U2,P,E,V,F,G

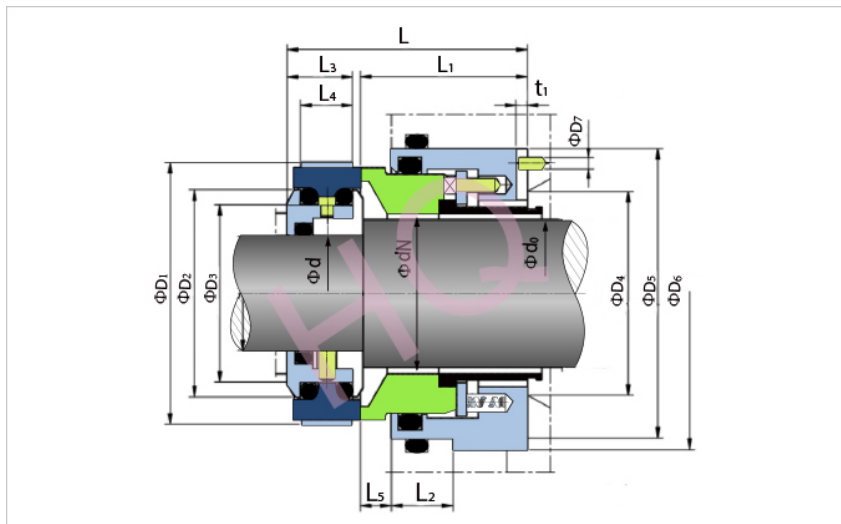
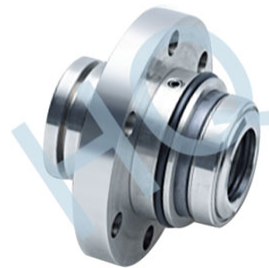
H10



| d<br>(mm) | D1  | D2  | D4    | D5  | D6  | L<br>+/-0.5 | L1   |
|-----------|-----|-----|-------|-----|-----|-------------|------|
| 15        | 16  | 42  | 22.6  | 21  | 34  | 17          | 15.0 |
| 18        | 19  | 45  | 25.6  | 24  | 37  | 17          | 15.0 |
| 20        | 21  | 48  | 27.6  | 26  | 40  | 17          | 15.0 |
| 22        | 23  | 50  | 29.6  | 28  | 42  | 17          | 15.0 |
| 25        | 26  | 52  | 32.8  | 31  | 44  | 17          | 15.0 |
| 28        | 29  | 55  | 35.8  | 34  | 47  | 17          | 15.0 |
| 30        | 31  | 58  | 37.8  | 36  | 50  | 17          | 15.0 |
| 32        | 33  | 60  | 39.8  | 38  | 52  | 17          | 15.0 |
| 35        | 36  | 62  | 42.8  | 41  | 54  | 17          | 15.0 |
| 38        | 39  | 65  | 45.9  | 44  | 57  | 17          | 15.0 |
| 40        | 41  | 68  | 47.9  | 46  | 60  | 17          | 15.0 |
| 42        | 43  | 72  | 49.9  | 48  | 64  | 17          | 15.0 |
| 45        | 46  | 75  | 52.9  | 51  | 67  | 17          | 15.0 |
| 48        | 49  | 80  | 55.9  | 54  | 72  | 17          | 15.0 |
| 50        | 51  | 80  | 58.2  | 56  | 72  | 17          | 15.0 |
| 52        | 53  | 82  | 60.2  | 58  | 74  | 17          | 15.0 |
| 55        | 56  | 85  | 63.2  | 61  | 77  | 17          | 15.0 |
| 58        | 59  | 9   | 66.7  | 64  | 82  | 17          | 15.0 |
| 60        | 61  | 90  | 68.7  | 66  | 82  | 17          | 15.0 |
| 65        | 66  | 95  | 73.7  | 71  | 87  | 19          | 16.5 |
| 68        | 69  | 100 | 76.7  | 74  | 92  | 19          | 16.5 |
| 70        | 71  | 100 | 78.7  | 76  | 92  | 19          | 16.5 |
| 75        | 76  | 108 | 83.7  | 81  | 100 | 19          | 16.5 |
| 80        | 81  | 112 | 88.7  | 86  | 104 | 19          | 16.5 |
| 85        | 86  | 118 | 93.7  | 91  | 110 | 19          | 16.5 |
| 90        | 91  | 122 | 99.5  | 96  | 114 | 19          | 16.5 |
| 95        | 96  | 128 | 104.5 | 101 | 120 | 19          | 16.5 |
| 100       | 101 | 132 | 109.5 | 106 | 124 | 19          | 16.5 |

# HQCS-B02(HR)

Type: Single Cartridge Seal  
 Replacement: Burgmann HR  
 Temperature:  $-20^{\circ}\text{C}$  to  $+180^{\circ}\text{C}$   
 Pressure:  $\leq 1.6\text{Mpa}$   
 Speed:  $\leq 10\text{m/s}$   
 Material: Q1,Q2,U2,T,V,M1,F,G,M



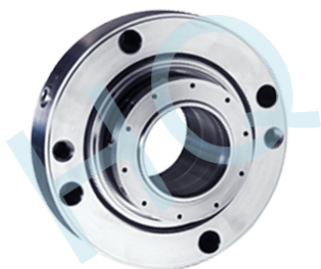
<http://www.hqseal.com>



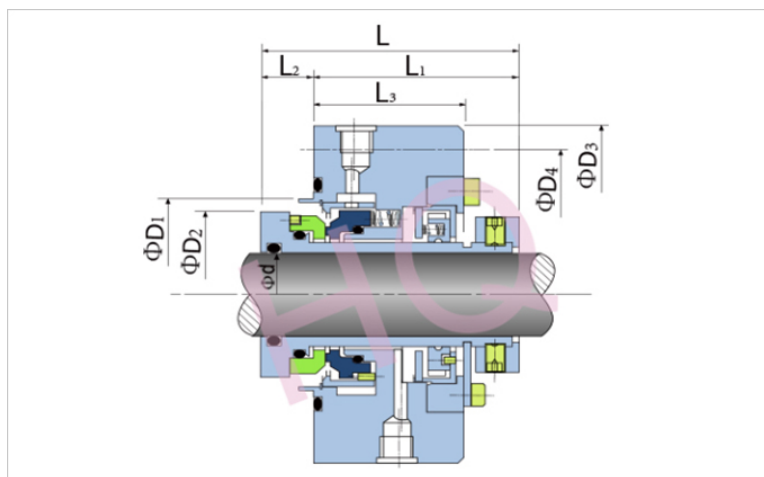
[hq@hqseal.com](mailto:hq@hqseal.com)

| d<br>(mm) | d0  | dN  | D1  | D2    | D3  | D4  | D5  | D6<br>+0.2 | D7 | L  | L1 | L2 | L3   | L4 | L5   | t1 |
|-----------|-----|-----|-----|-------|-----|-----|-----|------------|----|----|----|----|------|----|------|----|
| 20        | 28  | 36  | 64  | 47.1  | 38  | 70  | 75  | 40         | 4  | 75 | 53 | 20 | 19.5 | 17 | 10.5 | 3  |
| 25        | 33  | 41  | 69  | 52.1  | 43  | 75  | 80  | 45         | 4  | 75 | 53 | 20 | 19.5 | 17 | 10.5 | 3  |
| 28        | 38  | 46  | 74  | 57.1  | 48  | 80  | 85  | 50         | 4  | 75 | 53 | 20 | 19.5 | 17 | 10.5 | 3  |
| 33        | 43  | 51  | 79  | 62.1  | 53  | 85  | 90  | 55         | 4  | 75 | 53 | 20 | 19.5 | 17 | 10.5 | 3  |
| 38        | 48  | 56  | 84  | 67.1  | 58  | 90  | 95  | 60         | 4  | 75 | 53 | 20 | 19.5 | 17 | 10.5 | 3  |
| 43        | 53  | 61  | 89  | 72.1  | 63  | 95  | 100 | 65         | 4  | 75 | 53 | 20 | 19.5 | 17 | 10.5 | 3  |
| 48        | 58  | 66  | 94  | 77.1  | 68  | 100 | 105 | 70         | 4  | 75 | 53 | 20 | 19.5 | 17 | 10.5 | 3  |
| 53        | 63  | 71  | 100 | 82.1  | 73  | 105 | 110 | 75         | 4  | 75 | 53 | 20 | 19.5 | 17 | 10.5 | 3  |
| 55        | 65  | 75  | 105 | 87.1  | 78  | 110 | 115 | 79         | 4  | 75 | 53 | 20 | 19.5 | 17 | 10.5 | 3  |
| 60        | 70  | 80  | 110 | 92.1  | 83  | 115 | 120 | 84         | 4  | 75 | 53 | 20 | 19.5 | 17 | 10.5 | 3  |
| 65        | 75  | 85  | 115 | 97.1  | 88  | 120 | 125 | 89         | 4  | 75 | 53 | 20 | 19.5 | 17 | 10.5 | 3  |
| 70        | 80  | 90  | 120 | 102.1 | 93  | 125 | 130 | 94         | 4  | 75 | 53 | 20 | 19.5 | 17 | 10.5 | 3  |
| 75        | 85  | 95  | 125 | 107.1 | 98  | 130 | 135 | 99         | 5  | 75 | 53 | 20 | 19.5 | 17 | 10.5 | 3  |
| 80        | 90  | 100 | 130 | 112.1 | 103 | 135 | 140 | 104        | 5  | 75 | 53 | 20 | 19.5 | 17 | 10.5 | 3  |
| 90        | 100 | 110 | 146 | 126.1 | 117 | 155 | 163 | 116        | 5  | 98 | 73 | 30 | 22.0 | 19 | 16.0 | 4  |
| 100       | 110 | 120 | 156 | 136.1 | 127 | 165 | 173 | 126        | 5  | 98 | 73 | 30 | 22.0 | 19 | 16.0 | 4  |
| 110       | 120 | 130 | 166 | 145.1 | 136 | 175 | 183 | 136        | 5  | 98 | 73 | 30 | 22.0 | 19 | 16.0 | 4  |
| 120       | 130 | 140 | 176 | 154.1 | 145 | 185 | 193 | 146        | 5  | 98 | 73 | 30 | 22.0 | 19 | 16.0 | 4  |
| 130       | 140 | 150 | 187 | 163.9 | 155 | 195 | 203 | 156        | 5  | 98 | 73 | 30 | 22.0 | 19 | 16.0 | 4  |
| 140       | 150 | 160 | 188 | 174.9 | 166 | 205 | 213 | 166        | 5  | 98 | 73 | 30 | 22.0 | 19 | 16.0 | 4  |
| 160       | 170 | 180 | 219 | 193.9 | 185 | 230 | 238 | 186        | 5  | 98 | 73 | 30 | 22.0 | 19 | 16.0 | 4  |
| 180       | 190 | 200 | 239 | 213.9 | 205 | 255 | 265 | 206        | 5  | 98 | 73 | 30 | 22.0 | 19 | 16.0 | 4  |

# HQCS-B03(LEK777)



Type: Single Cartridge Seal  
 Replacement: Burgmann LEK777  
 Temperature: -20 to +180°C  
 Pressure:  $\leq 1.8\text{Mpa}$   
 Speed:  $\leq 10\text{m/s}$   
 Material: Q1,S,A,Q2,V,E,P,M5,M6,G1,T4,M



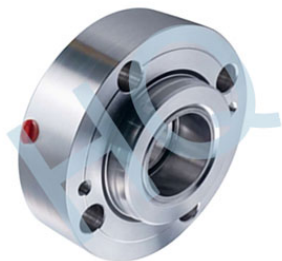
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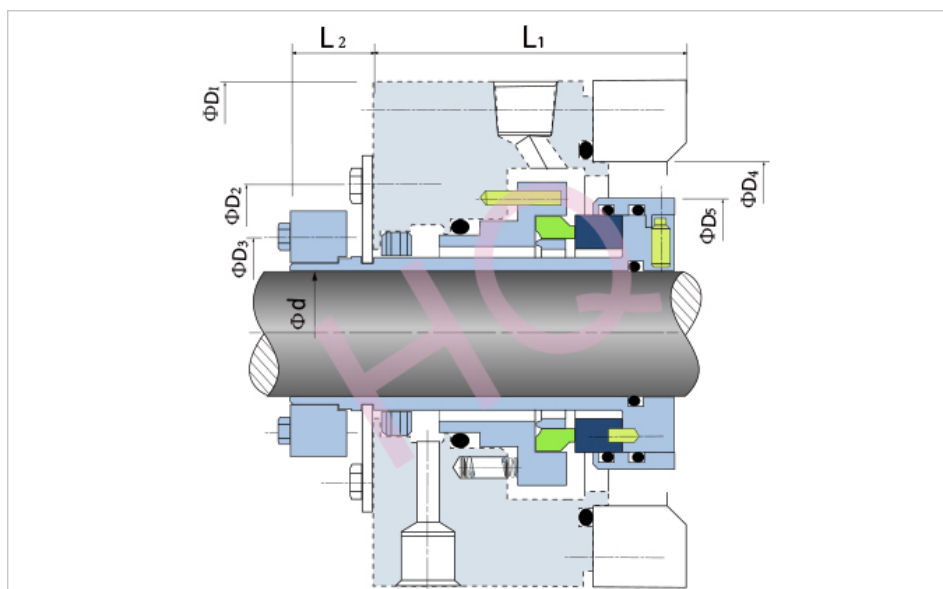
[hq@hqseal.com](mailto:hq@hqseal.com)

| API/d<br>(mm) | API/D1 | API/D4 | D2  | D3  | L   | L1 | L2 | L3 |
|---------------|--------|--------|-----|-----|-----|----|----|----|
| 20            | 70     | 105    | 51  | 128 | 100 | 70 | 30 | 50 |
| 30            | 80     | 115    | 63  | 138 | 102 | 70 | 32 | 50 |
| 40            | 90     | 125    | 74  | 148 | 105 | 70 | 35 | 50 |
| 50            | 100    | 140    | 84  | 168 | 105 | 70 | 35 | 50 |
| 60            | 120    | 160    | 99  | 188 | 107 | 72 | 35 | 52 |
| 70            | 130    | 170    | 108 | 198 | 107 | 72 | 35 | 52 |
| 80            | 140    | 180    | 120 | 208 | 107 | 72 | 35 | 52 |
| 90            | 160    | 205    | 138 | 238 | 114 | 79 | 35 | 59 |
| 100           | 170    | 215    | 148 | 248 | 115 | 80 | 35 | 60 |
| 110           | 180    | 225    | 157 | 258 | 120 | 80 | 40 | 60 |

## HQCS-B04(SH)



Type: Single Cartridge Seal  
 Replacement: Burgmann SH  
 Temperature:  $-20^{\circ}\text{C}$  to  $+250^{\circ}\text{C}$   
 Pressure:  $\leq 2.5\text{Mpa}$   
 Speed:  $\leq 35\text{m/s}$   
 Material: Q1, Q2, U2, T, V, M1, F, G, M



Equal to Burgmann SH.

d=40mm - 250mm, 1.570" to 9.800"



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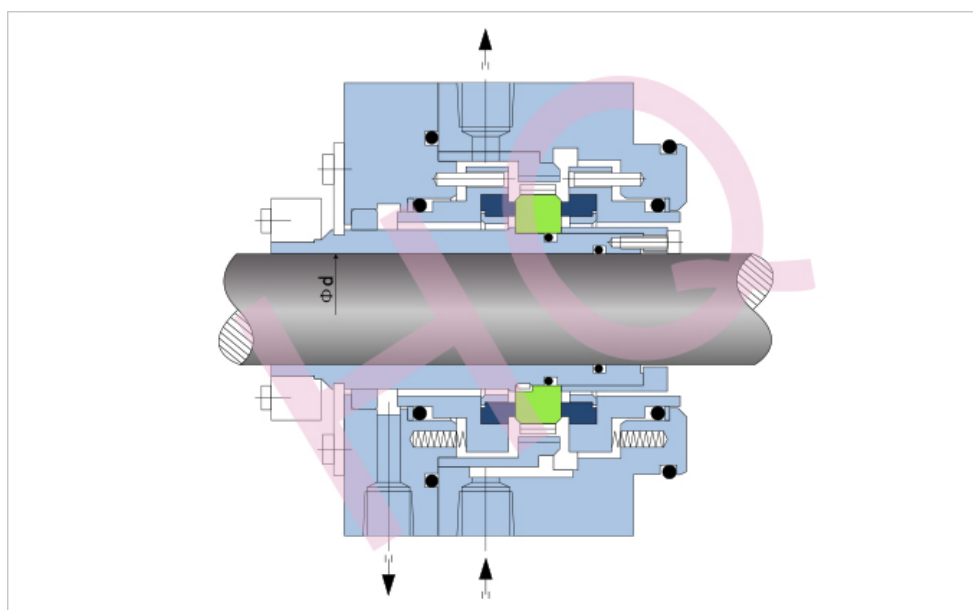


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# HQCS-B18(SHF(V)-D/SHP(V)-D)



Type: Cartridge Seal  
 Replacement: Burgmann SHF(V)-D/SHP(V)-D  
 Temperature:  $+200^{\circ}\text{C}$   
 Pressure:  $\leq 150\text{Bar}$   
 Speed:  $\leq 60\text{m/s}$   
 Material: Q1,Q2,U2,T,V,M1,F,G,M



$d=40\text{mm}$  to  $250\text{mm}$ ,  $1.57''$  to  $9.84''$ .



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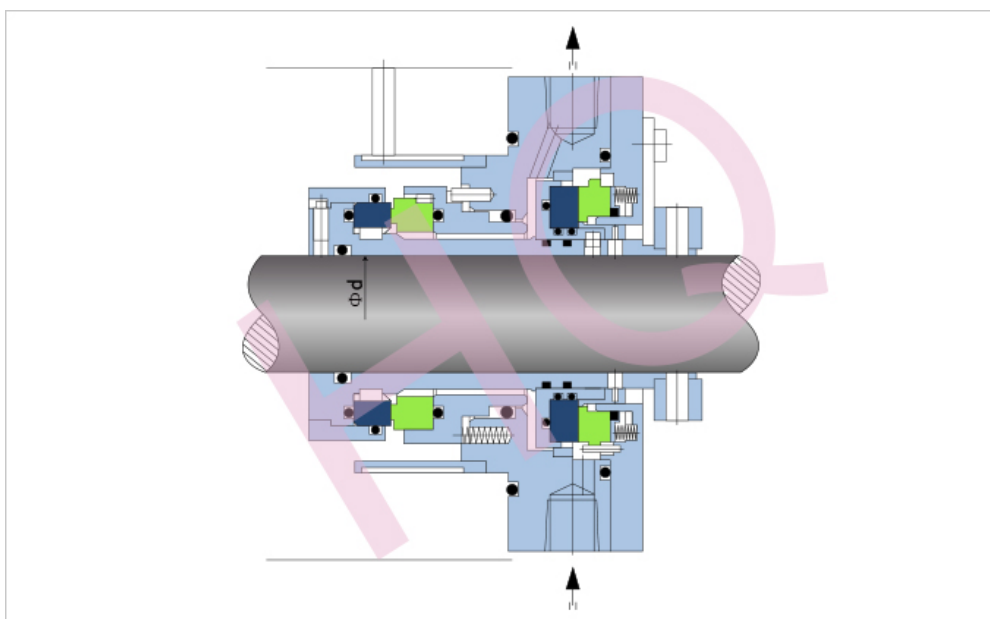
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# HQCS-B19(SHI300)



Type: Cartridge Seal  
 Replacement: Burgmann SHI300  
 Temperature: -20 to +100°C  
 Pressure:  $\leq 100\text{Bar}$   
 Speed:  $\leq 50\text{m/s}$   
 Material: Q1,Q2,U2,T,V,M1,F,G,M



d=50mm to 150mm, 1.97" to 5.91".

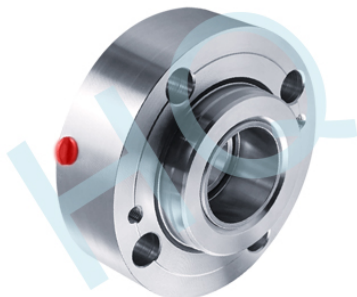


<http://www.hqseal.com>

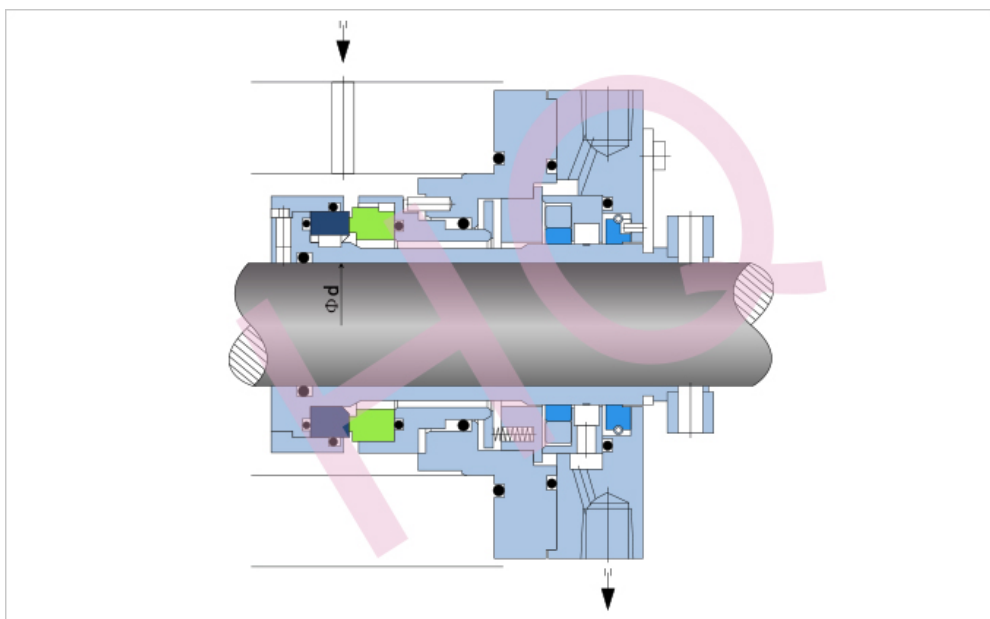


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# HQCS-B20(SHI366)



Type: Cartridge Seal  
 Replacement: Burgmann SHI366  
 Temperature: -20 to +100°C  
 Pressure:  $\leq 100\text{Bar}$   
 Speed:  $\leq 50\text{m/s}$   
 Material: Q1,Q2,U2,T,V,M1,F,G,M



d=50mm to 150mm, 1.97" to 5.91".

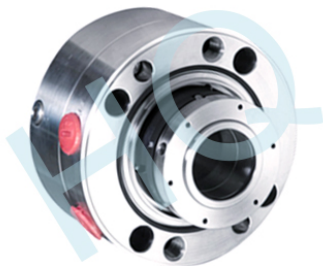


<http://www.hqseal.com>

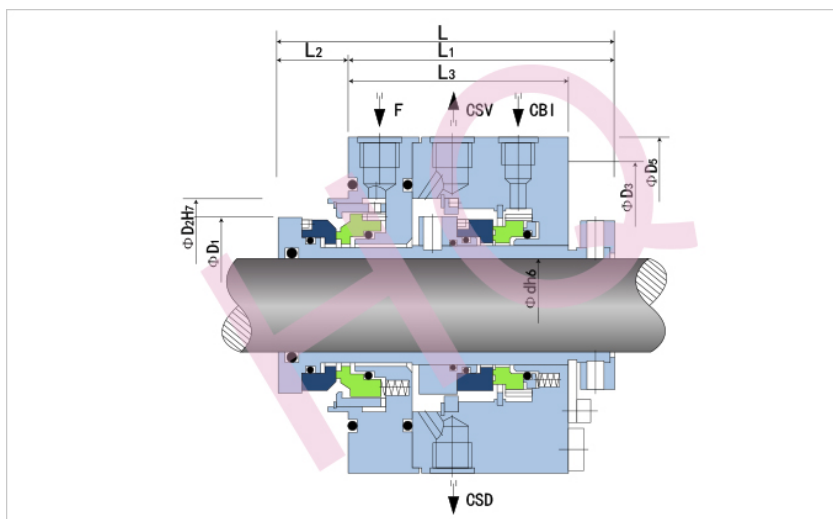


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# HQCS-B21(LL9DJUE)



Type: Double Cartridge Seal  
 Replacement: Burgmann LL9DJUE  
 Temperature: -40 to +176°C  
 Pressure:  $\leq 60$  Bar  
 Speed:  $\leq 25$  m/s  
 Material: Q1, Q2, U2, T, V, M1, F, G, M



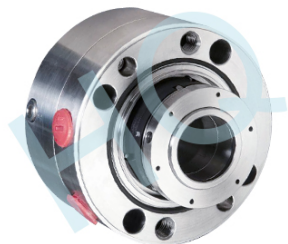
<http://www.hqseal.com>



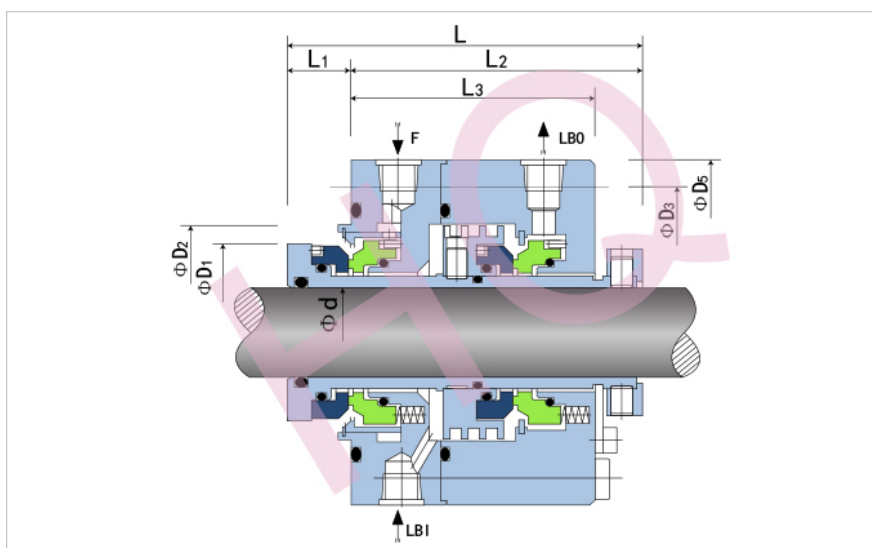
[hq@hqseal.com](mailto:hq@hqseal.com)

| API/d<br>(mm) | API/D2 | API/D3 | D1  | D5  | L   | L1  | L2 | L3 |
|---------------|--------|--------|-----|-----|-----|-----|----|----|
| 20            | 70     | 105    | 51  | 128 | 128 | 98  | 30 | 80 |
| 30            | 80     | 115    | 63  | 138 | 130 | 98  | 32 | 80 |
| 40            | 90     | 125    | 74  | 148 | 133 | 98  | 35 | 80 |
| 50            | 100    | 140    | 84  | 168 | 142 | 107 | 35 | 87 |
| 60            | 120    | 160    | 99  | 188 | 142 | 107 | 35 | 87 |
| 70            | 130    | 170    | 108 | 198 | 142 | 107 | 35 | 87 |
| 80            | 140    | 180    | 120 | 208 | 142 | 107 | 35 | 87 |
| 90            | 160    | 205    | 138 | 238 | 150 | 115 | 35 | 93 |
| 100           | 170    | 215    | 148 | 248 | 150 | 115 | 35 | 93 |
| 110           | 180    | 225    | 157 | 258 | 155 | 115 | 40 | 93 |

# HQCS-B22(LL9DJUU)



Type: Double Cartridge Seal  
 Replacement: Burgmann LL9DJUU  
 Temperature: -40 to +176°C  
 Pressure:  $\leq 60$  Bar  
 Speed:  $\leq 50$  m/s  
 Material: Q1, Q2, U2, T, V, M1, F, G, M



<http://www.hqseal.com>



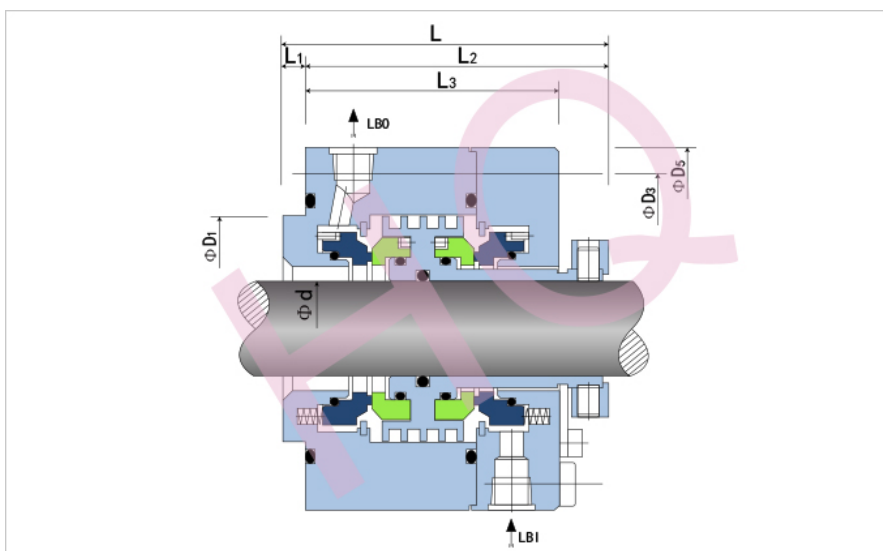
[hq@hqseal.com](mailto:hq@hqseal.com)

| API<br>/d(mm) | API<br>/D2 | API<br>/D3 | D1  | D5  | L   | L1  | L2 | L3 |
|---------------|------------|------------|-----|-----|-----|-----|----|----|
| 20            | 70         | 105        | 51  | 128 | 128 | 98  | 30 | 80 |
| 30            | 80         | 115        | 63  | 138 | 130 | 98  | 32 | 80 |
| 40            | 90         | 125        | 74  | 148 | 133 | 98  | 35 | 80 |
| 50            | 100        | 140        | 84  | 168 | 142 | 107 | 35 | 87 |
| 60            | 120        | 160        | 99  | 188 | 142 | 107 | 35 | 87 |
| 70            | 130        | 170        | 108 | 198 | 142 | 107 | 35 | 87 |
| 80            | 140        | 180        | 120 | 208 | 142 | 107 | 35 | 87 |
| 90            | 160        | 205        | 138 | 248 | 150 | 115 | 35 | 93 |
| 100           | 170        | 215        | 148 | 258 | 150 | 115 | 35 | 93 |
| 110           | 180        | 225        | 157 | 268 | 155 | 115 | 40 | 93 |

# HQCS-B23(LL9DSUU)



Type: Double Cartridge Seal  
 Replacement: Burgmann LL9DSUU  
 Temperature:  $-40$  to  $+176^{\circ}\text{C}$   
 Pressure:  $\leq 60$  Bar  
 Speed:  $\leq 50\text{m/s}$   
 Material: Q1,Q2,U2,T,V,M1,F,G,M



<http://www.hqseal.com>



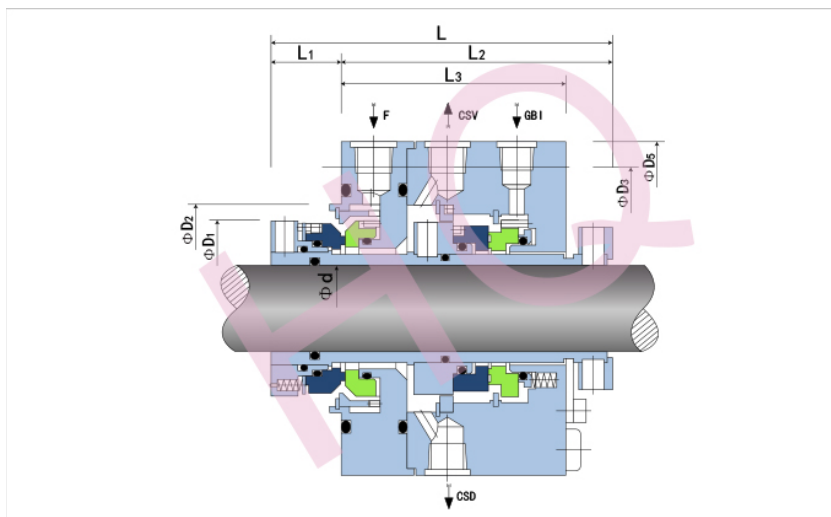
[hq@hqseal.com](mailto:hq@hqseal.com)

| API<br>/d(mm) | API<br>/D1 | API<br>/D3 | D5  | L   | L1 | L2  | L3 |
|---------------|------------|------------|-----|-----|----|-----|----|
| 20            | 70         | 105        | 128 | 108 | 10 | 98  | 80 |
| 30            | 80         | 115        | 138 | 110 | 12 | 98  | 80 |
| 40            | 90         | 125        | 148 | 113 | 15 | 98  | 80 |
| 50            | 100        | 140        | 168 | 122 | 15 | 107 | 87 |
| 60            | 120        | 160        | 188 | 122 | 15 | 107 | 87 |
| 70            | 130        | 170        | 198 | 122 | 15 | 107 | 87 |
| 80            | 140        | 180        | 208 | 122 | 15 | 107 | 87 |
| 90            | 160        | 205        | 248 | 130 | 15 | 115 | 93 |
| 100           | 170        | 215        | 258 | 130 | 15 | 115 | 93 |
| 110           | 180        | 225        | 268 | 135 | 20 | 115 | 93 |

# HQCS-B24(LL9DTUE)



Type: Double Cartridge Seal  
 Replacement: Burgmann LL9DTUE  
 Temperature: -40 to +176°C  
 Pressure:  $\leq 42$  Bar  
 Speed:  $\leq 23$  m/s  
 Material: Q1, Q2, U2, T, V, M1, F, G, M



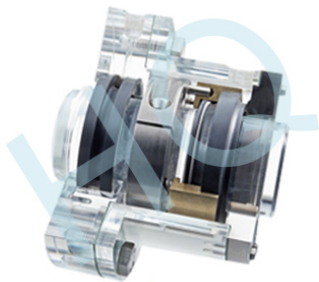
<http://www.hqseal.com>



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| API<br>/d(mm) | API<br>/D2 | API<br>/D3 | D1  | D5  | L   | L1 | L2  | L3 |
|---------------|------------|------------|-----|-----|-----|----|-----|----|
| 20            | 70         | 105        | -   | -   | -   | -  | -   | -  |
| 30            | 80         | 115        | 69  | 138 | 130 | 32 | 98  | 80 |
| 40            | 90         | 125        | 79  | 148 | 133 | 35 | 98  | 80 |
| 50            | 100        | 140        | 89  | 168 | 142 | 35 | 107 | 87 |
| 60            | 120        | 160        | 105 | 188 | 142 | 35 | 107 | 87 |
| 70            | 130        | 170        | 115 | 198 | 142 | 35 | 107 | 87 |
| 80            | 140        | 180        | 125 | 208 | 142 | 35 | 107 | 87 |
| 90            | 160        | 205        | 137 | 248 | 150 | 35 | 115 | 93 |
| 100           | 170        | 215        | 150 | 258 | 150 | 35 | 115 | 93 |
| 110           | 180        | 225        | 163 | 268 | 155 | 40 | 115 | 93 |

# HQCS-B17(4600)

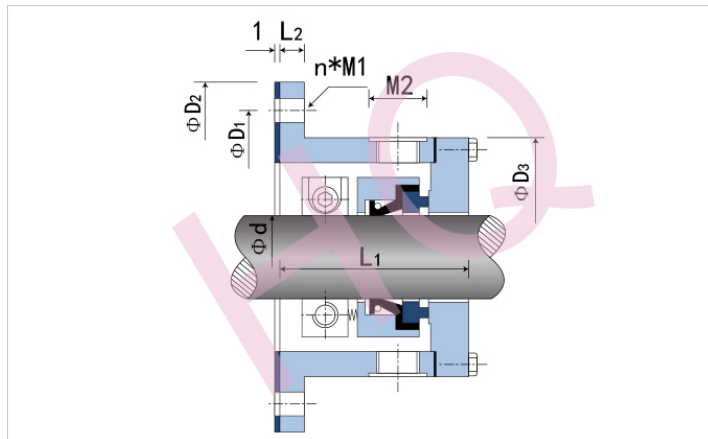


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Type: Single Cartridge Seal  
Replacement: Burgmann 4600  
Temperature: -20 to +180°C  
Pressure:  $\leq 1.8\text{Mpa}$   
Speed:  $\leq 2\text{m/s}$   
Material: Q1,Q2,U2,T,V,M1,F,G,M



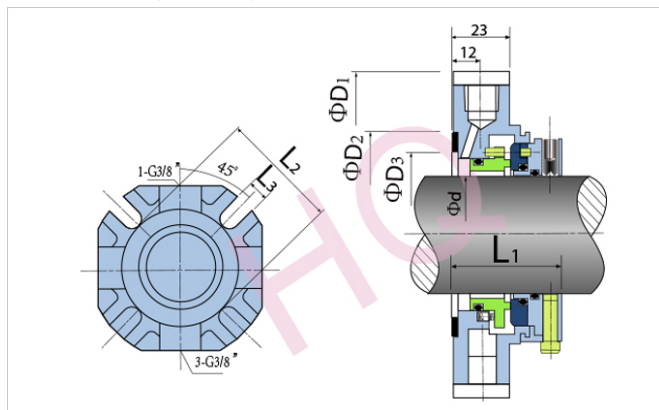
| d<br>(mm) | D1  | D2  | D3  | L1  | L2 | M1  | M2    | n |
|-----------|-----|-----|-----|-----|----|-----|-------|---|
| 50        | 142 | 165 | 125 | 110 | 15 | M10 | G1/2" | 4 |
| 60        | 152 | 175 | 135 | 110 | 15 | M10 | G1/2" | 4 |
| 70        | 185 | 215 | 145 | 110 | 15 | M16 | G1/2" | 4 |
| 80        | 195 | 225 | 155 | 115 | 15 | M16 | G1/2" | 4 |
| 90        | 205 | 235 | 165 | 115 | 15 | M16 | G1/2" | 4 |
| 100       | 215 | 245 | 175 | 115 | 15 | M16 | G1/2" | 4 |
| 110       | 230 | 260 | 192 | 120 | 15 | M16 | G1/2" | 6 |
| 120       | 240 | 270 | 202 | 120 | 15 | M16 | G1/2" | 6 |
| 130       | 250 | 280 | 212 | 120 | 15 | M16 | G1/2" | 6 |
| 140       | 260 | 290 | 222 | 120 | 15 | M16 | G1/2" | 6 |
| 150       | 270 | 300 | 232 | 120 | 15 | M16 | G1/2" | 6 |
| 160       | 280 | 310 | 242 | 120 | 15 | M16 | G1/2" | 6 |
| 170       | 290 | 320 | 252 | 120 | 15 | M16 | G1/2" | 6 |
| 180       | 300 | 330 | 262 | 130 | 15 | M16 | G1/2" | 6 |
| 190       | 310 | 340 | 272 | 130 | 15 | M16 | G1/2" | 8 |
| 200       | 320 | 350 | 282 | 130 | 15 | M16 | G1/2" | 8 |
| 210       | 330 | 360 | 292 | 130 | 15 | M16 | G1/2" | 8 |
| 220       | 340 | 370 | 302 | 130 | 15 | M16 | G1/2" | 8 |
| 230       | 350 | 380 | 312 | 130 | 15 | M16 | G1/2" | 8 |
| 240       | 365 | 405 | 340 | 140 | 20 | M20 | G1/2" | 8 |
| 250       | 375 | 415 | 350 | 140 | 20 | M20 | G1/2" | 8 |
| 260       | 385 | 425 | 360 | 140 | 20 | M20 | G3/4" | 8 |
| 270       | 395 | 435 | 370 | 140 | 20 | M20 | G3/4" | 8 |
| 280       | 405 | 445 | 380 | 140 | 20 | M20 | G3/4" | 8 |
| 290       | 415 | 455 | 390 | 140 | 20 | M20 | G3/4" | 8 |
| 300       | 425 | 465 | 400 | 140 | 20 | M20 | G3/4" | 8 |
| 310       | 445 | 485 | 420 | 140 | 20 | M20 | G3/4" | 8 |
| 320       | 455 | 495 | 430 | 140 | 20 | M20 | G3/4" | 8 |

# HQCS-B06(MA290/390)

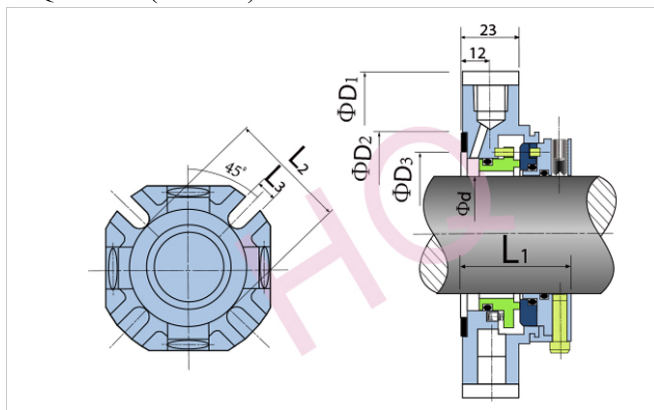
Type: Single Cartridge Seal  
 Replacement: Burgmann MA290/390  
 Temperature: -20°C to +160°C  
 Pressure:  $\leq 1.6\text{Mpa}$   
 Speed:  $\leq 20\text{m/s}$   
 Material: Q1,Q2,Graphite,V,G



HQCS-B06(MA290)



HQCS-B06(MA390)

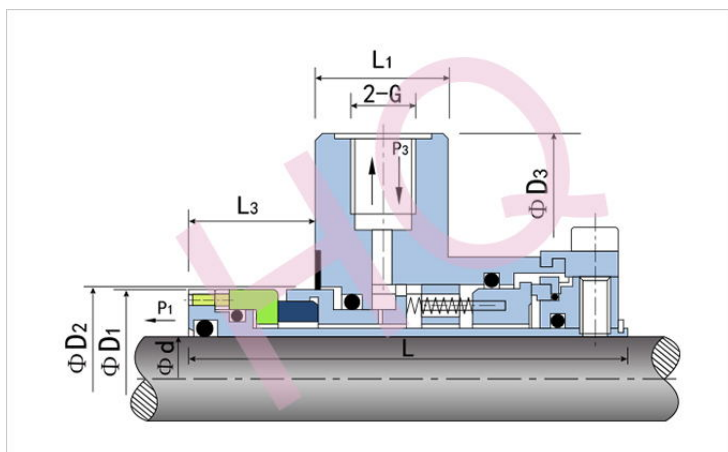


| d<br>(mm) | D1  | D2  | D3  |     | L1 | L2  | L3 |
|-----------|-----|-----|-----|-----|----|-----|----|
|           |     |     | min | max |    |     |    |
| 20        | 104 | 58  | 30  | 51  | 42 | 60  | 12 |
| 24        | 104 | 58  | 34  | 51  | 42 | 60  | 12 |
| 25        | 104 | 58  | 35  | 51  | 42 | 60  | 12 |
| 28        | 108 | 63  | 38  | 54  | 42 | 65  | 12 |
| 30        | 108 | 63  | 40  | 56  | 42 | 65  | 12 |
| 32        | 108 | 63  | 42  | 56  | 42 | 65  | 12 |
| 33        | 118 | 73  | 43  | 66  | 42 | 75  | 14 |
| 35        | 118 | 73  | 45  | 66  | 42 | 75  | 14 |
| 38        | 118 | 73  | 48  | 66  | 42 | 75  | 14 |
| 40        | 118 | 73  | 50  | 66  | 42 | 75  | 14 |
| 43        | 128 | 78  | 53  | 71  | 42 | 80  | 14 |
| 45        | 128 | 78  | 55  | 71  | 42 | 80  | 14 |
| 48        | 138 | 88  | 58  | 81  | 44 | 90  | 14 |
| 50        | 138 | 88  | 60  | 81  | 44 | 90  | 14 |
| 53        | 138 | 88  | 63  | 81  | 44 | 90  | 14 |
| 55        | 138 | 88  | 65  | 81  | 44 | 90  | 14 |
| 58        | 164 | 103 | 68  | 96  | 46 | 105 | 18 |
| 60        | 164 | 103 | 70  | 96  | 46 | 105 | 18 |
| 63        | 164 | 103 | 73  | 96  | 46 | 105 | 18 |
| 65        | 164 | 103 | 75  | 96  | 46 | 105 | 18 |
| 70        | 178 | 109 | 80  | 102 | 46 | 111 | 18 |
| 75        | 193 | 121 | 85  | 114 | 49 | 123 | 18 |
| 80        | 193 | 121 | 90  | 114 | 49 | 123 | 18 |
| 85        | 208 | 131 | 95  | 124 | 49 | 133 | 20 |
| 90        | 208 | 131 | 100 | 124 | 49 | 133 | 20 |
| 95        | 218 | 141 | 105 | 134 | 49 | 143 | 20 |
| 100       | 218 | 141 | 110 | 134 | 49 | 143 | 20 |



# HQCS-B14(TSK1D)

Type: Double Cartridge Seal  
 Replacement: Burgmann TSK1D  
 Temperature: -30°C to +200°C  
 Pressure:  $p_1=1.0\text{Mpa}, p_3=1.3\text{Mpa}$   
 Speed:  $\leq 16\text{m/s}$   
 Material: Q1,Q2,A,B,U1,U2,P,E,V,T,F,G,T2,M5



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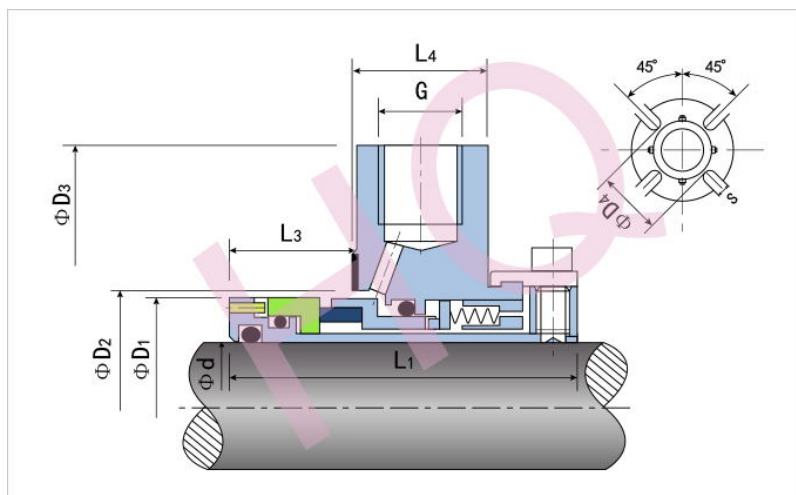


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| d<br>(mm) | D1    | D2    |       | D3  | D5  | L     | L1   | L3 | S  | G<br>(Inch) |
|-----------|-------|-------|-------|-----|-----|-------|------|----|----|-------------|
|           |       | min   | max   |     |     |       |      |    |    |             |
| 25        | 43.0  | 51.0  | 44.0  | 105 | 62  | 86.5  | 25.4 | 24 | 14 | 1/4"        |
| 28        | 46.0  | 52.0  | 47.0  | 105 | 62  | 86.5  | 25.4 | 24 | 14 | 1/4"        |
| 30        | 48.0  | 56.0  | 49.0  | 105 | 65  | 86.5  | 25.4 | 24 | 14 | 1/4"        |
| 33        | 50.0  | 57.0  | 51.0  | 110 | 67  | 86.5  | 25.4 | 24 | 14 | 1/4"        |
| 35        | 53.0  | 61.0  | 54.0  | 113 | 70  | 86.5  | 25.4 | 24 | 14 | 1/4"        |
| 38        | 56.0  | 66.0  | 57.0  | 123 | 75  | 86.5  | 25.4 | 24 | 14 | 3/8"        |
| 40        | 58.0  | 68.0  | 59.0  | 123 | 78  | 86.5  | 25.4 | 24 | 16 | 3/8"        |
| 43        | 60.0  | 70.5  | 61.5  | 133 | 80  | 86.5  | 25.4 | 24 | 16 | 3/8"        |
| 45        | 62.5  | 73.0  | 64.0  | 138 | 81  | 86.5  | 25.4 | 24 | 16 | 3/8"        |
| 48        | 65.5  | 75.0  | 67.0  | 138 | 84  | 86.5  | 25.4 | 24 | 16 | 3/8"        |
| 50        | 68.0  | 78.0  | 69.0  | 148 | 87  | 86.5  | 25.4 | 24 | 16 | 3/8"        |
| 55        | 73.0  | 83.0  | 74.0  | 148 | 90  | 86.5  | 25.4 | 24 | 18 | 3/8"        |
| 60        | 78.0  | 91.0  | 79.0  | 157 | 102 | 86.5  | 25.4 | 24 | 18 | 3/8"        |
| 65        | 83.0  | 98.5  | 84.5  | 163 | 109 | 86.5  | 25.4 | 24 | 18 | 3/8"        |
| 70        | 93.0  | 108.0 | 95.0  | 178 | 118 | 86.5  | 25.4 | 24 | 18 | 3/8"        |
| 75        | 100.0 | 118.0 | 101.6 | 190 | 129 | 108.0 | 28.0 | 30 | 18 | 3/8"        |
| 80        | 106.4 | 124.0 | 108.0 | 195 | 135 | 108.0 | 28.0 | 30 | 18 | 3/8"        |
| 85        | 109.5 | 128.0 | 111.1 | 198 | 139 | 108.0 | 28.0 | 30 | 22 | 3/8"        |
| 90        | 115.9 | 135.0 | 117.5 | 205 | 145 | 108.0 | 28.0 | 30 | 22 | 3/8"        |
| 95        | 119.1 | 138.0 | 120.7 | 208 | 148 | 108.0 | 28.0 | 30 | 22 | 3/8"        |
| 100       | 125.4 | 144.0 | 127.0 | 218 | 154 | 108.0 | 28.0 | 30 | 22 | 3/8"        |

# HQCS-B13(TSK1)

Type: Single Cartridge Seal  
 Replacement: Burgmann TSK1  
 Temperature:  $-40^{\circ}\text{C}$  to  $+220^{\circ}\text{C}$   
 Pressure:  $\leq 2.5\text{Mpa}$   
 Speed:  $\leq 16\text{m/s}$   
 Material: Q1,Q2,U2,T,V,M1,F,G,M



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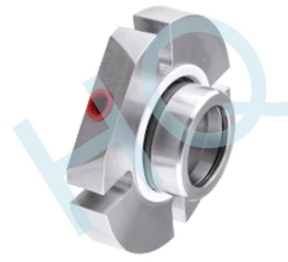


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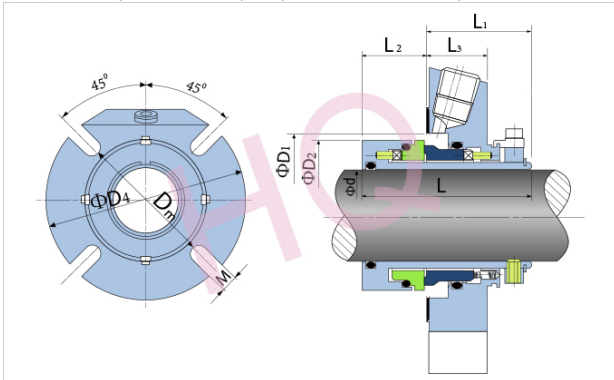
| d<br>(mm) | D1    | D2    |       | D3  | L1 | L3   | L4   | D4  | S  | G<br>(Inche) |
|-----------|-------|-------|-------|-----|----|------|------|-----|----|--------------|
|           |       | min   | max   |     |    |      |      |     |    |              |
| 25        | 43.0  | 44.0  | 51.0  | 105 | 67 | 24.6 | 25.4 | 62  | 14 | 1/4"         |
| 28        | 46.0  | 47.0  | 52.0  | 105 | 67 | 24.6 | 25.4 | 62  | 14 | 1/4"         |
| 30        | 48.0  | 49.0  | 56.0  | 105 | 67 | 24.6 | 25.4 | 65  | 14 | 1/4"         |
| 33        | 50.0  | 51.0  | 57.0  | 110 | 67 | 24.6 | 25.4 | 67  | 14 | 1/4"         |
| 35        | 53.0  | 54.0  | 61.0  | 113 | 67 | 24.6 | 25.4 | 70  | 14 | 1/4"         |
| 38        | 56.0  | 57.0  | 66.0  | 123 | 67 | 24.6 | 25.4 | 75  | 14 | 3/8n         |
| 40        | 58.0  | 59.0  | 68.0  | 123 | 67 | 24.6 | 25.4 | 75  | 16 | 3/8"         |
| 43        | 60.0  | 61.5  | 70.5  | 133 | 67 | 24.6 | 25.4 | 80  | 16 | 3/8"         |
| 45        | 62.5  | 64.0  | 73.0  | 138 | 67 | 24.6 | 25.4 | 81  | 16 | 3/8"         |
| 48        | 65.5  | 67.0  | 75.0  | 138 | 67 | 24.6 | 25.4 | 84  | 16 | 3/8"         |
| 50        | 68.0  | 69.0  | 78.0  | 148 | 67 | 24.6 | 25.4 | 87  | 16 | 3/8"         |
| 55        | 73.0  | 74.0  | 83.0  | 148 | 67 | 24.6 | 25.4 | 90  | 18 | 3/8"         |
| 60        | 78.0  | 79.0  | 91.0  | 157 | 67 | 24.6 | 25.4 | 102 | 18 | 3/8n         |
| 65        | 83.0  | 84.5  | 98.5  | 163 | 67 | 24.6 | 25.4 | 109 | 18 | 3/8"         |
| 70        | 93.0  | 95.0  | 108.0 | 178 | 67 | 24.6 | 25.4 | 118 | 18 | 3/8"         |
| 75        | 100.0 | 101.6 | 118.0 | 190 | 84 | 26.6 | 28.0 | 129 | 18 | 3/8"         |
| 80        | 106.4 | 108.0 | 124.0 | 195 | 84 | 26.6 | 28.0 | 135 | 18 | 3/8"         |
| 85        | 109.5 | 111.1 | 128.0 | 198 | 84 | 26.6 | 28.0 | 139 | 22 | 3/8n         |
| 90        | 115.9 | 117.5 | 135.0 | 205 | 84 | 26.6 | 28.0 | 145 | 22 | 3/8n         |
| 95        | 119.1 | 120.7 | 138.0 | 208 | 84 | 26.6 | 28.0 | 148 | 22 | 3/8n         |
| 100       | 125.4 | 127.0 | 144.0 | 218 | 84 | 26.6 | 28.0 | 154 | 22 | 3/8"         |

# HQCS-B08(CARTEX-SN)

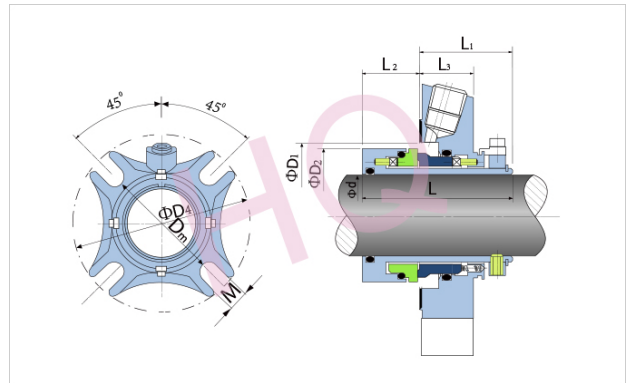
Type: Single Cartridge Seal  
 Replacement: Burgmann CARTEX-SN  
 Temperature:  $-20^{\circ}\text{C}$  to  $+220^{\circ}\text{C}$   
 Pressure:  $\leq 2.5\text{Mpa}$   
 Speed:  $\leq 10\text{m/s}$   
 Material: Q1,Q2,U2,T,V,M1,F,G,M



HQCS-B08(CARTEX-SN)-A (use Mechined cover)



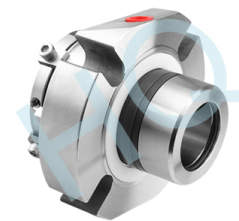
HQCS-B08(CARTEX-SN)-B (use cast cover)



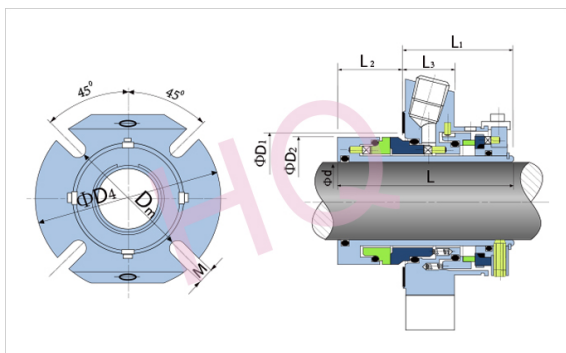
| d<br>(mm) | D1    |       | D2    | D4  | Dm  | L  | L1   | L2   | L3   | M    |
|-----------|-------|-------|-------|-----|-----|----|------|------|------|------|
|           | Min   | Max   |       |     |     |    |      |      |      |      |
| 25        | 44.0  | 51.5  | 43.0  | 105 | 62  | 67 | 42.4 | 24.6 | 25.4 | 13.2 |
| 28        | 47.0  | 52.0  | 46.0  | 105 | 62  | 67 | 42.4 | 24.6 | 25.4 | 13.2 |
| 30        | 49.0  | 56.0  | 48.0  | 106 | 65  | 67 | 42.4 | 24.6 | 25.4 | 13.2 |
| 32        | 51.0  | 57.0  | 49.8  | 108 | 67  | 67 | 42.4 | 24.6 | 25.4 | 13.2 |
| 33        | 51.0  | 57.0  | 49.8  | 108 | 67  | 67 | 42.4 | 24.6 | 25.4 | 13.2 |
| 35        | 54.0  | 61.5  | 53.0  | 113 | 70  | 67 | 42.4 | 24.6 | 25.4 | 13.2 |
| 38        | 57.0  | 66.0  | 56.0  | 123 | 75  | 67 | 42.4 | 24.6 | 25.4 | 13.2 |
| 40        | 59.0  | 68.0  | 58.0  | 123 | 75  | 67 | 42.4 | 24.6 | 25.4 | 14.2 |
| 42        | 61.5  | 69.0  | 60.5  | 133 | 80  | 67 | 42.4 | 24.6 | 25.4 | 14.2 |
| 43        | 61.5  | 70.5  | 60.5  | 133 | 80  | 67 | 42.4 | 24.6 | 25.4 | 14.2 |
| 45        | 64.0  | 73.0  | 62.5  | 138 | 81  | 67 | 42.4 | 24.6 | 25.4 | 14.2 |
| 48        | 67.0  | 75.0  | 65.6  | 138 | 84  | 67 | 42.4 | 24.6 | 25.4 | 14.2 |
| 50        | 69.0  | 78.0  | 68.0  | 148 | 87  | 67 | 42.4 | 24.6 | 25.4 | 14.2 |
| 53        | 73.0  | 87.0  | 72.0  | 148 | 97  | 67 | 42.4 | 24.6 | 25.4 | 18.0 |
| 55        | 74.0  | 83.0  | 73.0  | 148 | 90  | 67 | 42.4 | 24.6 | 25.4 | 18.0 |
| 60        | 79.0  | 91.0  | 78.0  | 157 | 102 | 67 | 42.4 | 24.6 | 25.4 | 18.0 |
| 65        | 85.7  | 98.5  | 84.8  | 163 | 109 | 67 | 42.4 | 24.6 | 25.4 | 18.0 |
| 70        | 95.0  | 108.0 | 93.0  | 178 | 118 | 67 | 42.4 | 24.6 | 25.4 | 18.0 |
| 75        | 101.6 | 118.0 | 100.0 | 190 | 129 | 84 | 57.4 | 26.6 | 28.0 | 18.0 |
| 80        | 108.0 | 124.0 | 106.4 | 196 | 135 | 84 | 57.4 | 26.6 | 28.0 | 18.0 |
| 85        | 111.  | 128.0 | 109.5 | 198 | 139 | 84 | 57.4 | 26.6 | 28.0 | 22.0 |
| 90        | 117.5 | 135.0 | 115.9 | 205 | 145 | 84 | 57.4 | 26.6 | 28.0 | 22.0 |
| 95        | 120.7 | 138.0 | 119.1 | 208 | 148 | 84 | 57.4 | 26.6 | 28.0 | 22.0 |
| 100       | 127.0 | 144.0 | 125.4 | 218 | 154 | 84 | 57.4 | 26.6 | 28.0 | 22.0 |

# HQCS-B09(CARTEX-DN)

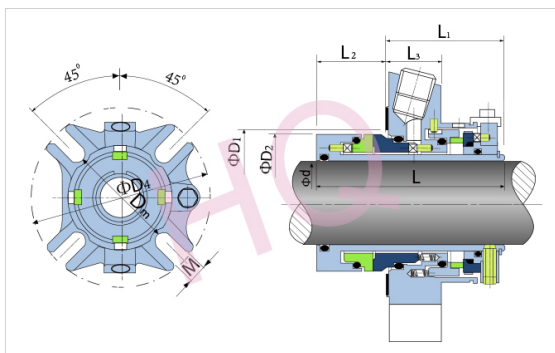
Type: Double Cartridge Seal  
 Replacement: Burgmann CARTEX-DN  
 Temperature:  $-40^{\circ}\text{C}$  to  $+220^{\circ}\text{C}$   
 Pressure:  $\leq 4.0\text{Mpa}$   
 Speed:  $\leq 25\text{m/s}$   
 Material: Q1,Q2,U2,T,V,M1,F,G,M



HQCS-B09(CARTEX-DN)-A(use mechined cover)



HQCS-B09(CARTEX-DN)-B (use cast cover)

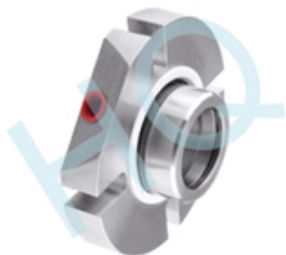


| d<br>(mm) | D1    |       | D2    | D4  | Dm  | L     | L1   | L2   | L3   | M    |
|-----------|-------|-------|-------|-----|-----|-------|------|------|------|------|
|           | min   | max   |       |     |     |       |      |      |      |      |
| 25        | 44.0  | 51.5  | 43.0  | 105 | 62  | 86.5  | 53.4 | 33.1 | 25.4 | 13.2 |
| 28        | 47.0  | 52.0  | 46.0  | 105 | 62  | 86.5  | 53.4 | 33.1 | 25.4 | 13.2 |
| 30        | 49.0  | 56.0  | 48.0  | 106 | 65  | 86.5  | 53.4 | 33.1 | 25.4 | 13.2 |
| 32        | 51.0  | 57.0  | 49.8  | 108 | 67  | 86.5  | 53.4 | 33.1 | 25.4 | 13.2 |
| 33        | 51.0  | 57.0  | 49.8  | 108 | 67  | 86.5  | 53.4 | 33.1 | 25.4 | 13.2 |
| 35        | 54.0  | 61.5  | 53.0  | 113 | 70  | 86.5  | 53.4 | 33.1 | 25.4 | 13.2 |
| 38        | 57.0  | 66.0  | 56.0  | 123 | 75  | 86.5  | 53.4 | 33.1 | 25.4 | 13.2 |
| 40        | 59.0  | 68.0  | 58.0  | 123 | 75  | 86.5  | 53.4 | 33.1 | 25.4 | 14.2 |
| 42        | 61.5  | 69.0  | 60.5  | 133 | 80  | 86.5  | 53.4 | 33.1 | 25.4 | 14.2 |
| 43        | 61.5  | 70.5  | 60.5  | 133 | 80  | 86.5  | 53.4 | 33.1 | 25.4 | 14.2 |
| 45        | 64.0  | 73.0  | 62.5  | 138 | 81  | 86.5  | 53.4 | 33.1 | 25.4 | 14.2 |
| 48        | 67.0  | 75.0  | 65.6  | 138 | 84  | 86.5  | 53.4 | 33.1 | 25.4 | 14.2 |
| 50        | 69.0  | 78.0  | 68.0  | 148 | 87  | 86.5  | 53.4 | 33.1 | 25.4 | 14.2 |
| 53        | 73.0  | 87.0  | 72.0  | 148 | 97  | 86.5  | 53.4 | 33.1 | 25.4 | 18.0 |
| 55        | 74.0  | 83.0  | 73.0  | 148 | 90  | 86.5  | 53.4 | 33.1 | 25.4 | 18.0 |
| 60        | 79.0  | 91.0  | 78.0  | 157 | 102 | 86.5  | 53.4 | 33.1 | 25.4 | 18.0 |
| 65        | 85.7  | 98.5  | 84.8  | 163 | 109 | 86.5  | 53.4 | 33.1 | 25.4 | 18.0 |
| 70        | 95.0  | 108.0 | 93.0  | 178 | 118 | 86.5  | 53.4 | 33.1 | 25.4 | 18.0 |
| 75        | 101.6 | 118.0 | 100.0 | 190 | 129 | 108.0 | 63.9 | 44.1 | 28.0 | 18.0 |
| 80        | 108.0 | 124.0 | 106.4 | 196 | 135 | 108.0 | 63.9 | 44.1 | 28.0 | 18.0 |
| 85        | 111.1 | 128.0 | 109.5 | 198 | 139 | 108.0 | 63.9 | 44.1 | 28.0 | 22.0 |
| 90        | 117.5 | 135.0 | 115.9 | 205 | 145 | 108.0 | 63.9 | 44.1 | 28.0 | 22.0 |
| 95        | 120.7 | 138.0 | 119.1 | 208 | 148 | 108.0 | 63.9 | 44.1 | 28.0 | 22.0 |
| 100       | 127.0 | 144.0 | 125.4 | 218 | 154 | 108.0 | 63.9 | 44.1 | 28.0 | 22.0 |

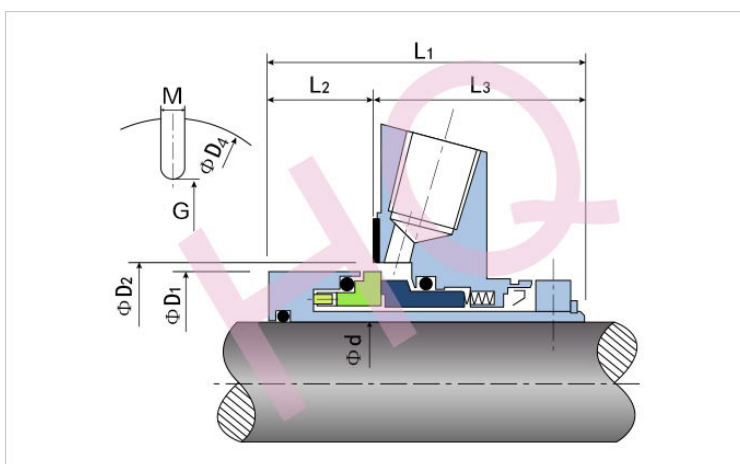
| d<br>(inch) | D1    |       | D2    | D4    | Dm    | L1   | L1    | L2    | L3    | M     |
|-------------|-------|-------|-------|-------|-------|------|-------|-------|-------|-------|
|             | min   | max   |       |       |       |      |       |       |       |       |
| 1.000       | 1.732 | 2.008 | 1.693 | 4.134 | 2.440 | 3.40 | 2.102 | 1.303 | 1.000 | 0.520 |
| 1.125       | 1.875 | 2.050 | 1.811 | 4.134 | 2.402 | 3.40 | 2.102 | 1.303 | 1.000 | 0.520 |
| 1.250       | 2.008 | 2.244 | 1.960 | 4.330 | 2.760 | 3.40 | 2.102 | 1.303 | 1.000 | 0.520 |
| 1.375       | 2.126 | 2.421 | 2.086 | 4.449 | 2.840 | 3.40 | 2.102 | 1.303 | 1.000 | 0.520 |
| 1.500       | 2.244 | 2.598 | 2.200 | 4.842 | 2.950 | 3.40 | 2.102 | 1.303 | 1.000 | 0.520 |
| 1.625       | 2.375 | 2.700 | 2.340 | 4.842 | 3.090 | 3.40 | 2.102 | 1.303 | 1.000 | 0.599 |
| 1.750       | 2.520 | 2.874 | 2.460 | 5.433 | 3.230 | 3.40 | 2.102 | 1.303 | 1.000 | 0.599 |
| 1.875       | 2.638 | 2.953 | 2.582 | 5.433 | 3.350 | 3.40 | 2.102 | 1.303 | 1.000 | 0.599 |
| 2.000       | 2.717 | 3.071 | 2.677 | 5.827 | 3.430 | 3.40 | 2.102 | 1.303 | 1.000 | 0.599 |
| 2.125       | 2.874 | 3.425 | 2.834 | 5.827 | 3.819 | 3.40 | 2.102 | 1.303 | 1.000 | 0.709 |
| 2.250       | 3.000 | 3.560 | 2.960 | 6.181 | 3.940 | 3.40 | 2.102 | 1.303 | 1.000 | 0.709 |
| 2.375       | 3.125 | 3.583 | 3.070 | 6.181 | 4.020 | 3.40 | 2.102 | 1.303 | 1.000 | 0.709 |
| 2.500       | 3.300 | 3.800 | 3.212 | 6.417 | 4.180 | 3.40 | 2.102 | 1.303 | 1.000 | 0.709 |
| 2.625       | 3.374 | 3.937 | 3.338 | 6.417 | 4.303 | 3.40 | 2.102 | 1.303 | 1.000 | 0.709 |
| 2.750       | 3.740 | 4.252 | 3.660 | 7.008 | 4.660 | 3.40 | 2.102 | 1.303 | 1.000 | 0.709 |
| 2.875       | 4.000 | 4.646 | 3.937 | 7.480 | 5.079 | 4.25 | 2.516 | 1.736 | 1.000 | 0.709 |
| 3.000       | 4.000 | 4.646 | 3.937 | 7.480 | 5.079 | 4.25 | 2.516 | 1.736 | 1.102 | 0.709 |
| 3.125       | 4.252 | 4.882 | 4.190 | 7.677 | 5.315 | 4.25 | 2.516 | 1.736 | 1.102 | 0.709 |
| 3.250       | 4.252 | 4.882 | 4.189 | 7.677 | 5.315 | 4.25 | 2.516 | 1.736 | 1.102 | 0.709 |
| 3.375       | 4.375 | 5.039 | 4.311 | 7.795 | 5.472 | 4.25 | 2.516 | 1.736 | 1.102 | 0.866 |
| 3.500       | 4.500 | 5.157 | 4.437 | 7.795 | 5.591 | 4.25 | 2.516 | 1.736 | 1.102 | 0.866 |
| 3.825       | 4.625 | 5.315 | 4.563 | 8.071 | 5.709 | 4.25 | 2.516 | 1.736 | 1.102 | 0.866 |
| 3.750       | 4.752 | 5.433 | 4.689 | 8.189 | 5.827 | 4.25 | 2.516 | 1.736 | 1.102 | 0.866 |
| 4.000       | 5.000 | 5.669 | 4.937 | 8.583 | 6.063 | 4.25 | 2.516 | 1.736 | 1.102 | 0.866 |



# HQCS-B12(CARTEX-QN)



Type: Single Cartridge Seal  
 Replacement: Burgmann CARTEX-QN  
 Temperature: -40°C to +220°C  
 Pressure:  $\leq 2.5\text{Mpa}$   
 Speed:  $\leq 16\text{m/s}$   
 Material: Q1,Q2,U2,T,V,M1,F,G,M



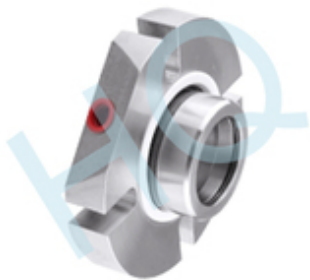
<http://www.hqseal.com>



[hq@hqseal.com](mailto:hq@hqseal.com)

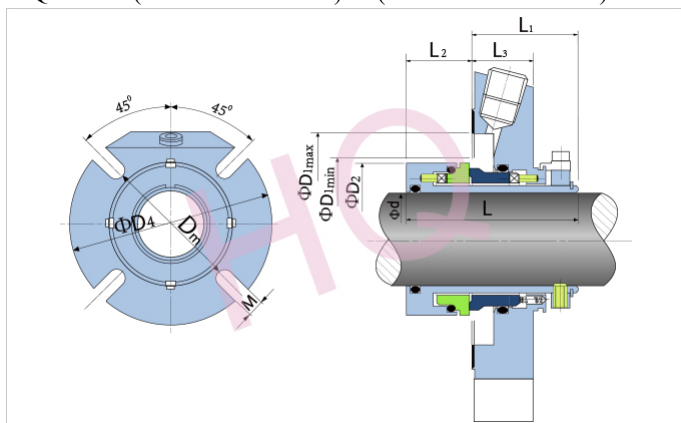
| d<br>(mm) | D1   | D2   |       | D4  | G   | L1   | L2   | L3   | M    |
|-----------|------|------|-------|-----|-----|------|------|------|------|
|           |      | min  | max   |     |     |      |      |      |      |
| 25        | 43.0 | 44.0 | 51.5  | 105 | 62  | 79.5 | 26.1 | 53.4 | 13.2 |
| 28        | 46.0 | 47.0 | 52.0  | 105 | 62  | 79.5 | 26.1 | 53.4 | 13.2 |
| 30        | 48.0 | 49.0 | 56.0  | 105 | 65  | 79.5 | 26.1 | 53.4 | 13.2 |
| 32        | 49.8 | 51.0 | 57.0  | 108 | 67  | 79.5 | 26.1 | 53.4 | 13.2 |
| 33        | 49.8 | 51.0 | 57.0  | 108 | 67  | 79.5 | 26.1 | 53.4 | 13.2 |
| 35        | 53.0 | 54.0 | 61.5  | 113 | 70  | 79.5 | 26.1 | 53.4 | 13.2 |
| 38        | 56.0 | 57.0 | 66.0  | 123 | 75  | 79.5 | 26.1 | 53.4 | 13.2 |
| 40        | 58.0 | 59.0 | 68.0  | 123 | 75  | 79.5 | 26.1 | 53.4 | 14.2 |
| 42        | 60.5 | 61.5 | 69.5  | 133 | 80  | 79.5 | 26.1 | 53.4 | 14.2 |
| 43        | 60.5 | 61.5 | 70.5  | 133 | 80  | 79.5 | 26.1 | 53.4 | 14.2 |
| 45        | 62.5 | 64.0 | 73.0  | 138 | 81  | 79.5 | 26.1 | 53.4 | 14.2 |
| 48        | 65.6 | 67.0 | 75.0  | 138 | 84  | 79.5 | 26.1 | 53.4 | 14.2 |
| 50        | 68.0 | 69.0 | 78.0  | 148 | 87  | 79.5 | 26.1 | 53.4 | 14.2 |
| 53        | 72.0 | 73.0 | 87.0  | 148 | 97  | 79.5 | 26.1 | 53.4 | 18.0 |
| 55        | 73.0 | 74.0 | 83.0  | 148 | 90  | 79.5 | 26.1 | 53.4 | 18.0 |
| 60        | 78.0 | 79.0 | 91.0  | 157 | 102 | 79.5 | 26.1 | 53.4 | 18.0 |
| 65        | 84.8 | 85.7 | 98.5  | 163 | 109 | 79.5 | 26.1 | 53.4 | 18.0 |
| 70        | 93.0 | 95.0 | 108.0 | 178 | 118 | 79.5 | 26.1 | 53.4 | 18.0 |

# HQCS-B10(CARTEX-ANSI-S)

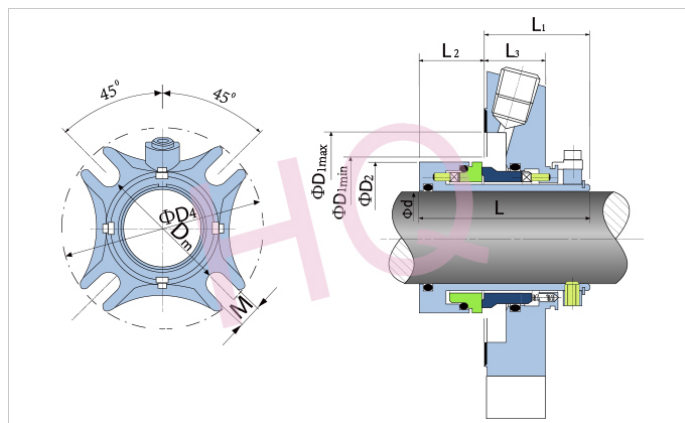


Type: Single Cartridge Seal  
 Replacement: Burgmann CARTEX ANSI-S  
 Temperature:  $-20^{\circ}\text{C}$  to  $+250^{\circ}\text{C}$   
 Pressure:  $\leq 2.5\text{Mpa}$   
 Speed:  $\leq 35\text{m/s}$   
 Material: Q1,Q2,U2,T,V,M1,F,G,M

HQCS-B10(CARTEX ANSI-S)-A (Use mechined cover)



HQCS-B10(CARTEX ANSI-S)-B (use cast cover)



| d<br>(inch) | D1<br>min | D1<br>max | D2    | D4    | Dm    | L     | L1    | L2    | L3    | M     | Connection |
|-------------|-----------|-----------|-------|-------|-------|-------|-------|-------|-------|-------|------------|
| 1.000       | 1.732     | 2.205     | 1.693 | 3.937 | 2.756 | 2.638 | 1.669 | 0.969 | 1.000 | 0.433 | 1/4 NPT    |
| 1.125       | 1.752     | 2.205     | 1.713 | 4.134 | 2.440 | 2.638 | 1.669 | 0.969 | 1.000 | 0.437 | 1/4 NPT    |
| 1.250       | 2.008     | 2.402     | 1.969 | 4.252 | 2.638 | 2.638 | 1.669 | 0.969 | 1.000 | 0.433 | 1/4 NPT    |
| 1.375       | 2.000     | 2.402     | 1.961 | 4.213 | 2.760 | 2.638 | 1.669 | 0.969 | 1.000 | 0.437 | 1/4 NPT    |
| 1.500       | 2.244     | 2.717     | 2.200 | 4.488 | 2.950 | 2.638 | 1.669 | 0.969 | 1.000 | 0.551 | 3/8 NPT    |
| 1.625       | 2.421     | 2.795     | 2.340 | 4.921 | 3.030 | 2.638 | 1.669 | 0.969 | 1.000 | 0.551 | 3/8 NPT    |
| 1.750       | 2.500     | 2.953     | 2.461 | 5.118 | 3.228 | 2.638 | 1.669 | 0.969 | 1.000 | 0.559 | 3/8 NPT    |
| 1.875       | 2.661     | 3.070     | 2.583 | 5.118 | 3.190 | 2.638 | 1.669 | 0.969 | 1.000 | 0.551 | 3/8 NPT    |
| 2.000       | 2.756     | 3.189     | 2.677 | 5.472 | 3.430 | 2.638 | 1.669 | 0.969 | 1.000 | 0.63  | 3/8 NPT    |
| 2.125       | 2.913     | 3.583     | 2.834 | 5.512 | 3.820 | 2.638 | 1.669 | 0.969 | 1.000 | 0.65  | 3/8 NPT    |
| 2.250       | 3.039     | 3.583     | 2.960 | 5.866 | 3.858 | 2.638 | 1.669 | 0.969 | 1.000 | 0.65  | 3/8 NPT    |
| 2.375       | 3.125     | 3.590     | 3.070 | 6.181 | 4.020 | 2.638 | 1.669 | 0.969 | 1.000 | 0.709 | 3/8 NPT    |
| 2.500       | 3.291     | 3.937     | 3.212 | 6.693 | 4.528 | 2.638 | 1.669 | 0.969 | 1.122 | 0.709 | 3/8 NPT    |
| 2.625       | 3.471     | 4.016     | 3.338 | 6.378 | 4.528 | 2.638 | 1.669 | 0.969 | 1.250 | 0.63  | 3/8 NPT    |
| 2.750       | 3.740     | 4.370     | 3.660 | 7.441 | 4.646 | 2.638 | 1.929 | 0.709 | 1.260 | 0.709 | 3/8 NPT    |
| 3.000       | 4.016     | 4.724     | 3.937 | 7.835 | 5.000 | 3.307 | 2.260 | 1.047 | 1.260 | 0.709 | 3/8 NPT    |
| 3.250       | 4.268     | 4.921     | 4.189 | 7.830 | 5.315 | 3.307 | 2.260 | 1.047 | 1.260 | 0.709 | 3/8 NPT    |
| 3.750       | 4.750     | 5.433     | 4.689 | 8.189 | 5.827 | 3.307 | 2.260 | 1.047 | 1.000 | 0.866 | 3/8 NPT    |

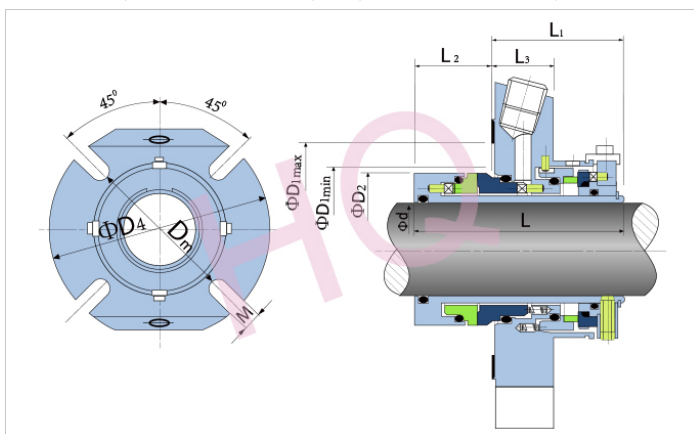


# HQCS-B11(XARTEX-ANSI-D)

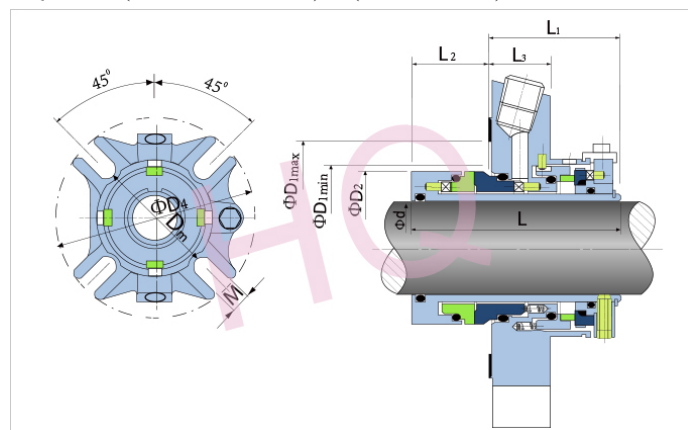


Type: Double Cartridge Seal  
 Replacement: Burgmann CARTEX ANSI-D  
 Temperature:  $-20^{\circ}\text{C}$  to  $+250^{\circ}\text{C}$   
 Pressure:  $\leq 2.5\text{Mpa}$   
 Speed:  $\leq 35\text{m/s}$   
 Material: Q1,Q2,U2,T,V,M1,F,G,M

HQCS-B11(CARTEX ANSI-D)-A (use mechined cover)



HQCS-B11(CARTEX ANSI-D)-B (use cast cover)

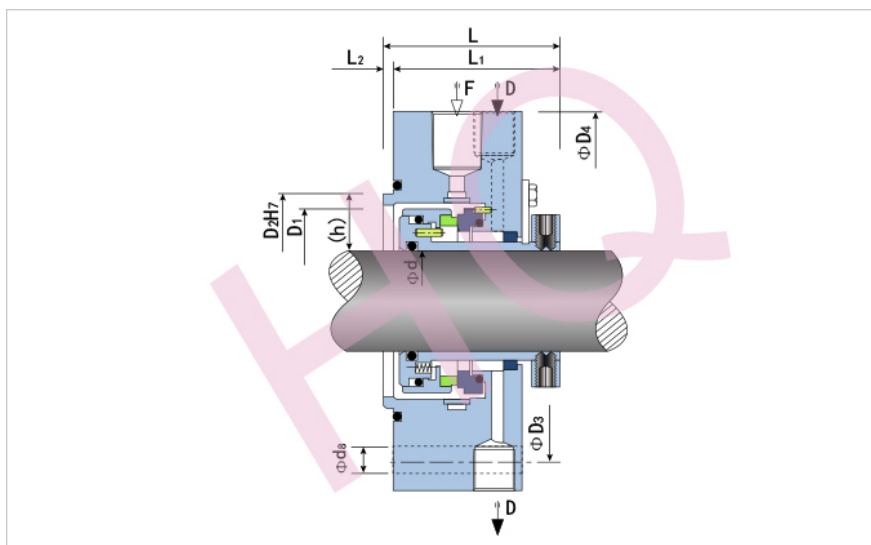


| d<br>(inch) | D2    | D1min | D1max | L     | L1    | L2    | L3    | Dm    | D4    | M      | Connection |
|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------|------------|
| 1.000       | 1.693 | 1.732 | 2.205 | 3.406 | 2.102 | 1.303 | 1.000 | 2.441 | 3.937 | 0.0433 | 1/4NPT     |
| 1.125       | 1.713 | 1.752 | 2.205 | 3.228 | 3.228 | 1.343 | 1.000 | 2.441 | 4.134 | 0.437  | 1/4NPT     |
| 1.250       | 1.969 | 2.008 | 2.402 | 3.406 | 2.102 | 1.303 | 1.000 | 2.756 | 4.252 | 0.433  | 1/4NPT     |
| 1.375       | 1.961 | 2.000 | 2.402 | 3.406 | 2.083 | 1.303 | 1.000 | 2.756 | 4.213 | 0.437  | 1/4NPT     |
| 1.500       | 2.200 | 2.244 | 2.717 | 3.406 | 2.102 | 1.303 | 1.000 | 2.953 | 4.488 | 0.551  | 3/8NPT     |
| 1.625       | 2.340 | 2.421 | 2.795 | 3.406 | 2.102 | 1.303 | 1.000 | 3.091 | 4.921 | 0.551  | 3/8NPT     |
| 1.750       | 2.461 | 2.500 | 2.953 | 3.406 | 2.102 | 1.303 | 1.000 | 3.228 | 5.118 | 0.559  | 3/8NPT     |
| 1.875       | 2.583 | 2.661 | 3.070 | 3.406 | 2.102 | 1.303 | 1.000 | 3.307 | 5.118 | 0.551  | 3/8NPT     |
| 2.000       | 2.677 | 2.756 | 3.189 | 3.406 | 2.102 | 1.303 | 1.000 | 3.425 | 5.472 | 0.630  | 3/8NPT     |
| 2.125       | 2.834 | 2.913 | 3.583 | 3.406 | 2.102 | 1.303 | 1.000 | 3.819 | 5.512 | 0.650  | 3/8NPT     |
| 2.250       | 2.960 | 3.039 | 3.583 | 3.406 | 2.102 | 1.303 | 1.000 | 3.858 | 5.866 | 0.650  | 3/8NPT     |
| 2.375       | 3.070 | 3.125 | 3.590 | *     | *     | *     | 1.000 | *     | 6.181 | 0.709  | 3/8NPT     |
| 2.500       | 3.212 | 3.291 | 3.937 | 3.406 | 2.102 | 1.303 | 1.122 | 4.528 | 6.693 | 0.709  | 3/8NPT     |
| 2.625       | 3.338 | 3.417 | 4.016 | 3.406 | 2.102 | 1.303 | 1.250 | 4.528 | 6.378 | 0.630  | 3/8NPT     |
| 2.750       | 3.660 | 3.740 | 4.370 | 3.406 | 2.102 | 1.303 | 1.260 | 4.646 | 7.441 | 0.709  | 3/8NPT     |
| 3.000       | 3.937 | 4.016 | 4.724 | 4.252 | 2.516 | 1.736 | 1.260 | 5.000 | 7.835 | 0.709  | 3/8NPT     |
| 3.250       | 4.189 | 4.288 | 4.921 | 4.252 | 2.516 | 1.736 | 1.260 | 5.315 | 7.830 | 0.709  | 3/8NPT     |
| 3.750       | 4.689 | 4.750 | 5.433 | *     | *     | *     | 1.000 | *     | 8.189 | 0.866  | 3/8NPT     |



# HQCS-B15(APItex-S)

Type: Single Cartridge Seal  
 Replacement: Burgmann Apitex-S  
 Temperature: -40 to +220°C  
 Pressure:  $\leq 4\text{Mpa}$   
 Speed:  $\leq 22\text{m/s}$   
 Material: Q1,Q2,U2,T,V,M1,F,G,M



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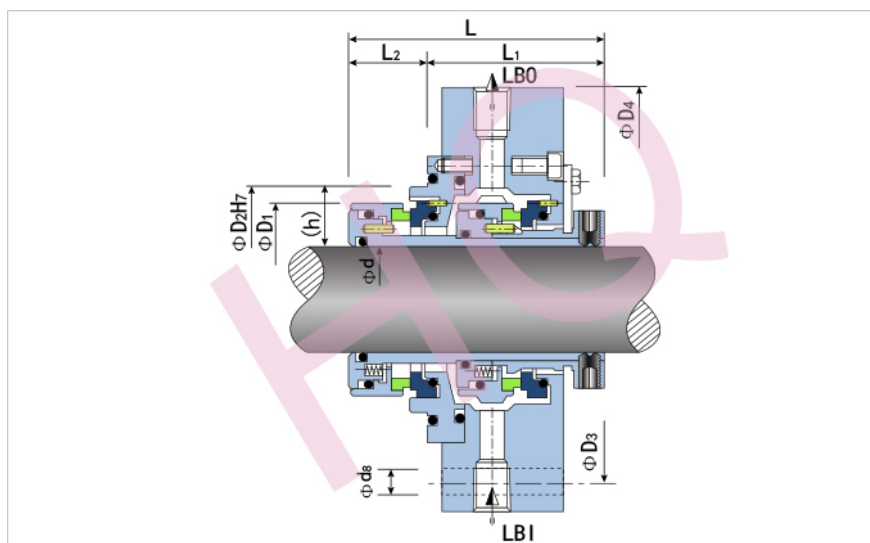
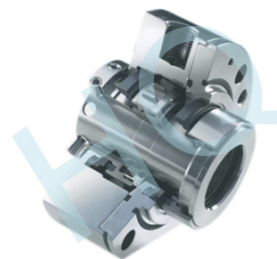


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| d<br>(mm) | D1    | D2  | D3  | D4  | d8   | L    | L1   | L2    | Anz. | h<br>(mm) |
|-----------|-------|-----|-----|-----|------|------|------|-------|------|-----------|
| 20        | 50.4  | 58  | 105 | 127 | 13.5 | 70.5 | 66.5 | 4     | 4    | 19.05     |
| 25        | 55.4  | 63  | 110 | 132 | 13.5 | 70.5 | 66.5 | 4     | 4    | 19.05     |
| 30        | 60.4  | 68  | 115 | 137 | 13.5 | 70.5 | 66.5 | 4     | 4    | 19.05     |
| 35        | 65.4  | 73  | 120 | 142 | 13.5 | 70.5 | 66.5 | 4     | 4    | 19.05     |
| 40        | 70.4  | 78  | 125 | 147 | 13.5 | 70.5 | 66.5 | 4     | 4    | 19.05     |
| 45        | 75.4  | 83  | 135 | 162 | 17.5 | 70.5 | 66.5 | 4     | 4    | 19.05     |
| 50        | 80.4  | 88  | 140 | 167 | 17.5 | 72.5 | 68.5 | 4     | 4    | 19.05     |
| 55        | 85.4  | 93  | 145 | 172 | 17.5 | 72.5 | 68.5 | 4     | 4    | 19.05     |
| 60        | 96.0  | 105 | 160 | 187 | 17.5 | 87.0 | 83.0 | 4     | 4    | 22.22     |
| 65        | 101.0 | 110 | 165 | 192 | 17.5 | 87.0 | 83.0 | 4     | 4    | 22.22     |
| 70        | 106.0 | 115 | 170 | 197 | 17.5 | 87.0 | 83.0 | 4     | 4    | 22.22     |
| 75        | 111.0 | 120 | 175 | 202 | 17.5 | 87.0 | 83.0 | 4     | 4    | 22.22     |
| 80        | 116.0 | 125 | 185 | 218 | 22.0 | 87.0 | 83.0 | 4     | 4    | 22.22     |
| 85        | 123.5 | 136 | 190 | 223 | 22.0 | 86.0 | 71.5 | 14.5* | 4    | 25.40     |
| 90        | 128.5 | 141 | 195 | 228 | 22.0 | 86.0 | 71.5 | 14.5* | 4    | 25.40     |
| 95        | 133.5 | 146 | 200 | 233 | 22.0 | 86.0 | 71.5 | 14.5* | 4    | 25.40     |
| 100       | 138.5 | 151 | 205 | 238 | 22.0 | 86.0 | 71.5 | 14.5* | 4    | 25.40     |
| 105       | 143.5 | 156 | 210 | 243 | 22.0 | 86.0 | 71.5 | 14.5* | 4    | 25.40     |
| 110       | 152.5 | 161 | 215 | 248 | 22.0 | 86.0 | 71.5 | 14.5* | 4    | 25.40     |

# HQCS-B16(APItex-T)

Type: Double Cartridge Seal  
 Replacement: Burgmann Apitex-T  
 Temperature: -40 to +220°C  
 Pressure:  $\leq 4\text{Mpa}$   
 Speed:  $\leq 20\text{m/s}$   
 Material: Q1,S,A,Q2,V,E,P,M5,M6,G1,T4,M



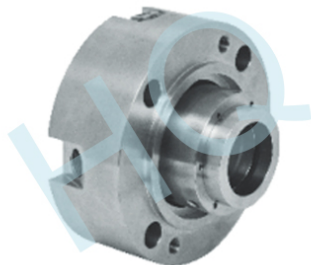
<http://www.hqseal.com>



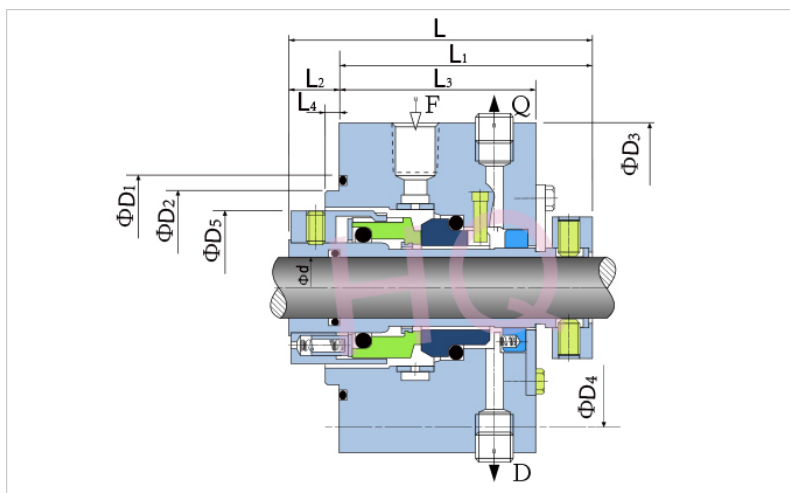
[hq@hqseal.com](mailto:hq@hqseal.com)

| d<br>(mm) | D1    | D2  | D3  | D4  | L     | L1   | L2   | d8   | Anz. | h<br>(min.) |
|-----------|-------|-----|-----|-----|-------|------|------|------|------|-------------|
| 20        | 50.4  | 58  | 105 | 127 | 96.5  | 68.5 | 28.0 | 13.5 | 4    | 19.05       |
| 25        | 55.4  | 63  | 110 | 132 | 96.5  | 68.5 | 28.0 | 13.5 | 4    | 19.05       |
| 30        | 60.4  | 68  | 115 | 137 | 96.5  | 68.5 | 28.0 | 13.5 | 4    | 19.05       |
| 35        | 65.4  | 73  | 120 | 142 | 96.5  | 68.5 | 28.0 | 13.5 | 4    | 19.05       |
| 40        | 70.4  | 78  | 125 | 147 | 96.5  | 68.5 | 28.0 | 13.5 | 4    | 19.05       |
| 45        | 75.4  | 83  | 135 | 162 | 96.5  | 68.5 | 28.0 | 17.5 | 4    | 19.05       |
| 50        | 80.4  | 88  | 140 | 167 | 100.0 | 72.0 | 28.0 | 17.5 | 4    | 19.05       |
| 55        | 85.4  | 93  | 145 | 172 | 100.0 | 72.0 | 28.0 | 17.5 | 4    | 19.05       |
| 60        | 96.0  | 105 | 160 | 187 | 127.5 | 88.0 | 39.5 | 17.5 | 4    | 22.22       |
| 65        | 101.0 | 110 | 165 | 192 | 127.5 | 88.0 | 39.5 | 17.5 | 4    | 22.22       |
| 70        | 106.0 | 115 | 170 | 197 | 127.5 | 88.0 | 39.5 | 17.5 | 4    | 22.22       |
| 75        | 111.0 | 120 | 175 | 202 | 127.5 | 88.0 | 39.5 | 17.5 | 4    | 22.22       |
| 80        | 116.0 | 125 | 185 | 213 | 127.5 | 88.0 | 39.5 | 22.0 | 4    | 22.22       |
| 85        | 123.5 | 136 | 190 | 223 | 131.5 | 92.0 | 39.5 | 22.0 | 4    | 25.40       |
| 90        | 128.5 | 141 | 195 | 228 | 131.5 | 92.0 | 39.5 | 22.0 | 4    | 25.40       |
| 95        | 133.5 | 146 | 200 | 233 | 131.5 | 92.0 | 39.5 | 22.0 | 4    | 25.40       |
| 100       | 138.5 | 151 | 205 | 238 | 131.5 | 92.0 | 39.5 | 22.0 | 4    | 25.40       |
| 105       | 143.5 | 156 | 210 | 243 | 131.5 | 92.0 | 39.5 | 22.0 | 4    | 25.40       |
| 110       | 152.5 | 161 | 215 | 248 | 131.5 | 92.0 | 39.5 | 22.0 | 4    | 25.40       |

# HQCS-B05N(H75VN)



Type: Single Cartridge Seal  
 Replacement: Burgmann H75VN  
 Temperature: -40 to +220°C  
 Pressure:  $\leq 4.0\text{Mpa}$   
 Speed:  $\leq 20\text{m/s}$   
 Material: Q1,Q2,U2,T,V,M1,F,G,M



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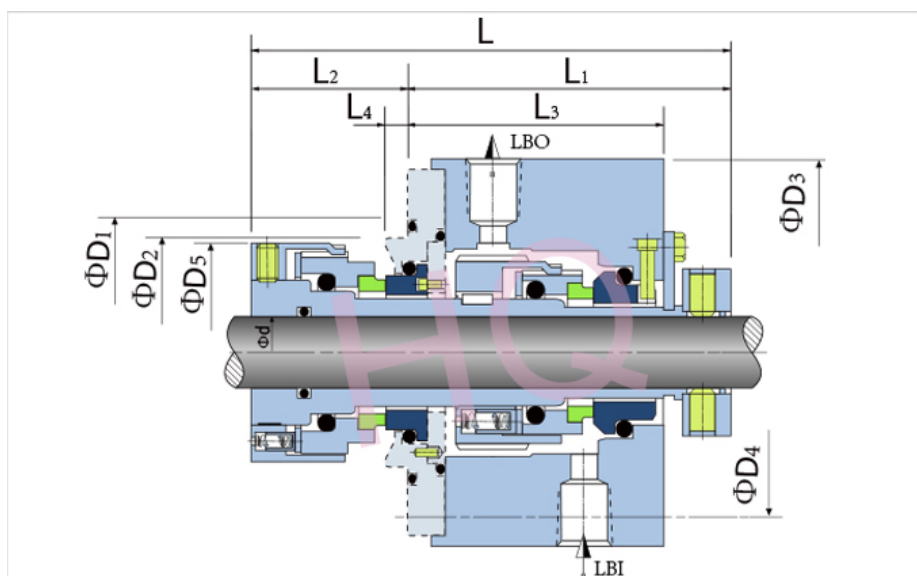
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| d<br>(mm) | D1  | D2  | D3  | D4  | D5  | L     | L1    | L2   | L3   | L4 |
|-----------|-----|-----|-----|-----|-----|-------|-------|------|------|----|
| 20        | 85  | 70  | 138 | 105 | 50  | 95.0  | 94.0  | 1.0  | 76.0 | 6  |
| 30        | 95  | 80  | 148 | 115 | 62  | 100.5 | 98.0  | 2.5  | 77.0 | 6  |
| 40        | 105 | 90  | 158 | 125 | 72  | 105.5 | 98.5  | 7.0  | 77.5 | 6  |
| 50        | 115 | 100 | 168 | 140 | 86  | 111.5 | 99.5  | 12.0 | 78.5 | 6  |
| 60        | 135 | 120 | 188 | 160 | 99  | 120.5 | 102.0 | 18.5 | 81.0 | 6  |
| 70        | 145 | 130 | 198 | 170 | 109 | 124.5 | 106.0 | 18.0 | 81.0 | 6  |
| 80        | 155 | 140 | 208 | 180 | 119 | 129.0 | 106.0 | 23.0 | 81.0 | 6  |
| 90        | 175 | 160 | 238 | 205 | 129 | 129.0 | 106.0 | 23.0 | 81.0 | 6  |
| 100       | 185 | 170 | 248 | 215 | 153 | 133.0 | 109.0 | 24.0 | 81.0 | 6  |
| 110       | 195 | 180 | 258 | 225 | 168 | 133.0 | 109.0 | 24.0 | 81.0 | 6  |

# HQCS-B05K(H75VK)



Type: Double Cartridge Seal  
 Replacement: Burgmann H75VK  
 Temperature:  $-40^{\circ}\text{C}$  to  $+220^{\circ}\text{C}$   
 Pressure:  $\leq 4.0\text{Mpa}$   
 Speed:  $\leq 23\text{m/s}$   
 Material: Q1,Q2,U2,T,V,M1,F,G,M



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| d<br>(mm) | D1  | D2  | D3  | D4  | D5  | L     | L1    | L2   | L3   | L4   |
|-----------|-----|-----|-----|-----|-----|-------|-------|------|------|------|
| 20        | 85  | 70  | 129 | 105 | 60  | 144.0 | 97.0  | 47.0 | 81.0 | 6.0  |
| 30        | 95  | 80  | 139 | 115 | 70  | 145.5 | 96.0  | 49.5 | 77.5 | 8.0  |
| 40        | 105 | 90  | 149 | 125 | 82  | 146.5 | 96.5  | 50.0 | 78.0 | 8.0  |
| 50        | 115 | 100 | 168 | 140 | 94  | 158.0 | 106.5 | 51.5 | 88.0 | 10.5 |
| 60        | 135 | 120 | 188 | 160 | 114 | 165.0 | 107.5 | 57.5 | 90.2 | 4.5  |
| 70        | 145 | 130 | 198 | 170 | 124 | 170.0 | 107.5 | 62.5 | 85.0 | 10.0 |
| 80        | 155 | 140 | 208 | 180 | 134 | 175.0 | 107.5 | 67.5 | 85.0 | 12.5 |
| 90        | 175 | 160 | 238 | 205 | 146 | 178.8 | 116.9 | 61.9 | 94.4 | 6.9  |
| 100       | 185 | 170 | 248 | 215 | 163 | 185.0 | 117.5 | 67.5 | 92.0 | 11.5 |
| 110       | 195 | 180 | 258 | 225 | 173 | 188.0 | 116.5 | 71.5 | 91.0 | 15.5 |

## HQ-N13C(LP-S)



Type: Cartridge Seal

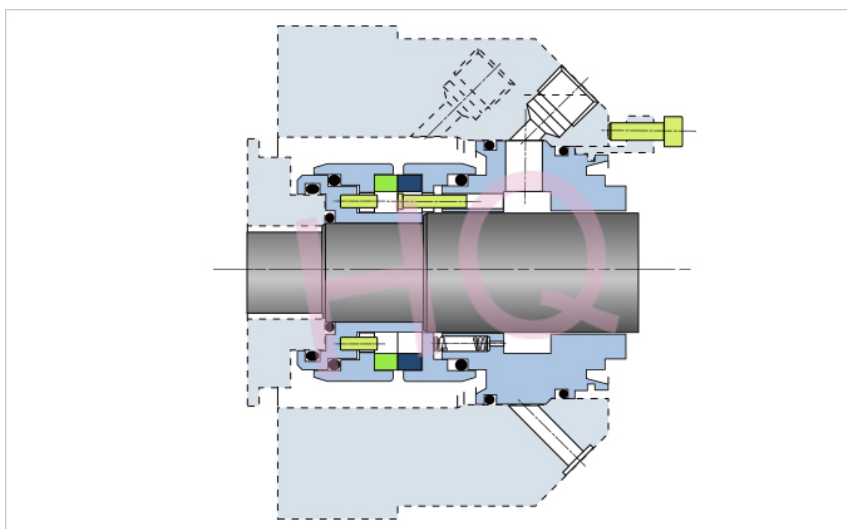
Replacement: Bergmann LP-S

Temperature: -20°C to +140°C

Pressure:  $\leq 2.5\text{Mpa}$

Speed:  $\leq 20\text{m/s}$

Material: B,A1,Q1,Q2,U2,P,E,N,V,F,G



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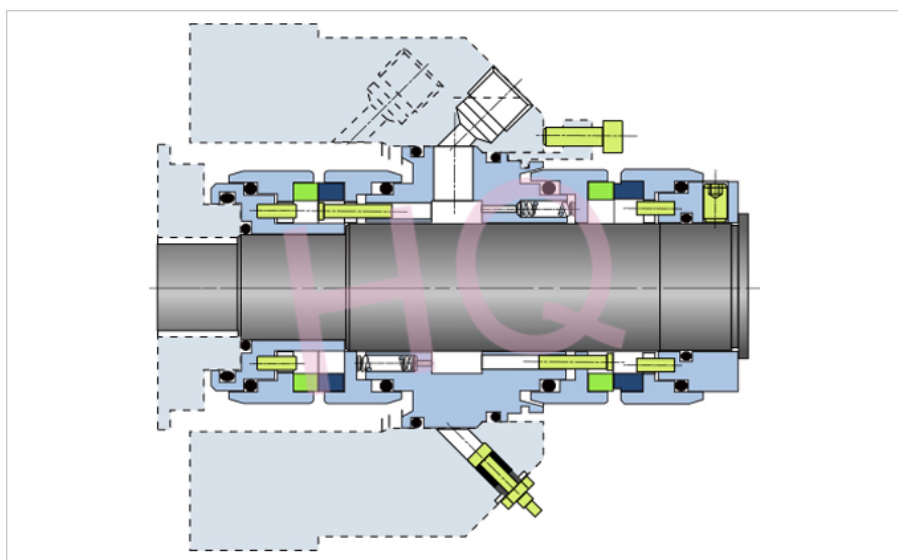


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## HQ-N14C(LP-D)



Type: Cartridge Seal  
Replacement: Bergmann LP-D  
Temperature:  $-20^{\circ}\text{C}$  to  $+140^{\circ}\text{C}$   
Pressure:  $\leq 2.5\text{Mpa}$   
Speed:  $\leq 20\text{m/s}$   
Material: B,A1,Q1,Q2,U2,P,E,N,V,F,G



<http://www.hqseal.com>

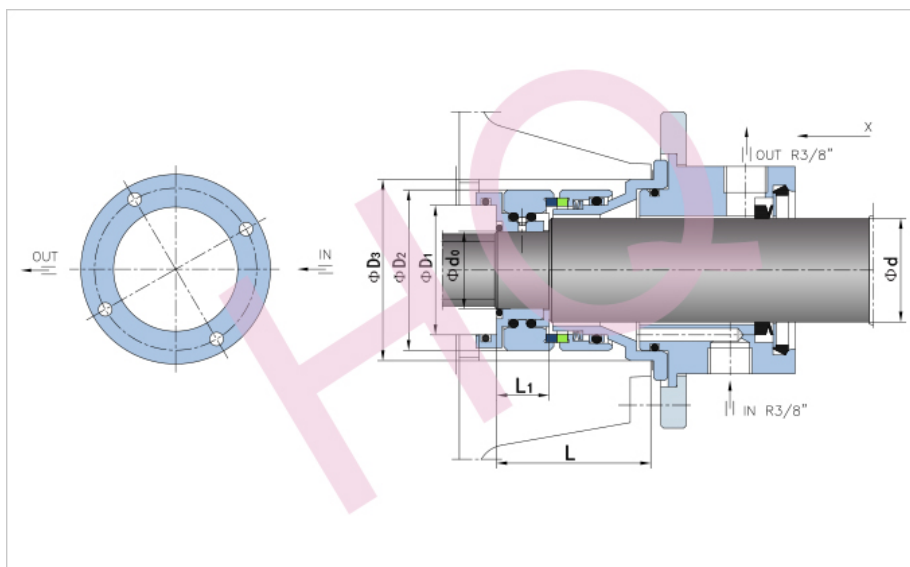


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## HQ-N15C(LP-Q)



Type: Cartridge Seal  
 Replacement: Burgmann LP-Q  
 Temperature: -20 to +180°C  
 Pressure:  $\leq 2.5\text{Mpa}$   
 Speed:  $\leq 20\text{m/s}$   
 Material: Q1, Q2, U2, T, V, M1, F, G, M



<http://www.hqseal.com>

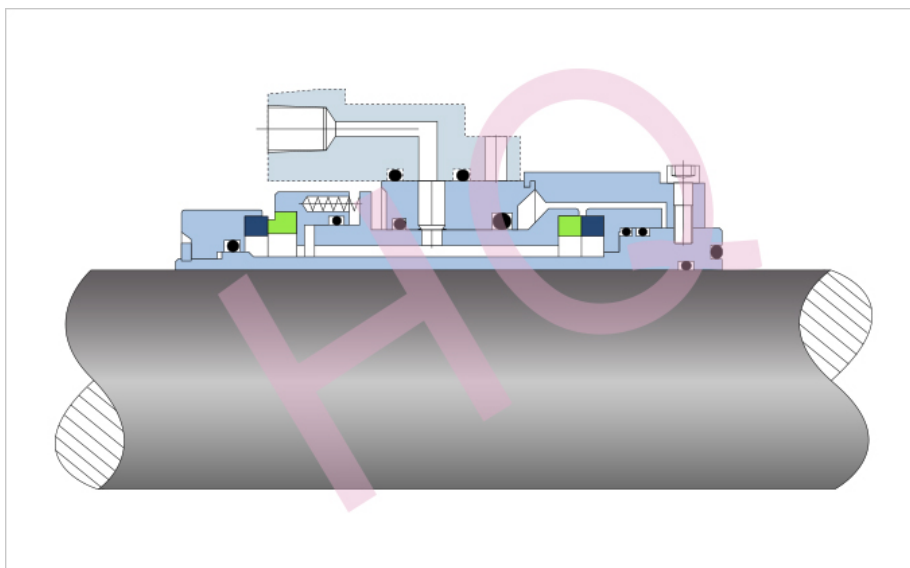


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## HQ-N16C(SALOMIX)



Type: Double Cartridge Seal  
Replacement: Burgmann SALOMIX  
Temperature: -20 to +150°C  
Pressure:  $\leq 6.0\text{Mpa}$   
Speed:  $\leq 10\text{m/s}$   
Material: Q1,Q2,V,F



<http://www.hqseal.com>



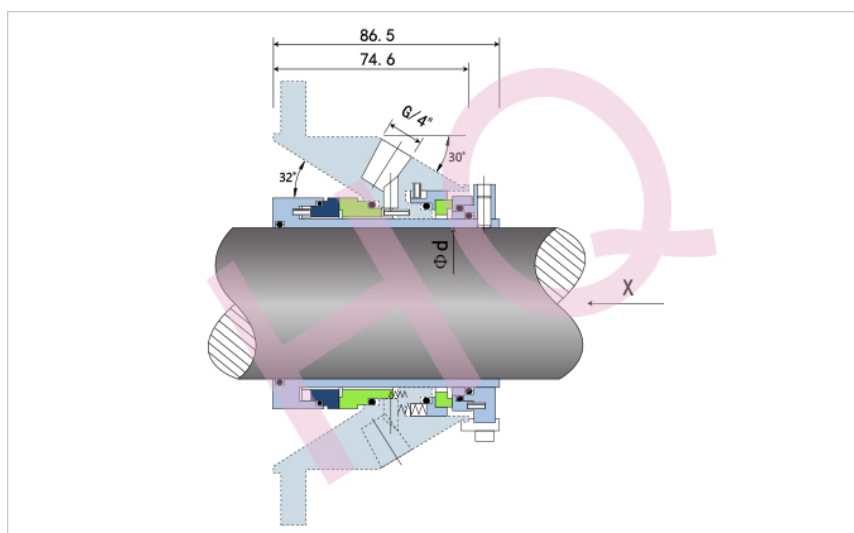
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## HQ-N17C(Cartex-Vario)



Type: Cartridge Seal  
 Replacement: Burgmann Cartex-Vario  
 Temperature: -40 to +220°C  
 Pressure:  $\leq 2.5\text{Mpa}$   
 Speed:  $\leq 16\text{m/s}$   
 Material: Q1,Q2,U2,T,V,M1,F,G,M



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## HQ-N18C(DF-SA DiamondFace)



Type: Cartridge Seal

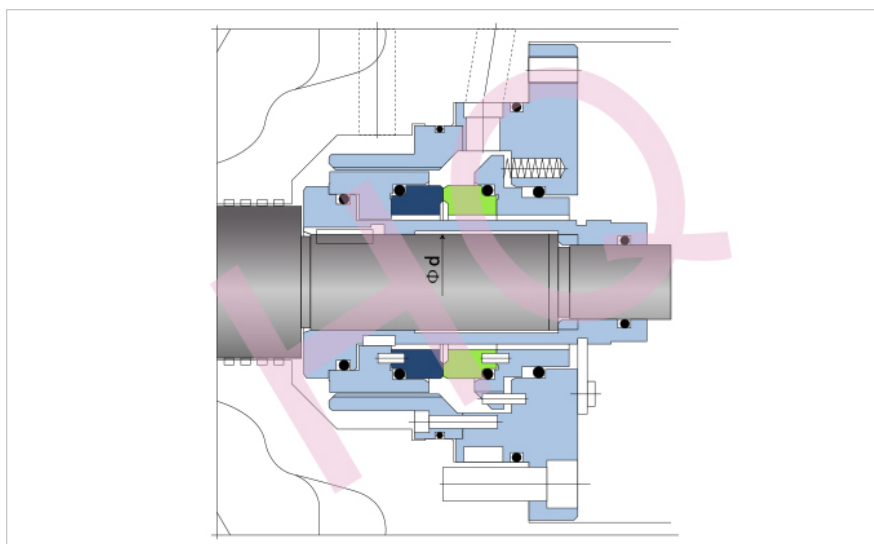
Replacement: Burgmann DF-SA DiamonFace

Temperature:  $\leq 300^{\circ}\text{C}$

Pressure:  $\leq 70\text{Bar}$

Speed:  $\leq 70\text{m/s}$

Material: Q1,Q2,U2,T,V,M1,F,G,M



d=120mm to 250mm, 4.72" to 9.84".



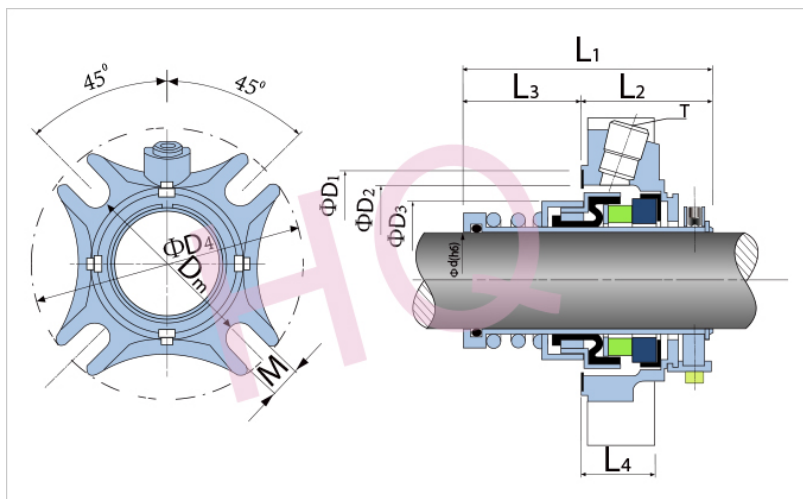
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# HQCS-B07(UNITEX)

Type: Single Cartridge Seal  
 Replacement: Burgmann Unitex  
 Temperature:  $-20^{\circ}\text{C}$  to  $+90^{\circ}\text{C}$   
 Pressure:  $\leq 1.2\text{Mpa}$   
 Speed:  $\leq 10\text{m/s}$   
 Material: Q1,Q2,U2,T,V,M1,F,G,M



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| d<br>(mm) | D1  | D2   |       | D3   | D4  | L1   | L2   | L3   | L4 | T       | Dm  | M    |
|-----------|-----|------|-------|------|-----|------|------|------|----|---------|-----|------|
|           |     | min  | max   |      |     |      |      |      |    |         |     |      |
| 25        | 60  | 41.5 | 51.0  | 38.4 | 105 | 65.5 | 41.0 | 24.5 | 23 | 1/4 NPT | 62  | 13.2 |
| 28        | 60  | 44.5 | 52.0  | 42.4 | 105 | 68.0 | 41.5 | 26.5 | 23 | 1/4 NPT | 62  | 13.2 |
| 30        | 63  | 45.5 | 56.0  | 42.4 | 105 | 68.0 | 41.5 | 26.5 | 23 | 1/4 NPT | 67  | 13.2 |
| 33        | 65  | 48.0 | 57.0  | 45.0 | 110 | 69.5 | 42.0 | 27.5 | 23 | 1/4 NPT | 67  | 13.2 |
| 35        | 68  | 50.8 | 61.5  | 49.1 | 107 | 72.5 | 44.0 | 28.5 | 26 | 1/4 NPT | 70  | 13.2 |
| 38        | 73  | 54.5 | 66.0  | 51.3 | 123 | 72.5 | 44.0 | 28.5 | 26 | 1/4 NPT | 75  | 14.7 |
| 40        | 75  | 57.5 | 68.0  | 54.3 | 123 | 75.5 | 44.5 | 31.0 | 26 | 1/4 NPT | 77  | 14.7 |
| 43        | 78  | 59.5 | 70.5  | 56.3 | 133 | 76.5 | 44.5 | 32.0 | 26 | 1/4 NPT | 80  | 14.7 |
| 45        | 79  | 63.0 | 73.0  | 59.8 | 130 | 76.5 | 44.5 | 32.0 | 26 | 1/4 NPT | 82  | 14.2 |
| 48        | 82  | 65.0 | 75.0  | 61.8 | 130 | 78.0 | 45.0 | 33.0 | 26 | 1/4 NPT | 84  | 14.2 |
| 50        | 85  | 68.0 | 78.0  | 64.8 | 148 | 80.5 | 47.0 | 33.5 | 28 | 3/8 NPT | 87  | 14.7 |
| 53        | 95  | 70.0 | 87.0  | 66.8 | 148 | 81.5 | 47.0 | 34.5 | 28 | 3/8 NPT | 97  | 17.5 |
| 55        | 90  | 73.0 | 83.0  | 71.0 | 148 | 83.5 | 47.0 | 36.5 | 28 | 3/8 NPT | 92  | 17.5 |
| 60        | 100 | 79.0 | 91.0  | 76.5 | 157 | 85.5 | 47.0 | 38.5 | 28 | 3/8 NPT | 102 | 17.5 |
| 65        | 108 | 85.7 | 98.5  | 83.0 | 162 | 88.0 | 48.5 | 39.5 | 28 | 3/8 NPT | 110 | 17.5 |
| 70        | 116 | 94.0 | 108.0 | 88.0 | 178 | 92.0 | 48.5 | 43.5 | 28 | 3/8 NPT | 118 | 17.5 |
| 75        | 125 | 98.4 | 118.0 | 93.4 | 190 | 93.5 | 49.0 | 44.5 | 28 | 3/8 NPT | 127 | 17.5 |

# HQCS-B07(UNITEX)

| d     | D1    | D2    |       | D3    | D4    | L1    | L2    | L3    | L4    | T       | Dm    | M     |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|---------|-------|-------|
|       |       | min   | max   |       |       |       |       |       |       |         |       |       |
| 1.000 | 2.362 | 1.634 | 2.000 | 1.512 | 4.134 | 2.579 | 1.614 | 0.965 | 0.906 | 1/4 NPT | 2.440 | 0.520 |
| 1.125 | 2.362 | 1.750 | 2.050 | 1.669 | 4.134 | 2.677 | 1.634 | 1.043 | 0.906 | 1/4 NPT | 2.441 | 0.520 |
| 1.250 | 2.559 | 1.890 | 2.250 | 1.772 | 4.331 | 2.736 | 1.654 | 1.083 | 0.906 | 1/4 NPT | 2.638 | 0.520 |
| 1.375 | 2.667 | 2.000 | 2.420 | 1.933 | 4.213 | 2.854 | 1.732 | 1.122 | 1.024 | 1/4 NPT | 2.756 | 0.520 |
| 1.500 | 2.874 | 2.146 | 2.625 | 2.02  | 4.843 | 2.854 | 1.732 | 1.122 | 1.024 | 1/4 NPT | 2.950 | 0.579 |
| 1.750 | 3.110 | 2.480 | 2.812 | 2.354 | 5.118 | 3.012 | 1.752 | 1.260 | 1.024 | 1/4 NPT | 3.230 | 0.559 |
| 1.875 | 3.228 | 2.559 | 2.940 | 2.433 | 5.118 | 3.071 | 1.772 | 1.299 | 1.024 | 1/4 NPT | 3.307 | 0.559 |
| 2.000 | 3.346 | 2.677 | 3.190 | 2.551 | 5.827 | 3.169 | 1.850 | 1.319 | 1.102 | 3/8 NPT | 3.430 | 0.579 |
| 2.125 | 3.740 | 2.875 | 3.437 | 2.795 | 5.512 | 3.287 | 1.850 | 1.437 | 1.102 | 3/8 NPT | 3.820 | 0.689 |
| 2.250 | 3.780 | 2.992 | 3.560 | 2.874 | 6.181 | 3.287 | 1.850 | 1.437 | 1.102 | 3/8 NPT | 3.858 | 0.689 |
| 2.375 | 3.937 | 3.110 | 3.590 | 3.012 | 6.181 | 3.366 | 1.850 | 1.516 | 1.102 | 3/8 NPT | 4.020 | 0.689 |
| 2.500 | 4.173 | 3.287 | 3.800 | 3.209 | 6.693 | 3.465 | 1.909 | 1.555 | 1.102 | 3/8 NPT | 4.252 | 0.689 |
| 2.625 | 4.252 | 3.374 | 3.937 | 3.268 | 6.378 | 3.465 | 1.909 | 1.555 | 1.102 | 3/8 NPT | 4.331 | 0.689 |



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# HQMB-B01(MFL65)



Type: Metal Bellow Seal

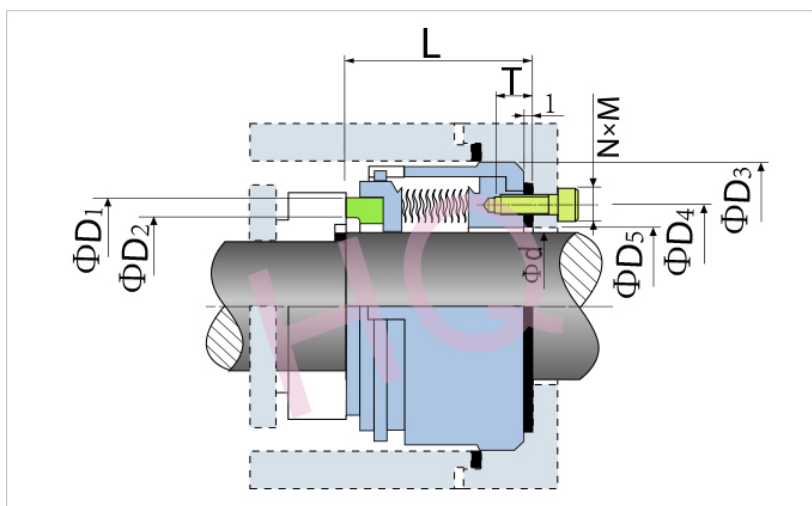
Replacement: Burgmann MFL65

Temperature:  $-20^{\circ}\text{C}$  to  $+400^{\circ}\text{C}$

Pressure:  $\leq 2.1\text{Mpa}$

Speed:  $\leq 50\text{m/s}$

Material: Q1,S,A,Q2,V,E,P,M5,M6,G1,T4,M



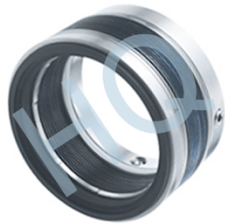
<http://www.hqseal.com>



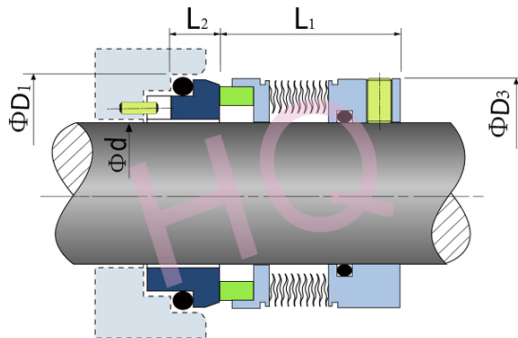
[hq@hqseal.com](mailto:hq@hqseal.com)

| Nom. | d      | D1    | D2    | D 3   | D4  | D5    | L    | N x M | T |
|------|--------|-------|-------|-------|-----|-------|------|-------|---|
| 19   | 16-19  | 30.3  | 25.3  | 45.0  | 29  | 20.5  | 33.5 | 4xM4  | 6 |
| 24   | 20-24  | 38.8  | 33.8  | 49.0  | 35  | 25.5  | 33.5 | 4xM4  | 6 |
| 30   | 25-30  | 43.6  | 38.6  | 55.0  | 40  | 31.5  | 34.5 | 6xM4  | 6 |
| 35   | 31-35  | 45.8  | 40.8  | 59.0  | 45  | 36.0  | 33.0 | 6xM4  | 6 |
| 40   | 36-40  | 51.5  | 46.5  | 65.0  | 50  | 41.0  | 30.5 | 6xM4  | 6 |
| 45   | 41-45  | 55.2  | 50.2  | 69.0  | 55  | 46.0  | 35.5 | 6xM4  | 6 |
| 51   | 46-51  | 64.7  | 59.7  | 76.5  | 63  | 52.0  | 40.5 | 6xM5  | 7 |
| 60   | 52-60  | 70.6  | 65.6  | 84.0  | 70  | 61.0  | 32.0 | 6xM5  | 7 |
| 70   | 61-70  | 82.8  | 76.8  | 95.0  | 80  | 71.0  | 38.0 | 6xM5  | 7 |
| 82   | 71-82  | 98.0  | 92.0  | 112.0 | 95  | 83.5  | 41.0 | 6xM6  | 7 |
| 88   | 83-88  | 107.7 | 101.7 | 120.0 | 100 | 89.5  | 47.0 | 6xM6  | 7 |
| 100  | 89-100 | 112.7 | 106.7 | 130.0 | 112 | 101.0 | 47.0 | 6xM6  | 7 |

# HQMB-B02(MBS100)



Type: Metal Bellow Seal  
 Replacement: Burgmann MBS100  
 Temperature:  $-40^{\circ}\text{C}$  to  $+220^{\circ}\text{C}$   
 Pressure:  $\leq 2.0\text{Mpa}$   
 Speed:  $\leq 23\text{m/s}$   
 Material: A,Q1,Q2,V,G1,F,G



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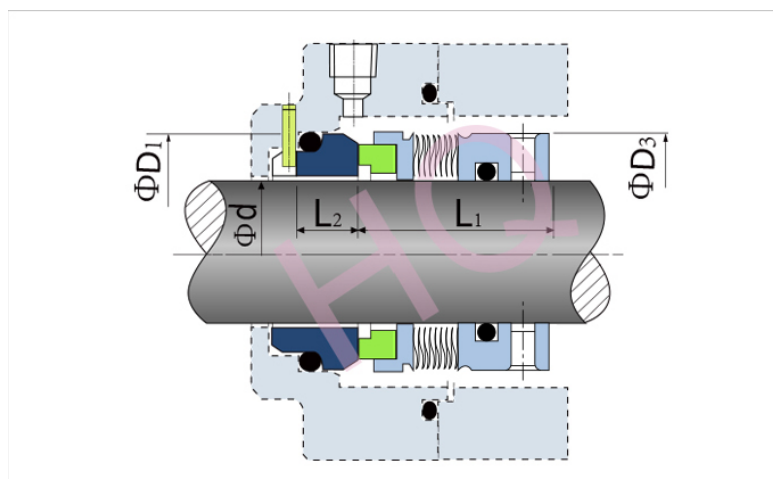
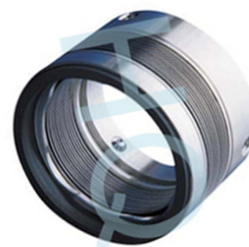


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| d<br>(mm) | D3    | D1  | L1   | L2   |
|-----------|-------|-----|------|------|
| 20        | 33.3  | 35  | 30.5 | 7.0  |
| 22        | 36.5  | 37  | 30.5 | 7.0  |
| 24        | 39.0  | 39  | 28.5 | 11.5 |
| 25        | 39.0  | 40  | 28.5 | 11.5 |
| 28        | 42.0  | 43  | 31.0 | 11.5 |
| 30        | 44.0  | 45  | 31.0 | 11.5 |
| 32        | 46.0  | 48  | 31.0 | 11.5 |
| 33        | 47.0  | 48  | 31.0 | 11.5 |
| 35        | 49.2  | 50  | 31.0 | 11.5 |
| 38        | 52.4  | 56  | 31.0 | 14.0 |
| 40        | 55.6  | 58  | 31.0 | 14.0 |
| 43        | 58.7  | 61  | 31.0 | 14.0 |
| 45        | 58.7  | 63  | 31.0 | 14.0 |
| 48        | 61.9  | 66  | 31.0 | 14.0 |
| 50        | 65.1  | 70  | 32.5 | 15.0 |
| 53        | 68.3  | 73  | 32.5 | 15.0 |
| 55        | 69.7  | 75  | 32.5 | 15.0 |
| 58        | 74.6  | 78  | 37.5 | 15.0 |
| 60        | 74.6  | 80  | 37.5 | 15.0 |
| 65        | 84.1  | 85  | 37.5 | 15.0 |
| 70        | 87.3  | 92  | 42.0 | 18.0 |
| 75        | 95.3  | 97  | 42.0 | 18.0 |
| 80        | 98.4  | 105 | 41.8 | 18.2 |
| 85        | 104.8 | 110 | 41.8 | 18.2 |
| 90        | 108.0 | 115 | 46.8 | 18.2 |
| 95        | 114.3 | 120 | 47.8 | 17.2 |
| 100       | 120.7 | 125 | 47.8 | 17.2 |

# HQMB-B03(MFL85N)

Type: Metal Bellow Seal  
 Replacement: Burgmann MFL85N  
 Temperature:  $-75^{\circ}\text{C}$  to  $+200^{\circ}\text{C}$   
 Pressure:  $\leq 2.0\text{Mpa}$   
 Speed:  $\leq 23\text{m/s}$   
 Material: A,B,Q1,Q2,V,E,P,F,G,M,T6



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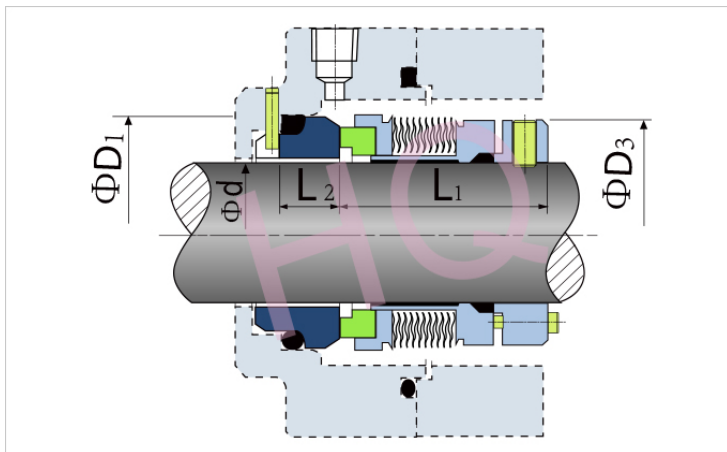
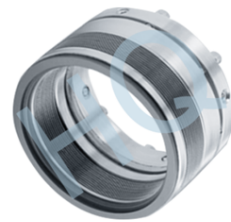


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| d<br>(mm) | D3    | D1  | L1   | L2   |
|-----------|-------|-----|------|------|
| 16        | 30.0  | 27  | 32.5 | 10.0 |
| 18        | 32.0  | 33  | 30.5 | 11.5 |
| 20        | 33.5  | 35  | 30.5 | 11.5 |
| 22        | 36.5  | 37  | 30.5 | 11.5 |
| 24        | 39.0  | 39  | 28.5 | 11.5 |
| 25        | 39.6  | 40  | 28.5 | 11.5 |
| 28        | 42.8  | 43  | 31.0 | 11.5 |
| 30        | 45.0  | 45  | 31.0 | 11.5 |
| 32        | 46.0  | 48  | 31.0 | 11.5 |
| 33        | 48.0  | 48  | 31.0 | 11.5 |
| 35        | 49.2  | 50  | 31.0 | 11.5 |
| 38        | 52.3  | 56  | 31.0 | 14.0 |
| 40        | 55.5  | 58  | 31.0 | 14.0 |
| 43        | 57.5  | 61  | 31.0 | 14.0 |
| 45        | 58.7  | 63  | 31.0 | 14.0 |
| 48        | 61.9  | 66  | 31.0 | 14.0 |
| 50        | 65.0  | 70  | 32.5 | 15.0 |
| 53        | 68.2  | 73  | 32.5 | 15.0 |
| 55        | 70.0  | 75  | 32.5 | 15.0 |
| 58        | 71.7  | 78  | 37.5 | 15.0 |
| 60        | 74.6  | 80  | 37.5 | 15.0 |
| 63        | 79.0  | 83  | 37.5 | 15.0 |
| 65        | 84.1  | 85  | 37.5 | 15.0 |
| 68        | 97.3  | 90  | 34.5 | 18.0 |
| 70        | 87.3  | 92  | 42.0 | 18.0 |
| 75        | 95.0  | 97  | 42.0 | 18.0 |
| 80        | 98.4  | 105 | 41.8 | 18.2 |
| 85        | 104.7 | 110 | 41.8 | 18.2 |
| 90        | 111.0 | 115 | 46.8 | 18.2 |
| 95        | 114.0 | 120 | 47.8 | 17.2 |
| 100       | 117.4 | 125 | 47.8 | 17.2 |

# HQMB-B04(MFLWT80)

Type: Metal Bellow Seal  
 Replacement: Burgmann MFLWT80  
 Temperature: -20°C to +370°C  
 Pressure:  $\leq 2.0\text{Mpa}$   
 Speed:  $\leq 23\text{m/s}$   
 Material: B,Q2,Graphite,T6,F,G,M



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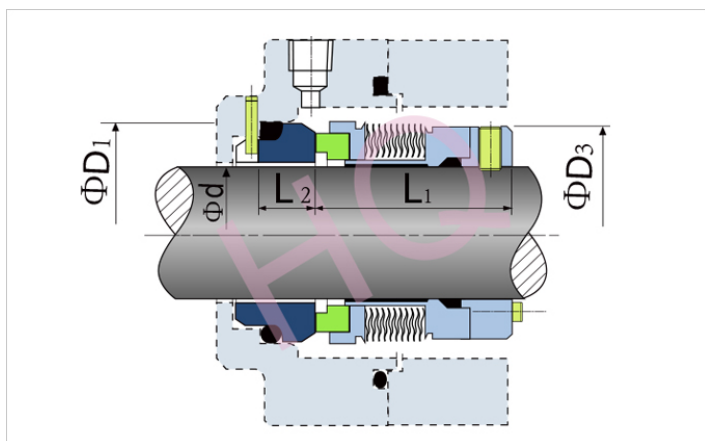
[hq@hqseal.com](mailto:hq@hqseal.com)

| d<br>(mm) | D3  | D1    | L1   | L2   |
|-----------|-----|-------|------|------|
| 16        | 38  | 35.0  | 46.5 | 11.5 |
| 18        | 40  | 37.0  | 46.5 | 11.5 |
| 20        | 42  | 40.0  | 46.5 | 11.5 |
| 22        | 44  | 43.0  | 46.5 | 11.5 |
| 24        | 46  | 43.0  | 46.5 | 11.5 |
| 25        | 47  | 45.0  | 46.5 | 11.5 |
| 28        | 50  | 48.0  | 46.5 | 11.5 |
| 30        | 52  | 50.0  | 46.5 | 11.5 |
| 32        | 54  | 56.0  | 46.5 | 14.0 |
| 33        | 55  | 56.0  | 46.5 | 14.0 |
| 35        | 57  | 58.0  | 46.5 | 14.0 |
| 38        | 60  | 61.0  | 46.5 | 14.0 |
| 40        | 66  | 63.0  | 47.5 | 14.0 |
| 43        | 69  | 66.0  | 47.5 | 14.0 |
| 45        | 71  | 70.0  | 47.5 | 15.0 |
| 48        | 74  | 73.0  | 47.5 | 15.0 |
| 50        | 76  | 75.0  | 47.5 | 15.0 |
| 53        | 79  | 78.0  | 47.5 | 15.0 |
| 55        | 81  | 80.0  | 47.5 | 15.0 |
| 58        | 85  | 83.0  | 53.0 | 15.0 |
| 60        | 87  | 85.0  | 53.0 | 15.0 |
| 63        | 90  | 90.0  | 53.0 | 18.0 |
| 65        | 92  | 92.0  | 53.0 | 18.0 |
| 68        | 95  | 97.0  | 53.0 | 18.0 |
| 70        | 97  | 97.0  | 53.0 | 18.0 |
| 75        | 102 | 105.0 | 52.8 | 18.2 |
| 80        | 107 | 110.0 | 52.8 | 18.2 |
| 85        | 112 | 115.0 | 52.8 | 18.2 |
| 90        | 117 | 120.0 | 53.8 | 17.2 |
| 95        | 122 | 125.0 | 53.8 | 17.2 |
| 100       | 127 | 134.3 | 54.0 | 20.0 |



# HQMB-B05(MFLCT80)

Type: Metal Bellow Seal  
 Replacement: Burgmann MFLCT80  
 Temperature: -100°C to +100°C  
 Pressure:  $\leq 2.5\text{Mpa}$   
 Speed:  $\leq 10\text{m/s}$   
 Material: A,Q2,Graphite,M5,M6,F,G,M



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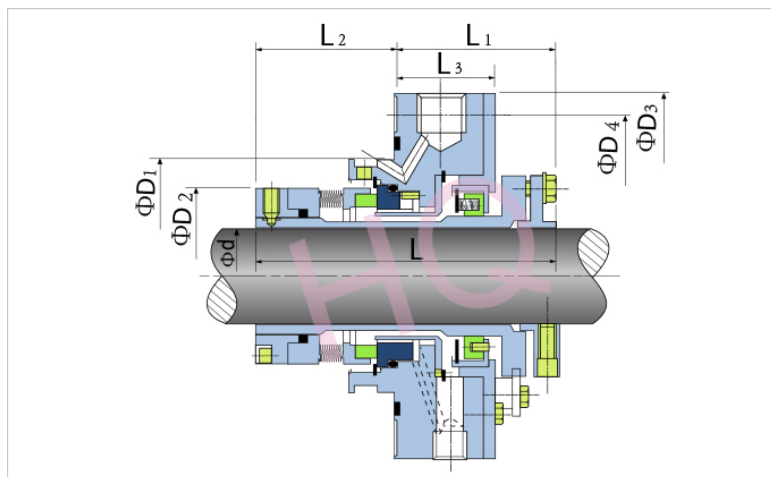
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| d   | D3  | D1    | L1   | L2   |
|-----|-----|-------|------|------|
| 16  | 38  | 35    | 46.5 | 11.5 |
| 18  | 40  | 37    | 46.5 | 11.5 |
| 20  | 42  | 40    | 46.5 | 11.5 |
| 22  | 44  | 43    | 46.5 | 11.5 |
| 24  | 46  | 43    | 46.5 | 11.5 |
| 25  | 47  | 45    | 46.5 | 11.5 |
| 28  | 50  | 48    | 46.5 | 11.5 |
| 30  | 52  | 50    | 46.5 | 11.5 |
| 32  | 54  | 56    | 46.5 | 14   |
| 33  | 55  | 56    | 46.5 | 14   |
| 35  | 57  | 58    | 46.5 | 14   |
| 38  | 60  | 61    | 46.5 | 14   |
| 40  | 66  | 63    | 47.5 | 14   |
| 43  | 69  | 66    | 47.5 | 14   |
| 45  | 71  | 70    | 47.5 | 15   |
| 48  | 74  | 73    | 47.5 | 15   |
| 50  | 76  | 75    | 47.5 | 15   |
| 53  | 79  | 78    | 47.5 | 15   |
| 55  | 81  | 80    | 47.5 | 15   |
| 58  | 85  | 83    | 53   | 15   |
| 60  | 87  | 85    | 53   | 15   |
| 63  | 90  | 90    | 53   | 18   |
| 65  | 92  | 92    | 53   | 18   |
| 68  | 95  | 97    | 53   | 18   |
| 70  | 97  | 97    | 53   | 18   |
| 75  | 102 | 105   | 52.8 | 18.2 |
| 80  | 107 | 110   | 52.8 | 18.2 |
| 85  | 112 | 115   | 52.8 | 18.2 |
| 90  | 117 | 120   | 53.8 | 17.2 |
| 95  | 122 | 125   | 53.8 | 17.2 |
| 100 | 127 | 134.3 | 54   | 20   |

## HQMB-B07(MBS682)



Type: Metal Bellow Seal  
 Replacement: Burgmann MBS682  
 Temperature:  $-75^{\circ}\text{C}$  to  $+400^{\circ}\text{C}$   
 Pressure:  $\leq 1.0\text{Mpa}$   
 Speed:  $\leq 23\text{-}35\text{m/s}$   
 Material: Q1,Q2,,G,M6,T4



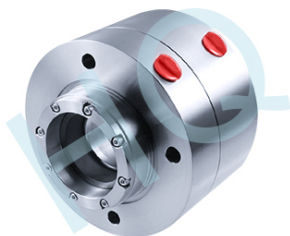
<http://www.hqseal.com>



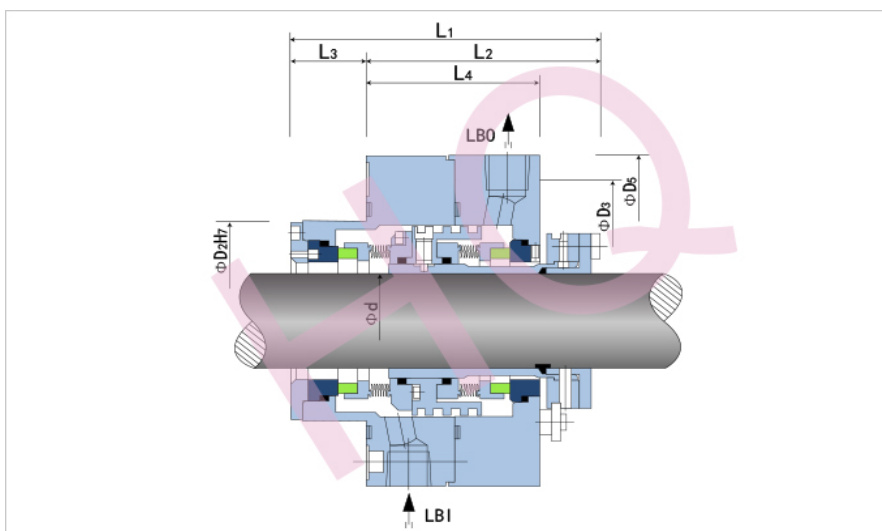
[hq@hqseal.com](mailto:hq@hqseal.com)

| d   | D1  | D4  | D2     | D3  | L   | L1 | L2 | L3 |
|-----|-----|-----|--------|-----|-----|----|----|----|
| 20  | 70  | 105 | 47.63  | 132 | 111 | 64 | 47 | 39 |
| 30  | 80  | 115 | 57.15  | 138 | 119 | 64 | 55 | 39 |
| 40  | 90  | 125 | 66.68  | 150 | 121 | 64 | 57 | 39 |
| 50  | 100 | 140 | 76.2   | 175 | 117 | 65 | 52 | 40 |
| 60  | 120 | 160 | 88.9   | 188 | 122 | 65 | 57 | 40 |
| 70  | 130 | 170 | 101.6  | 201 | 127 | 65 | 62 | 40 |
| 80  | 140 | 180 | 114.3  | 213 | 131 | 65 | 66 | 40 |
| 90  | 160 | 205 | 123.94 | 239 | 133 | 72 | 61 | 45 |
| 100 | 170 | 215 | 136.53 | 252 | 134 | 72 | 62 | 45 |

# HQMB-B13(MBS682P-D)



Type: Metal Bellow Seal  
 Replacement: Burgmann MBS682P-D  
 Temperature: -75 to +400°C  
 Pressure:  $\leq 35$  Bar  
 Speed:  $\leq 23$  m/s  
 Material: Q1, Q2, U2, T, V, M1, F, G, M



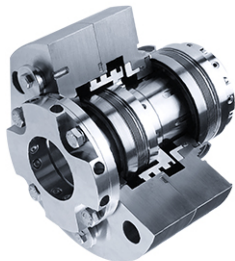
<http://www.hqseal.com>



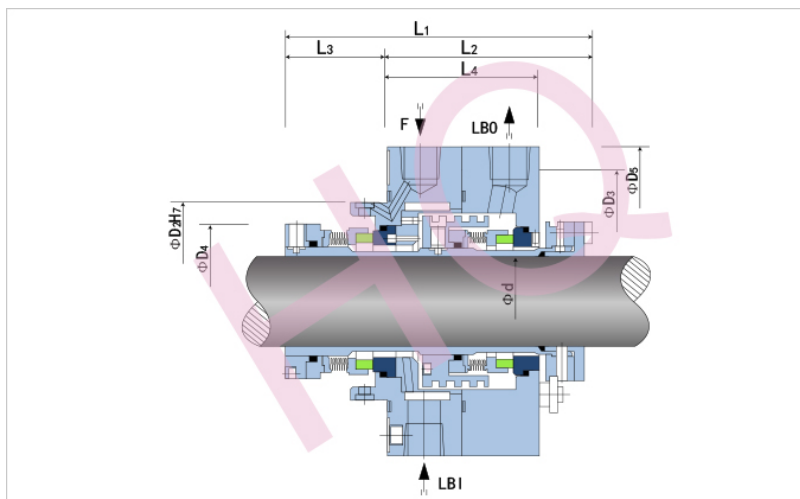
[hq@hqseal.com](mailto:hq@hqseal.com)

| API/d<br>(mm) | API/D2 | API/D3 | D4 | D5  | L1    | L2    | L3 | L4   |
|---------------|--------|--------|----|-----|-------|-------|----|------|
| 20            | 70     | 105    | -  | 132 | 136.0 | 98.0  | 38 | 73.0 |
| 30            | 80     | 115    | -  | 138 | 138.5 | 97.5  | 41 | 72.5 |
| 40            | 90     | 125    | -  | 150 | 142.0 | 98.0  | 44 | 73.0 |
| 50            | 100    | 140    | -  | 175 | 145.0 | 105.0 | 40 | 80.0 |
| 60            | 120    | 160    | -  | 188 | 152.0 | 107.0 | 45 | 82.0 |
| 70            | 130    | 170    | -  | 201 | 159.0 | 107.0 | 52 | 82.0 |
| 80            | 140    | 180    | -  | 213 | 161.0 | 107.0 | 54 | 82.0 |
| 90            | 160    | 205    | -  | 239 | 163.0 | 115.0 | 48 | 88.0 |
| 100           | 170    | 215    | -  | 252 | 165.0 | 115.0 | 50 | 88.0 |

# HQMB-B14(MBS682-PTA)



Type: Metal Bellow Seal  
 Replacement: Burgmann MBS682-PTA  
 Temperature: -75 to +400°C  
 Pressure:  $\leq 25$  Bar  
 Speed:  $\leq 23$  m/s  
 Material: Q1, Q2, U2, T, V, M1, F, G, M



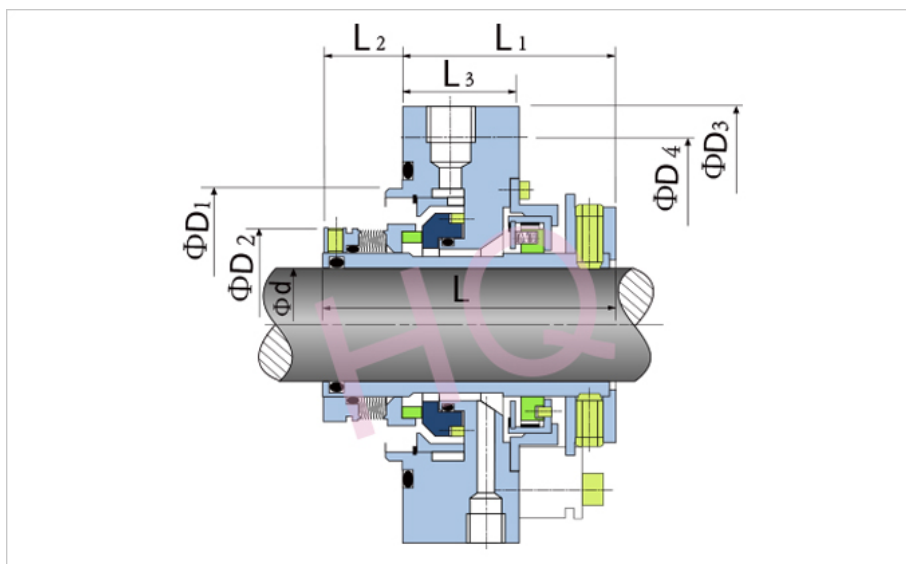
| API/d<br>(mm) | API/D2 | API/D3 | D4    | D5  | L1    | L2    | L3 | L4   |
|---------------|--------|--------|-------|-----|-------|-------|----|------|
| 20            | 70     | 105    | 50.8  | 132 | 145.0 | 98.0  | 47 | 73.0 |
| 30            | 80     | 115    | 60.3  | 138 | 152.5 | 97.5  | 55 | 72.5 |
| 40            | 90     | 125    | 69.9  | 150 | 155.0 | 98.0  | 57 | 73.0 |
| 50            | 100    | 140    | 82.6  | 175 | 157.0 | 105.0 | 52 | 80.0 |
| 60            | 120    | 160    | 93.7  | 188 | 164.0 | 107.0 | 57 | 82.0 |
| 70            | 130    | 170    | 104.8 | 201 | 169.0 | 107.0 | 62 | 82.0 |
| 80            | 140    | 180    | 117.5 | 213 | 173.0 | 107.0 | 66 | 82.0 |
| 90            | 160    | 205    | 130.2 | 239 | 176.0 | 115.0 | 61 | 88.0 |
| 100           | 170    | 215    | 136.5 | 252 | 177.0 | 115.0 | 62 | 88.0 |



## HQMB-B06(LY9SA)



Type: Metal Bellow Seal  
 Replacement: Burgmann LY9SA  
 Temperature:  $-40^{\circ}\text{C}$  to  $+200^{\circ}\text{C}$   
 Pressure:  $\leq 2.0\text{Mpa}$   
 Speed:  $\leq 23\text{m/s}$   
 Material: A,Q1,Q2,V,E,K,P,G,M5



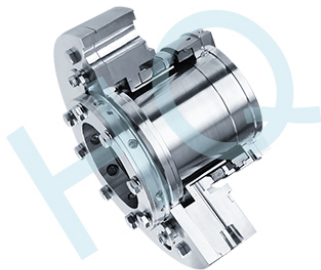
<http://www.hqseal.com>



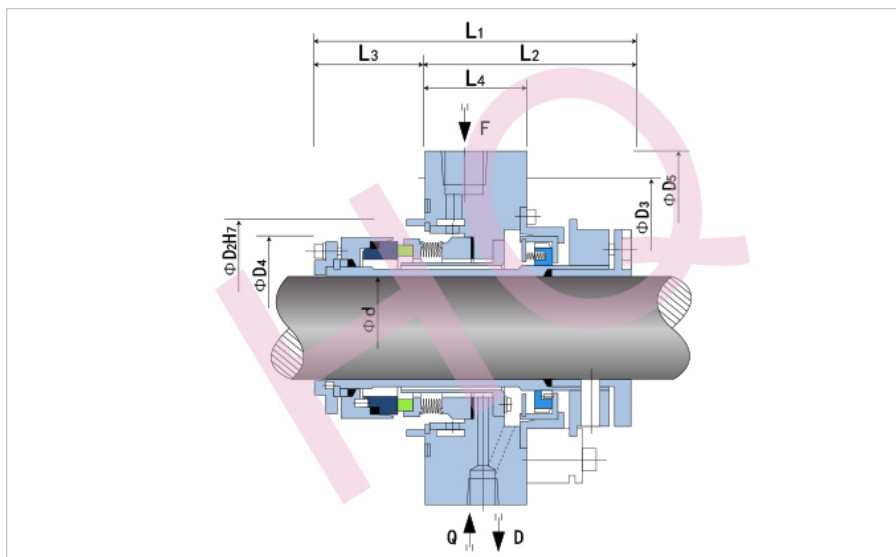
[hq@hqseal.com](mailto:hq@hqseal.com)

| d<br>(mm) | D1  | D4  | D2    | D3  | L     | L1 | L2   | L3 |
|-----------|-----|-----|-------|-----|-------|----|------|----|
| 30        | 80  | 115 | 55.6  | 138 | 102   | 77 | 25.0 | 45 |
| 40        | 90  | 125 | 65.1  | 148 | 102.5 | 77 | 25.5 | 45 |
| 50        | 100 | 140 | 74.6  | 168 | 108.5 | 77 | 31.5 | 45 |
| 60        | 120 | 160 | 87.3  | 188 | 120.5 | 79 | 41.5 | 45 |
| 70        | 130 | 170 | 98.4  | 198 | 121.0 | 79 | 45.0 | 45 |
| 80        | 140 | 180 | 108.0 | 208 | 125.0 | 79 | 46.0 | 45 |
| 90        | 160 | 205 | 120.7 | 248 | 132.0 | 86 | 46.0 | 50 |
| 100       | 170 | 215 | 130.2 | 258 | 136.0 | 89 | 47.0 | 50 |
| 110       | 180 | 225 | 138.9 | 268 | 141.0 | 89 | 52.0 | 50 |

# HQMB-B15(LY9TC)



Type: Metal Bellow Seal  
 Replacement: Burgmann LY9TC  
 Temperature: -130 to +400°C  
 Pressure:  $\leq 35$  Bar  
 Speed:  $\leq 50$  m/s  
 Material: Q1, Q2, U2, T, V, M1, F, G, M



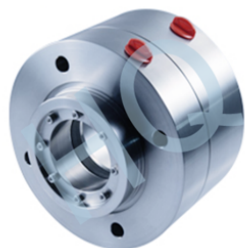
<http://www.hqseal.com>



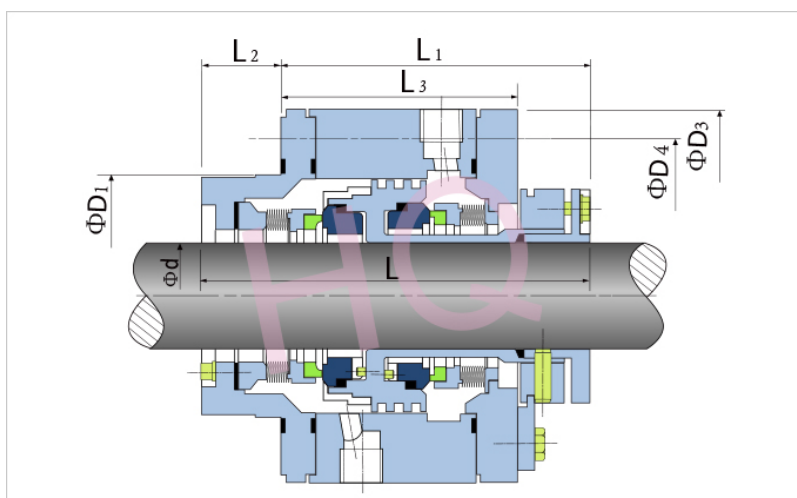
[hq@hqseal.com](mailto:hq@hqseal.com)

| API/d<br>(mm) | API/D2 | API/D3 | D4  | D5  | L1    | L2    | L3   | L4 |
|---------------|--------|--------|-----|-----|-------|-------|------|----|
| 20            | 70     | 105    | -   | -   | -     | -     | -    | -  |
| 30            | 80     | 115    | 71  | 138 | 142.5 | 90.3  | 52.2 | 47 |
| 40            | 90     | 125    | 81  | 148 | 143.3 | 87.3  | 56.0 | 43 |
| 50            | 100    | 140    | 91  | 168 | 146.3 | 94.3  | 52.0 | 51 |
| 60            | 120    | 160    | 104 | 188 | 150.3 | 94.3  | 56.0 | 47 |
| 70            | 130    | 170    | 115 | 198 | 151.5 | 95.0  | 56.5 | 48 |
| 80            | 140    | 180    | 129 | 208 | 150.6 | 90.7  | 59.9 | 48 |
| 90            | 160    | 205    | 143 | 248 | 167.3 | 104.3 | 63.0 | 56 |
| 100           | 170    | 215    | 154 | 258 | 176.9 | 119.9 | 65.0 | 63 |
| 110           | 180    | 225    | 170 | 268 | 182.8 | 111.3 | 71.5 | 60 |

# HQMB-B09(LY9DSTT)



Type: Metal Bellow Seal  
 Replacement: Burgmann LY9DSTT  
 Temperature: -200°C to +200°C  
 Pressure:  $\leq 2.5\text{Mpa}$   
 Speed:  $\leq 50\text{m/s}$   
 Material: Q1, Q2, V, K, E, P, G, M5, M6, T4



<http://www.hqseal.com>



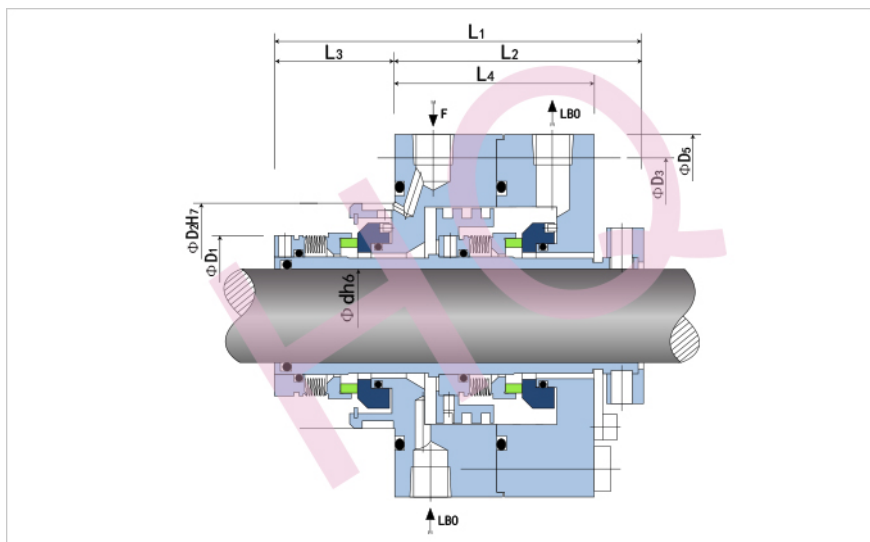
[hq@hqseal.com](mailto:hq@hqseal.com)

| d<br>(mm) | D1  | D4  | D3  | L   | L1  | L2 | L3   |
|-----------|-----|-----|-----|-----|-----|----|------|
| 20        | 70  | 105 | -   | -   | -   | -  | -    |
| 30        | 80  | 115 | 138 | 145 | 98  | 47 | 73.0 |
| 40        | 90  | 125 | 148 | 151 | 97  | 54 | 73.5 |
| 50        | 100 | 140 | 168 | 149 | 107 | 42 | 84.0 |
| 60        | 120 | 160 | 188 | 162 | 107 | 55 | 80.0 |
| 70        | 130 | 170 | 198 | 169 | 107 | 62 | 81.5 |
| 80        | 140 | 180 | 208 | 162 | 107 | 55 | 79.0 |
| 90        | 160 | 205 | 238 | 180 | 117 | 63 | 88.5 |
| 100       | 170 | 215 | 248 | 184 | 117 | 67 | 85.0 |
| 110       | 180 | 225 | 258 | 189 | 117 | 72 | 83.5 |

# HQMB-B17(LY9DTSS)



Type: Metal Bellow Seal  
 Replacement: Burgmann LY9DTSS  
 Temperature: -40 to +200°C  
 Pressure:  $\leq 20$  Bar  
 Speed:  $\leq 23$  m/s  
 Material: Q1, Q2, U2, T, V, M1, F, G, M



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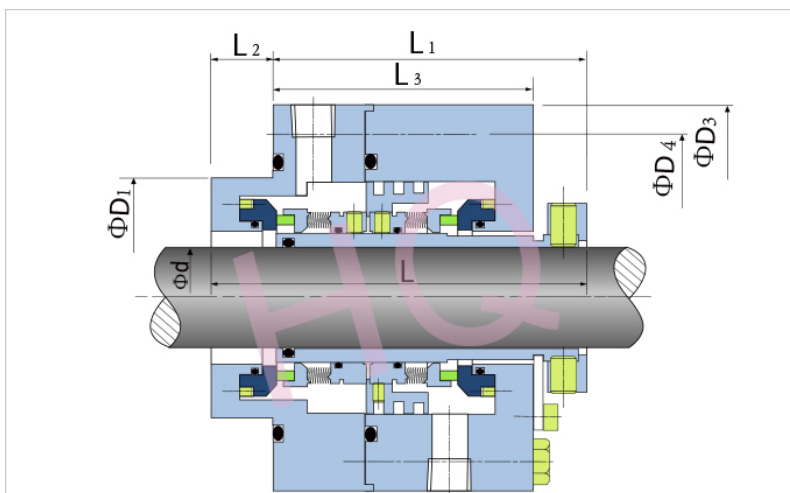
| API<br>/d(mm) | API<br>/D2 | API<br>/D3 | D1    | D5  | L1    | L2  | L3   | L4 |
|---------------|------------|------------|-------|-----|-------|-----|------|----|
| 20            | 70         | 105        | -     | -   | -     | -   | -    | -  |
| 30            | 80         | 115        | 55.6  | 138 | 141.5 | 98  | 43.5 | 82 |
| 40            | 90         | 125        | 65.1  | 148 | 142.0 | 98  | 44.0 | 82 |
| 50            | 100        | 140        | 74.6  | 168 | 157.0 | 107 | 50.0 | 87 |
| 60            | 120        | 160        | 87.3  | 188 | 167.0 | 107 | 60.0 | 87 |
| 70            | 130        | 170        | 98.4  | 198 | 167.5 | 107 | 60.5 | 87 |
| 80            | 140        | 180        | 108.0 | 208 | 171.5 | 107 | 64.5 | 87 |
| 90            | 160        | 205        | 120.7 | 248 | 179.5 | 115 | 64.5 | 95 |
| 100           | 170        | 215        | 130.2 | 258 | 180.5 | 115 | 65.5 | 95 |
| 110           | 180        | 225        | 138.9 | 268 | 185.5 | 115 | 70.5 | 95 |



# HQMB-B08(LY9DZSS)



Type: Metal Bellow Seal  
 Replacement: Burgmann LY9DZSS  
 Temperature:  $-40^{\circ}\text{C}$  to  $+200^{\circ}\text{C}$   
 Pressure:  $\leq 2.0\text{Mpa}$   
 Speed:  $\leq 23\text{m/s}$   
 Material: Q1, Q2, V, K, E, P, G, M5, M6, T4



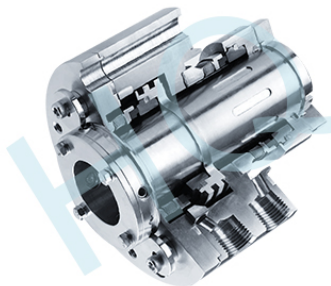
<http://www.hqseal.com>



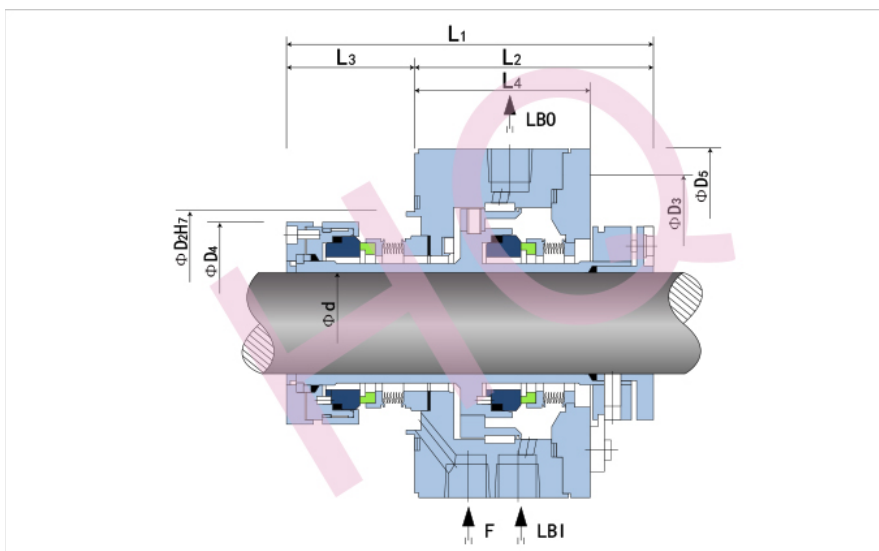
[hq@hqseal.com](mailto:hq@hqseal.com)

| AP<br>/d(mm) | AP<br>/D1 | AP<br>/D4 | D3  | L   | L1  | L2 | L3 |
|--------------|-----------|-----------|-----|-----|-----|----|----|
| 20           | 70        | 105       | *   | *   | *   | *  | *  |
| 30           | 80        | 115       | 138 | 125 | 98  | 27 | 82 |
| 40           | 90        | 125       | 148 | 128 | 98  | 30 | 82 |
| 50           | 100       | 140       | 168 | 137 | 107 | 30 | 87 |
| 60           | 120       | 160       | 188 | 137 | 107 | 30 | 87 |
| 70           | 130       | 170       | 198 | 137 | 107 | 30 | 87 |
| 80           | 140       | 180       | 208 | 137 | 107 | 30 | 87 |
| 90           | 160       | 205       | 248 | 145 | 115 | 30 | 95 |
| 100          | 170       | 215       | 258 | 150 | 115 | 35 | 95 |
| 110          | 180       | 225       | 268 | 150 | 115 | 35 | 95 |

# HQMB-B16(LY9DZTT)



Type: Metal Bellow Seal  
 Replacement: Burgmann LY9DZTT  
 Temperature: -130 to +400°C  
 Pressure:  $\leq 35$  Bar  
 Speed:  $\leq 50$  m/s  
 Material: Q1, Q2, U2, T, V, M1, F, G, M



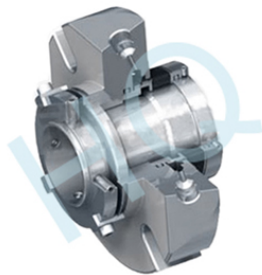
<http://www.hqseal.com>



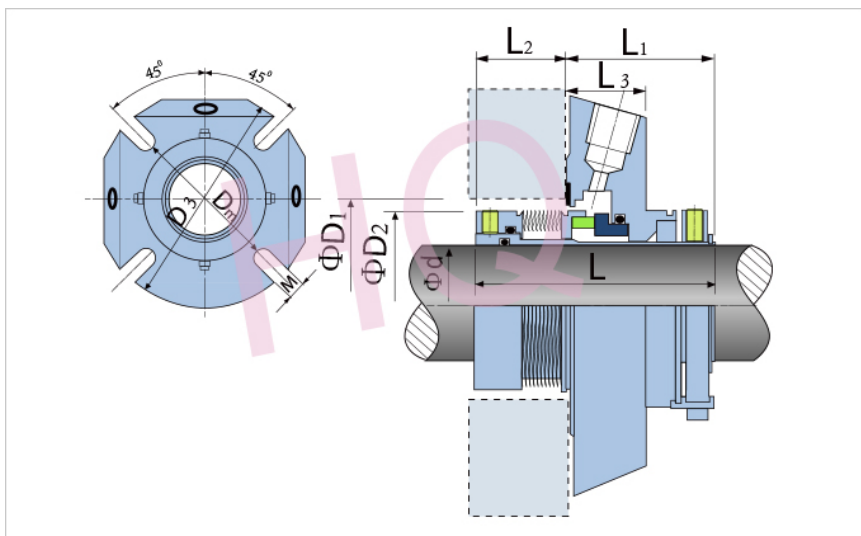
[hq@hqseal.com](mailto:hq@hqseal.com)

| API/d<br>(mm) | API/D2 | API/D3 | D4  | D5  | L1    | L2    | L3 | L4   |
|---------------|--------|--------|-----|-----|-------|-------|----|------|
| 20            | 70     | 105    | -   | -   | -     | -     | -  | -    |
| 30            | 80     | 115    | 74  | 138 | 151.0 | 98.0  | 53 | 75.0 |
| 40            | 90     | 125    | 84  | 148 | 157.5 | 98.5  | 59 | 76.0 |
| 50            | 100    | 140    | 94  | 168 | 161.0 | 108.0 | 53 | 85.5 |
| 60            | 120    | 160    | 114 | 188 | 164.0 | 107.0 | 57 | 86.0 |
| 70            | 130    | 170    | 124 | 198 | 168.0 | 106.0 | 62 | 79.5 |
| 80            | 140    | 180    | 131 | 208 | 174.0 | 107.0 | 67 | 82.5 |
| 90            | 160    | 205    | 153 | 248 | 182.0 | 119.0 | 63 | 93.5 |
| 100           | 170    | 215    | 158 | 258 | 200.0 | 132.0 | 68 | 98.6 |
| 110           | 180    | 225    | 174 | 268 | 203.0 | 130.0 | 73 | 98.0 |

# HQMB-B10(Mtex-S)



Type: Metal Bellow Seal  
 Replacement: Burgmann Mtex-S  
 Temperature:  $-40^{\circ}\text{C}$  to  $+220^{\circ}\text{C}$   
 Pressure:  $\leq 2.0\text{Mpa}$   
 Speed:  $\leq 25\text{m/s}$   
 Material: A,B,Q1,Q2,T,V,M1,F,G,T6,M



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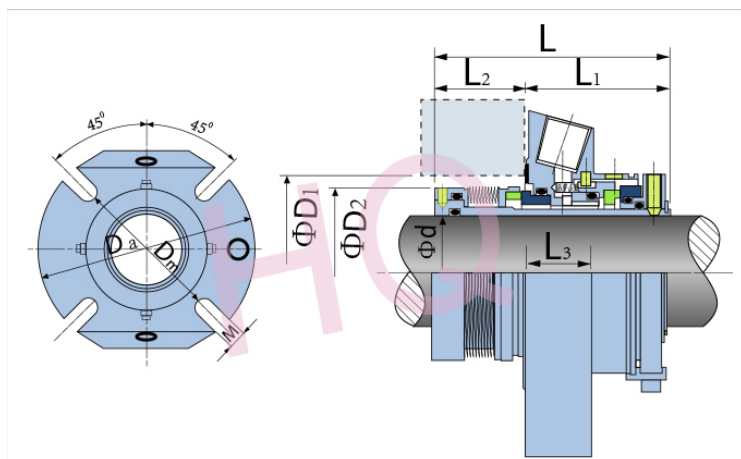
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| d<br>(mm) | D2    | D1<br>(min) | D1<br>(max) | L    | L2   | L1   | L3   | D3  | Dm    | M    |
|-----------|-------|-------------|-------------|------|------|------|------|-----|-------|------|
| 25        | 45.0  | 47.0        | 51.0        | 79.5 | 26.1 | 53.4 | 25.4 | 105 | 62.0  | 13.2 |
| 30        | 49.4  | 52.0        | 56.0        | 78.4 | 25.0 | 53.4 | 25.4 | 105 | 67.0  | 13.2 |
| 32        | 52.3  | 54.5        | 57.0        | 78.4 | 25.0 | 53.4 | 25.4 | 108 | 70.0  | 13.2 |
| 33        | 52.3  | 54.5        | 57.0        | 78.4 | 25.0 | 53.4 | 25.4 | 108 | 70.0  | 13.2 |
| 35        | 54.8  | 58.0        | 61.5        | 78.4 | 25.0 | 53.4 | 25.4 | 113 | 72.0  | 13.2 |
| 38        | 57.5  | 60.0        | 66.0        | 78.4 | 25.0 | 53.4 | 25.4 | 123 | 75.0  | 13.2 |
| 40        | 58.8  | 62.0        | 68.0        | 78.4 | 24.8 | 53.4 | 25.4 | 123 | 77.0  | 14.2 |
| 43        | 61.9  | 64.5        | 70.5        | 78.4 | 25.0 | 53.4 | 25.4 | 133 | 80.0  | 14.2 |
| 45        | 65.0  | 68.5        | 73.0        | 78.4 | 25.0 | 53.4 | 25.4 | 138 | 82.0  | 14.2 |
| 48        | 68.4  | 71.0        | 75.0        | 78.7 | 25.3 | 53.4 | 25.4 | 138 | 85.0  | 14.2 |
| 50        | 70.0  | 73.0        | 78.0        | 79.1 | 25.7 | 53.4 | 25.4 | 148 | 87.0  | 14.2 |
| 53        | 71.9  | 75.0        | 87.0        | 77.8 | 24.4 | 53.4 | 25.4 | 148 | 97.0  | 18.0 |
| 55        | 74.6  | 77.0        | 83.0        | 78.9 | 25.5 | 53.4 | 25.4 | 148 | 92.0  | 18.0 |
| 60        | 83.9  | 87.0        | 91.0        | 80.1 | 26.7 | 53.4 | 25.4 | 157 | 102.0 | 18.0 |
| 65        | 87.5  | 90.0        | 98.5        | 80.0 | 26.6 | 53.4 | 25.4 | 163 | 109.3 | 18.0 |
| 70        | 93.0  | 98.0        | 108.0       | 91.5 | 28.1 | 53.4 | 25.4 | 178 | 118.3 | 18.0 |
| 75        | 96.8  | 101.6       | 118.0       | 94.4 | 30.5 | 63.9 | 28.0 | 190 | 129.0 | 18.0 |
| 80        | 104.7 | 108.0       | 124.0       | 94.4 | 30.4 | 64.0 | 28.0 | 195 | 1350  | 18.0 |

# HQMB-B11(Mtex-D)



Type: Metal Bellow Seal  
 Replacement: Burgmann Mtex-D  
 Temperature: -40°C to +220°C  
 Pressure:  $\leq 2.5$  Mpa  
 Speed:  $\leq 20$  m/s  
 Material: A, Q1, U2, V, E, K, G, M6, M



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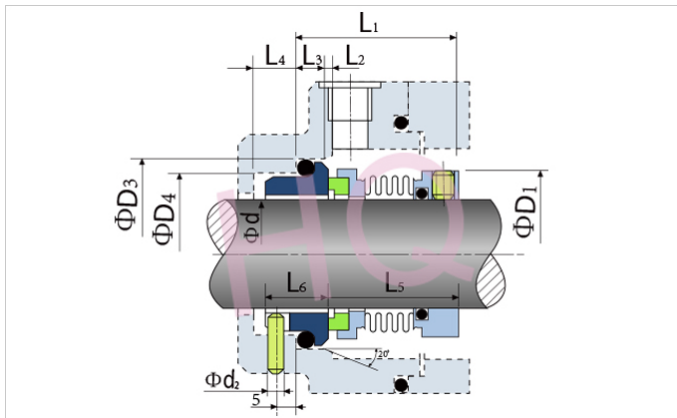
[hq@hqseal.com](mailto:hq@hqseal.com)

| d<br>(mm) | D1<br>(min) | D1<br>(max) | D2    | Da  | Dm    | L     | L1   | L2   | L3   | M    |
|-----------|-------------|-------------|-------|-----|-------|-------|------|------|------|------|
| 25        | 47.0        | 51.0        | 45.0  | 105 | 62.0  | 87.0  | 53.4 | 33.6 | 25.4 | 13.2 |
| 30        | 52.0        | 56.0        | 49.4  | 105 | 67.0  | 86.5  | 53.4 | 33.1 | 25.4 | 13.2 |
| 32        | 54.5        | 57.0        | 52.3  | 108 | 70.0  | 86.5  | 53.4 | 33.1 | 25.4 | 13.2 |
| 33        | 54.5        | 57.0        | 52.3  | 108 | 70.0  | 86.5  | 53.4 | 33.1 | 25.4 | 13.2 |
| 35        | 58.0        | 61.5        | 54.8  | 113 | 72.0  | 86.5  | 53.4 | 33.1 | 25.4 | 13.2 |
| 38        | 60.0        | 66.0        | 57.5  | 123 | 75.0  | 86.5  | 53.4 | 33.1 | 25.4 | 14   |
| 40        | 62.0        | 68.0        | 58.8  | 123 | 77.0  | 86.3  | 53.4 | 32.9 | 25.4 | 14.2 |
| 43        | 64.5        | 70.5        | 61.9  | 133 | 80.0  | 86.5  | 53.4 | 33.1 | 25.4 | 14.2 |
| 45        | 68.5        | 73.0        | 65.0  | 138 | 82.0  | 86.5  | 53.4 | 33.1 | 25.4 | 14.2 |
| 48        | 71.0        | 75.0        | 68.4  | 138 | 85.0  | 86.8  | 53.4 | 33.4 | 25.4 | 14.2 |
| 50        | 73.0        | 78.0        | 70.0  | 148 | 87.0  | 87.2  | 53.4 | 33.8 | 25.4 | 14.2 |
| 53        | 75.0        | 87.0        | 71.9  | 148 | 97.0  | 87.4  | 53.4 | 34.0 | 25.4 | 18.0 |
| 55        | 77.0        | 83.0        | 74.6  | 148 | 92.0  | 87.0  | 53.4 | 33.6 | 25.4 | 18.0 |
| 60        | 87.0        | 91.0        | 83.9  | 157 | 102.0 | 88.2  | 53.4 | 34.8 | 25.4 | 18.0 |
| 65        | 90.0        | 98.5        | 87.5  | 163 | 109.3 | 88.1  | 53.4 | 34.7 | 25.4 | 18.0 |
| 70        | 98.0        | 108.0       | 93.0  | 178 | 118.3 | 89.6  | 53.4 | 36.2 | 25.4 | 18.0 |
| 75        | 101.6       | 118.0       | 96.8  | 190 | 129.0 | 107.4 | 63.9 | 43.5 | 28.0 | 18.0 |
| 80        | 108.0       | 124.0       | 104.7 | 195 | 135.0 | 106.8 | 63.9 | 42.9 | 28.0 | 18.0 |

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# HQ-N11B(MF95N)

Type: Metal Bellow Seal  
 Replacement: Bergmann MF95N  
 Temperature:  $-40^{\circ}\text{C}$  to  $+220^{\circ}\text{C}$   
 Pressure:  $\leq 1.6\text{Mpa}$   
 Speed:  $\leq 20\text{m/s}$   
 Material: B,A1,Q1,Q2,U2,P,E,N,V,F,G



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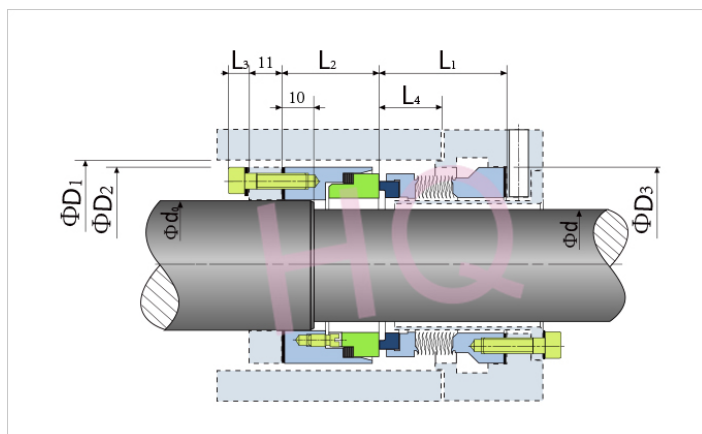
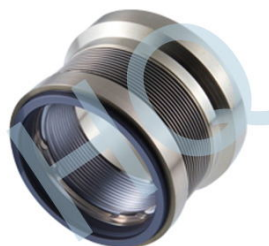


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| d<br>(mm) | D1  | D3  | D4  | d 2 | L1   | L2  | L3 | L4  | L5   | L6   |
|-----------|-----|-----|-----|-----|------|-----|----|-----|------|------|
| 14        | 24  | 25  | 21  | 3   | 35.0 | 1.5 | 4  | 8.5 | 30.5 | 15.0 |
| 16        | 26  | 27  | 23  | 3   | 35.0 | 1.5 | 4  | 8.5 | 29.5 | 15.0 |
| 18        | 32  | 33  | 27  | 3   | 37.5 | 2.0 | 5  | 9.0 | 30.5 | 15.0 |
| 20        | 34  | 35  | 29  | 3   | 37.5 | 2.0 | 5  | 9.0 | 30.5 | 15.0 |
| 22        | 36  | 37  | 31  | 3   | 37.5 | 2.0 | 5  | 9.0 | 30.5 | 15.0 |
| 24        | 39  | 39  | 33  | 3   | 40.0 | 2.0 | 5  | 9.0 | 33.0 | 15.0 |
| 25        | 39  | 40  | 34  | 3   | 40.0 | 2.0 | 5  | 9.0 | 33.0 | 15.0 |
| 28        | 42  | 43  | 37  | 3   | 42.5 | 2.0 | 5  | 9.0 | 35.5 | 15.0 |
| 30        | 44  | 45  | 39  | 3   | 42.5 | 2.0 | 5  | 9.0 | 35.5 | 15.0 |
| 32        | 46  | 48  | 42  | 3   | 42.5 | 2.0 | 5  | 9.0 | 35.5 | 15.0 |
| 33        | 47  | 48  | 42  | 3   | 42.5 | 2.0 | 5  | 9.0 | 35.5 | 15.0 |
| 35        | 49  | 50  | 44  | 3   | 42.5 | 2.0 | 5  | 9.0 | 35.5 | 15.0 |
| 38        | 54  | 56  | 49  | 3   | 45.0 | 2.0 | 6  | 9.0 | 37.0 | 16.0 |
| 40        | 56  | 58  | 51  | 4   | 45.0 | 2.0 | 6  | 9.0 | 37.0 | 16.0 |
| 43        | 59  | 61  | 54  | 4   | 45.0 | 2.0 | 6  | 9.0 | 37.0 | 16.0 |
| 45        | 61  | 63  | 56  | 4   | 45.0 | 2.0 | 6  | 9.0 | 37.0 | 16.0 |
| 48        | 64  | 66  | 59  | 4   | 45.0 | 2.0 | 6  | 9.0 | 37.0 | 16.0 |
| 50        | 66  | 70  | 62  | 4   | 47.5 | 2.5 | 6  | 9.0 | 38.0 | 17.0 |
| 53        | 69  | 73  | 65  | 4   | 47.5 | 2.5 | 6  | 9.0 | 38.0 | 17.0 |
| 55        | 71  | 75  | 67  | 4   | 47.5 | 2.5 | 6  | 9.0 | 38.0 | 17.0 |
| 58        | 78  | 78  | 70  | 4   | 52.5 | 2.5 | 6  | 9.0 | 42.0 | 18.0 |
| 60        | 80  | 80  | 72  | 4   | 52.5 | 2.5 | 6  | 9.0 | 42.0 | 18.0 |
| 63        | 83  | 83  | 75  | 4   | 52.5 | 2.5 | 6  | 9.0 | 42.0 | 18.0 |
| 65        | 85  | 85  | 77  | 4   | 52.5 | 2.5 | 6  | 9.0 | 42.0 | 18.0 |
| 68        | 87  | 90  | 81  | 4   | 52.5 | 2.5 | 7  | 9.0 | 41.5 | 18.5 |
| 70        | 90  | 92  | 83  | 4   | 60.0 | 2.5 | 7  | 9.0 | 48.5 | 19.0 |
| 75        | 99  | 97  | 88  | 4   | 60.0 | 2.5 | 7  | 9.0 | 48.5 | 19.0 |
| 80        | 104 | 105 | 95  | 4   | 60.0 | 3.0 | 7  | 9.0 | 48.5 | 19.0 |
| 85        | 109 | 110 | 100 | 4   | 60.0 | 3.0 | 7  | 9.0 | 48.5 | 19.0 |
| 90        | 114 | 115 | 105 | 4   | 65.0 | 3.0 | 7  | 9.0 | 52.0 | 20.5 |
| 95        | 119 | 120 | 110 | 4   | 65.0 | 3.0 | 7  | 9.0 | 52.0 | 20.5 |
| 100       | 124 | 125 | 115 | 4   | 65.0 | 3.0 | 7  | 9.0 | 52.0 | 20.5 |

# HQ-N12B(YE400)

Type: Metal Bellow Seal  
 Replacement: Bergmann YE400  
 Temperature: +240°C to +450°C  
 Pressure:  $\leq 20\text{Mpa}$   
 Speed:  $\leq 35\text{m/s}$   
 Material: B,A1,Q1,Q2,U2,P,E,N,V,F,G,Alfa



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| Size code | d (mm) | D1  | D2  | d0  | D3  | L1 | L2 | L3  | L4 |
|-----------|--------|-----|-----|-----|-----|----|----|-----|----|
| X14       | 18.0   | 47  | 42  | 21  | 44  | 36 | 31 | 6.3 | 15 |
| X16       | 21.0   | 50  | 47  | 26  | 47  | 38 | 31 | 6.3 | 17 |
| X18       | 24.0   | 53  | 50  | 29  | 50  | 38 | 31 | 6.3 | 17 |
| X20       | 27.5   | 56  | 53  | 32  | 53  | 38 | 31 | 6.3 | 17 |
| X22       | 31.0   | 60  | 57  | 36  | 57  | 38 | 31 | 6.3 | 17 |
| X24       | 33.0   | 64  | 60  | 39  | 60  | 41 | 31 | 6.3 | 20 |
| X26       | 36.0   | 67  | 63  | 42  | 63  | 41 | 31 | 6.3 | 20 |
| X28       | 39.0   | 70  | 66  | 45  | 66  | 41 | 31 | 6.3 | 20 |
| X30       | 42.0   | 73  | 69  | 48  | 69  | 41 | 31 | 6.3 | 20 |
| X32       | 45.0   | 76  | 72  | 51  | 72  | 41 | 31 | 6.3 | 20 |
| X34       | 45.0   | 80  | 75  | 54  | 76  | 43 | 31 | 6.3 | 22 |
| X36       | 50.0   | 83  | 79  | 58  | 79  | 43 | 31 | 6.3 | 22 |
| X38       | 53.0   | 86  | 82  | 61  | 82  | 43 | 31 | 6.3 | 22 |
| X40       | 55.0   | 89  | 85  | 64  | 85  | 51 | 31 | 6.3 | 30 |
| X42       | 58.5   | 92  | 89  | 67  | 88  | 51 | 31 | 6.3 | 30 |
| X44       | 62.5   | 96  | 92  | 71  | 92  | 51 | 31 | 6.3 | 30 |
| X46       | 64.0   | 99  | 96  | 74  | 95  | 55 | 31 | 6.3 | 34 |
| X48       | 67.0   | 102 | 99  | 77  | 98  | 55 | 31 | 6.3 | 34 |
| X50       | 70.0   | 105 | 102 | 81  | 101 | 55 | 31 | 6.3 | 34 |
| X52       | 73.0   | 108 | 105 | 84  | 104 | 55 | 31 | 6.3 | 34 |
| X54       | 75.5   | 111 | 109 | 87  | 107 | 55 | 31 | 6.3 | 34 |
| X56       | 78.5   | 116 | 113 | 90  | 111 | 58 | 31 | 6.3 | 37 |
| X58       | 82.0   | 120 | 116 | 93  | 114 | 58 | 31 | 6.3 | 37 |
| X60       | 85.0   | 122 | 119 | 96  | 117 | 58 | 31 | 6.3 | 37 |
| X62       | 88.0   | 125 | 122 | 99  | 120 | 58 | 31 | 6.3 | 37 |
| X64       | 91.0   | 128 | 125 | 103 | 123 | 58 | 31 | 6.3 | 37 |
| X70       | 100.0  | 142 | 138 | 111 | 134 | 60 | 31 | 6.3 | 39 |
| X78       | 110.0  | 152 | 147 | 116 | 145 | 60 | 41 | 7.5 | 39 |
| X90       | 129.0  | 173 | 168 | 137 | 166 | 63 | 41 | 7.5 | 42 |



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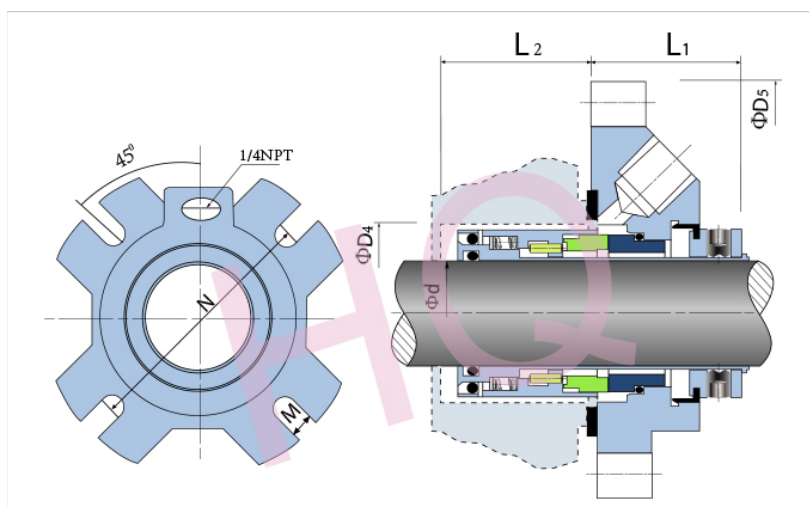
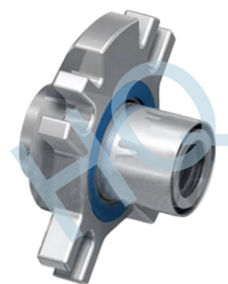
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# HQCS-J21(4610)

Type: Single Cartridge Seal  
 Replacement: Crane 4610  
 Temperature: -30°C to +205°C  
 Pressure:  $\leq 2.8\text{Mpa}$   
 Speed:  $\leq 25\text{m/s}$   
 Material: Q1,Q2,U2,T,V,M1,F,G,M



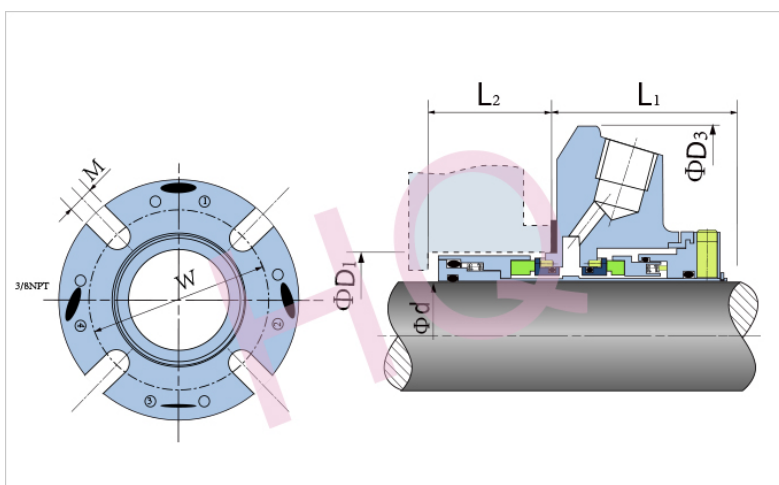
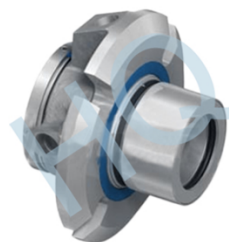
<http://www.hqseal.com>



[hq@hqseal.com](mailto:hq@hqseal.com)

| d<br>(mm) | D4    |      | D5    | L2<br>Min | L1   | N     |       | M    |
|-----------|-------|------|-------|-----------|------|-------|-------|------|
|           | Min   | Max  |       |           |      | Min   | Max   |      |
| 24        | 40.00 | 49.2 | 104.8 | 30        | 34.5 | 66.7  | 95.3  | 11.1 |
| 25        | 41.00 | 49.2 | 104.8 | 30        | 34.5 | 66.7  | 95.3  | 11.1 |
| 28        | 44.00 | 52.4 | 108.0 | 30        | 34.5 | 69.9  | 98.4  | 11.1 |
| 30        | 46.00 | 55.6 | 111.0 | 30        | 34.5 | 73.0  | 101.6 | 11.1 |
| 32        | 47.60 | 55.6 | 111.0 | 30        | 34.5 | 73.0  | 101.6 | 11.1 |
| 33        | 49.00 | 58.7 | 114.3 | 30        | 34.5 | 73.0  | 101.6 | 11.1 |
| 35        | 50.80 | 58.7 | 114.3 | 30        | 34.5 | 77.8  | 104.8 | 11.1 |
| 38        | 57.15 | 63.5 | 127.0 | 31        | 35.5 | 87.3  | 114.3 | 14.3 |
| 40        | 60.00 | 63.5 | 127.0 | 31        | 35.5 | 87.3  | 114.3 | 14.3 |
| 43        | 63.00 | 66.7 | 133.4 | 31        | 35.5 | 90.5  | 120.7 | 14.3 |
| 45        | 63.50 | 66.7 | 133.4 | 31        | 35.5 | 90.5  | 120.7 | 14.3 |
| 48        | 66.70 | 76.2 | 139.7 | 31        | 35.5 | 98.4  | 127.0 | 14.3 |
| 50        | 69.80 | 76.2 | 139.7 | 31        | 35.5 | 98.4  | 127.0 | 14.3 |
| 53        | 73.00 | 84.1 | 146.0 | 31        | 35.5 | 111.1 | 130.2 | 17.5 |
| 55        | 73.00 | 84.1 | 146.0 | 31        | 35.5 | 111.1 | 130.2 | 17.5 |
| 58        | 79.40 | 90.5 | 152.4 | 31        | 35.5 | 117.5 | 136.5 | 17.5 |
| 60        | 79.40 | 90.5 | 152.4 | 31        | 35.5 | 117.5 | 136.5 | 17.5 |
| 63        | 82.60 | 98.4 | 158.8 | 34        | 35.5 | 123.8 | 142.9 | 17.5 |
| 65        | 88.90 | 98.4 | 158.8 | 34        | 36.0 | 123.8 | 142.9 | 17.5 |
| 70        | 95.00 | 98.4 | 158.8 | 34        | 36.0 | 123.8 | 142.9 | 17.5 |

Type: Double Cartridge Seal  
 Replacement: Crane 4620P  
 Temperature: -30°C to +205°C  
 Pressure:  $\leq 2.1\text{Mpa}$   
 Speed:  $\leq 25\text{m/s}$   
 Material: Q1,Q2,U2,T,V,M1,F,G,M



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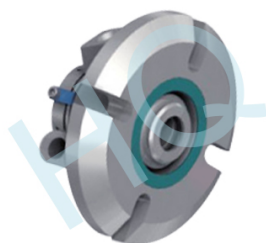


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| d<br>(mm) | D1   |       | D3    | L1   | L2 (min) | W   |     | M    |
|-----------|------|-------|-------|------|----------|-----|-----|------|
|           | Min  | Max   |       |      |          | Min | Max |      |
| 24        | 41.0 | 48.0  | 101.6 | 50.8 | 41.5     | 71  | 83  | 13.3 |
| 25        | 41.0 | 48.0  | 101.6 | 50.8 | 41.5     | 71  | 83  | 13.3 |
| 28        | 44.0 | 51.2  | 104.8 | 54.0 | 40.7     | 74  | 86  | 13.3 |
| 30        | 46.0 | 58.3  | 108.0 | 54.0 | 40.7     | 82  | 89  | 13.3 |
| 32        | 47.6 | 58.3  | 108.0 | 54.0 | 40.7     | 82  | 89  | 13.3 |
| 33        | 50.8 | 61.5  | 111.1 | 54.0 | 40.7     | 85  | 92  | 13.3 |
| 35        | 50.8 | 61.5  | 111.1 | 54.0 | 40.7     | 85  | 92  | 13.3 |
| 38        | 57.2 | 68.1  | 123.8 | 55.5 | 42.7     | 91  | 105 | 13.3 |
| 40        | 60.0 | 71.4  | 127.0 | 55.5 | 42.7     | 96  | 108 | 14.3 |
| 43        | 63.5 | 74.1  | 133.4 | 55.5 | 42.7     | 98  | 114 | 14.3 |
| 45        | 63.5 | 74.1  | 133.4 | 55.5 | 42.7     | 98  | 114 | 14.3 |
| 48        | 66.7 | 74.1  | 133.4 | 55.5 | 42.7     | 98  | 114 | 14.3 |
| 50        | 69.9 | 76.6  | 139.7 | 60.3 | 43.5     | 102 | 121 | 14.3 |
| 53        | 73.0 | 85.3  | 148.8 | 60.3 | 43.5     | 114 | 125 | 17.5 |
| 55        | 73.0 | 85.3  | 148.8 | 60.3 | 43.5     | 114 | 125 | 17.5 |
| 58        | 79.4 | 91.7  | 165.1 | 64.2 | 43.5     | 120 | 141 | 17.5 |
| 60        | 79.4 | 91.7  | 165.1 | 64.2 | 43.5     | 120 | 141 | 17.5 |
| 63        | 85.7 | 98.8  | 171.5 | 66.7 | 43.3     | 127 | 147 | 17.5 |
| 65        | 85.7 | 98.8  | 171.5 | 66.7 | 43.3     | 127 | 147 | 17.5 |
| 70        | 93.6 | 103.2 | 171.5 | 65.1 | 43.9     | 131 | 147 | 17.5 |

# HQCS-J23(5610)

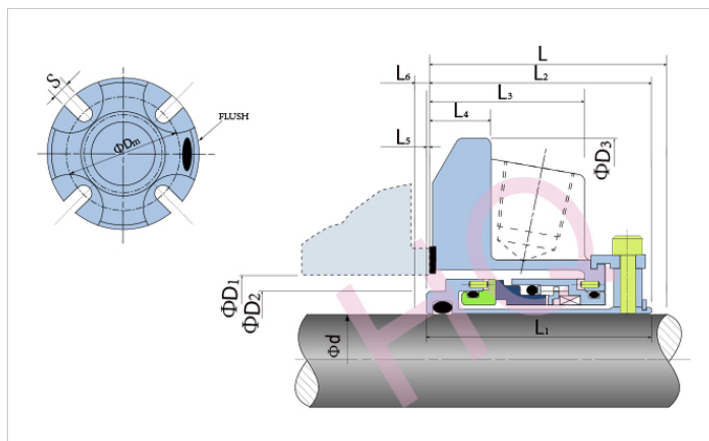
Type: Single Cartridge Seal  
 Replacement: Crane 5610  
 Temperature: -50°C to +204°C  
 Pressure:  $\leq 2.0\text{Mpa}$   
 Speed:  $\leq 23\text{m/s}$   
 Material: B,A,Q1,Q2,T,V,K,F,G,M



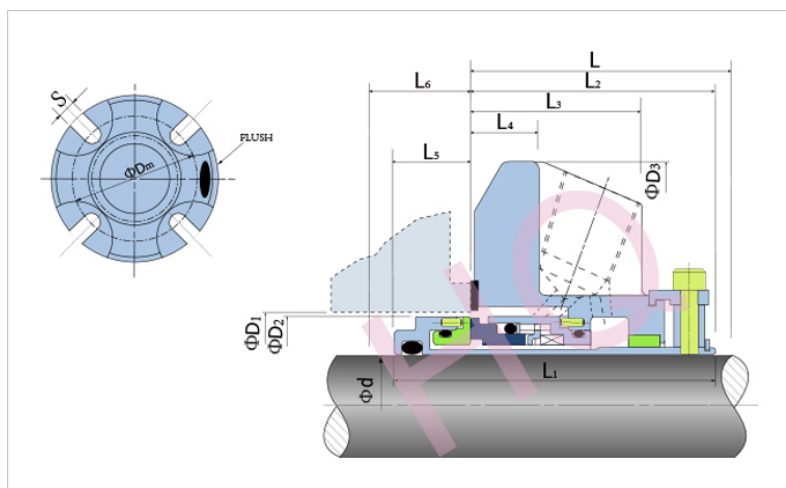
<http://www.hqseal.com>



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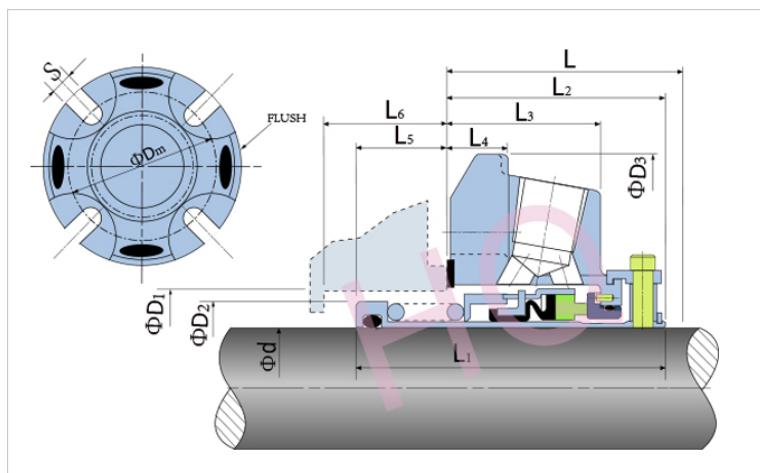
| d<br>(mm) | D1    |       | D2    | D3    | L    | L1   | L2   | L3   | L4   | L5  | L6  | Dm    | S    |
|-----------|-------|-------|-------|-------|------|------|------|------|------|-----|-----|-------|------|
|           | Min   | max   |       |       |      |      |      |      |      |     |     |       |      |
| 24        | 36.7  | 48.0  | 34.9  | 101.6 | 50.8 | 50.5 | 49.6 | 34.4 | 13.5 | 0.9 | 4.0 | 71.2  | 13.3 |
| 25        | 36.7  | 48.0  | 34.9  | 101.6 | 50.8 | 50.5 | 49.6 | 34.4 | 13.5 | 0.9 | 4.0 | 71.2  | 13.3 |
| 28        | *     | 51.2  | 38.1  | 104.8 | 54.0 | 52.4 | 52.4 | 36.7 | 13.5 | *   | 3.2 | 74.6  | 13.3 |
| 30        | *     | 56.5  | 40.0  | 108.0 | 54.0 | 52.4 | 52.4 | 36.7 | 13.5 | *   | 3.2 | 79.9  | 13.3 |
| 32        | *     | 58.3  | 41.3  | 108.0 | 54.0 | 52.4 | 52.4 | 36.7 | 13.5 | *   | 3.2 | 81.6  | 13.3 |
| 33        | *     | 61.5  | 44.5  | 111.1 | 54.0 | 52.4 | 52.4 | 36.7 | 13.5 | *   | 3.2 | 84.8  | 13.3 |
| 35        | *     | 61.5  | 44.5  | 111.1 | 54.0 | 52.4 | 52.4 | 36.7 | 13.5 | *   | 3.2 | 84.8  | 13.3 |
| 38        | 51.0  | 68.1  | 49.2  | 123.8 | 55.5 | 54.8 | 54.0 | 37.8 | 15.1 | 0.8 | 4.0 | 91.4  | 13.3 |
| 40        | 54.2  | 71.4  | 52.4  | 127.0 | 55.5 | 54.8 | 54.0 | 37.8 | 15.1 | 0.8 | 4.0 | 96.7  | 14.3 |
| 43        | 56.9  | 74.1  | 55.1  | 133.4 | 55.5 | 54.8 | 54.0 | 37.8 | 15.1 | 0.8 | 4.0 | 98.4  | 14.3 |
| 45        | 56.9  | 74.1  | 55.1  | 133.4 | 55.5 | 54.8 | 54.0 | 37.8 | 15.1 | 0.8 | 4.0 | 98.4  | 14.3 |
| 48        | 60.5  | 74.1  | 58.7  | 133.4 | 55.5 | 54.8 | 54.0 | 37.8 | 15.1 | 0.8 | 4.0 | 98.4  | 14.3 |
| 50        | 63.7  | 76.6  | 61.9  | 139.7 | 60.3 | 60.3 | 58.7 | 40.7 | 27.0 | 1.6 | 4.7 | 101.6 | 14.3 |
| 53        | 66.9  | 85.3  | 65.1  | 148.8 | 60.3 | 60.3 | 58.7 | 40.7 | 15.1 | 1.6 | 4.7 | 113.5 | 17.4 |
| 55        | 75.0  | 85.3  | 66.7  | 148.8 | 60.3 | 60.3 | 58.7 | 40.7 | 15.1 | 1.6 | 4.7 | 113.5 | 17.4 |
| 58        | 70.0  | 88.5  | 68.2  | 165.1 | 60.3 | 60.3 | 58.7 | 40.7 | 15.1 | 1.6 | 4.7 | 116.0 | 17.4 |
| 60        | 73.2  | 91.7  | 71.4  | 165.1 | 64.2 | 63.1 | 62.6 | 43.6 | 15.9 | 0.5 | 3.6 | 119.9 | 17.4 |
| 63        | *     | 98.8  | 77.8  | 171.5 | 66.7 | 63.1 | 65.1 | 43.6 | 15.9 | *   | 3.2 | 127.0 | 17.4 |
| 65        | *     | 98.8  | 77.8  | 171.5 | 66.7 | 63.1 | 65.1 | 43.6 | 15.9 | *   | 3.2 | 127.0 | 17.4 |
| 68        | *     | 103.2 | 84.1  | 171.5 | 65.1 | 63.1 | 63.5 | 41.3 | 15.9 | *   | 3.2 | 131.3 | 17.4 |
| 70        | *     | 103.2 | 84.1  | 171.5 | 65.1 | 63.1 | 63.5 | 41.3 | 15.9 | *   | 3.2 | 131.3 | 17.4 |
| 75        | *     | 113.5 | 92.1  | 196.9 | 66.7 | 63.1 | 65.1 | 45.4 | 17.4 | 1.3 | 3.2 | 145.3 | 20.6 |
| 80        | 97.9  | 116.8 | 95.3  | 188.9 | 66.9 | 65.1 | 63.8 | 40.5 | *    | *   | 4.5 | 148.4 | 20.6 |
| 85        | 104.8 | 123.2 | 101.6 | 206.4 | 68.3 | 65.1 | 65.1 | 40.5 | *    | *   | 3.2 | 154.5 | 20.6 |
| 90        | 110.3 | 129.5 | 107.1 | 212.7 | 68.3 | 65.1 | 65.1 | 40.5 | *    | *   | 3.2 | 158.8 | 17.4 |
| 95        | 113.5 | 132.1 | 110.3 | 222.3 | 68.3 | 65.1 | 65.1 | 40.5 | *    | *   | 3.2 | 172.0 | 17.4 |
| 100       | 119.8 | 139.7 | 116.7 | 228.6 | 68.3 | 65.1 | 65.1 | 40.5 | *    | *   | 3.2 | 171.7 | 20.6 |
| 105       | 123.0 | 142.9 | 119.8 | 228.6 | 68.3 | 65.1 | 65.1 | 40.5 | *    | *   | 3.2 | 174.9 | 20.6 |
| 110       | 132.5 | 152.4 | 129.4 | 241.3 | 68.3 | 65.1 | 65.1 | 40.5 | *    | *   | 3.2 | 184.4 | 20.6 |
| 115       | 132.5 | 152.4 | 129.4 | 241.3 | 68.3 | 65.1 | 65.1 | 40.5 | *    | *   | 3.2 | 184.4 | 20.6 |
| 120       | 138.9 | 160.4 | 135.7 | 263.5 | 68.3 | 65.1 | 65.1 | 40.5 | *    | *   | 3.2 | 192.4 | 20.6 |
| 125       | 151.6 | 184.4 | 148.4 | 304.8 | 80.5 | 75.0 | 77.3 | 44.4 | *    | *   | 3.2 | 254.0 | 20.6 |
| 130       | 157.9 | 190.8 | 154.8 | 311.2 | 80.5 | 75.0 | 77.3 | 44.4 | *    | *   | 3.2 | 260.0 | 20.6 |
| 135       | 164.3 | 203.2 | 161.1 | 322.3 | 80.5 | 75.0 | 77.3 | 44.4 | *    | *   | 3.2 | 265.7 | 23.8 |
| 140       | 164.3 | 203.2 | 161.1 | 322.3 | 80.5 | 75   | 77.3 | 44.4 | *    | *   | 3.2 | 265.7 | 23.8 |



Type: Single Cartridge Seal  
 Replacement: Crane 5610Q  
 Temperature: -50°C to +204°C  
 Pressure:  $\leq 2.0\text{Mpa}$   
 Speed:  $\leq 23\text{m/s}$   
 Material: B,A,Q1,Q2,T,V,K,F,G,M

| d<br>(mm) | D1    |       | D2    | D3    | L    | L1   | L2   | L3   | L4   | L5   | L6   | Dm    | S    |
|-----------|-------|-------|-------|-------|------|------|------|------|------|------|------|-------|------|
|           | min   | max   |       |       |      |      |      |      |      |      |      |       |      |
| 24        | 41.3  | 48.0  | 39.7  | 101.6 | 50.8 | 65.4 | 49.6 | 34.4 | 13.5 | 15.8 | 18.9 | 71.2  | 13.3 |
| 25        | 41.3  | 48.0  | 39.7  | 101.6 | 50.8 | 65.4 | 49.6 | 34.4 | 13.5 | 15.8 | 18.9 | 71.2  | 13.3 |
| 28        | 44.5  | 51.2  | 42.9  | 104.8 | 54.0 | 67.3 | 52.4 | 36.7 | 13.5 | 15.0 | 18.1 | 74.5  | 13.3 |
| 30        | 46.1  | 56.5  | 44.5  | 108.0 | 54.0 | 65.1 | 52.4 | 36.7 | 13.5 | 12.7 | 15.9 | 79.9  | 13.3 |
| 32        | 47.6  | 58.3  | 46.0  | 108.0 | 54.0 | 69.3 | 52.4 | 36.7 | 13.5 | 16.9 | 20.1 | 81.6  | 13.3 |
| 33        | 50.8  | 61.5  | 49.3  | 111.1 | 54.0 | 69.3 | 52.4 | 36.7 | 13.5 | 16.9 | 20.1 | 84.8  | 13.3 |
| 35        | 50.8  | 61.5  | 49.3  | 111.1 | 54.0 | 69.3 | 52.4 | 36.7 | 13.5 | 16.9 | 20.1 | 84.8  | 13.3 |
| 38        | 57.2  | 68.1  | 55.5  | 123.8 | 55.5 | 69.7 | 54.0 | 37.8 | 15.1 | 15.7 | 18.9 | 91.4  | 13.3 |
| 40        | 60.3  | 71.4  | 58.7  | 127.0 | 55.5 | 69.7 | 54.0 | 37.8 | 15.1 | 15.7 | 18.9 | 95.7  | 14.3 |
| 43        | 63.0  | 74.1  | 61.1  | 133.4 | 55.5 | 69.7 | 54.0 | 37.8 | 15.1 | 15.7 | 18.9 | 98.4  | 14.3 |
| 45        | 63.0  | 74.1  | 61.1  | 133.4 | 55.5 | 69.7 | 54.0 | 37.8 | 15.1 | 15.7 | 18.9 | 98.4  | 14.3 |
| 48        | 66.7  | 74.1  | 64.7  | 133.4 | 55.5 | 69.7 | 54.0 | 37.8 | 15.1 | 15.7 | 18.9 | 98.4  | 14.3 |
| 50        | 70.0  | 76.6  | 67.9  | 139.7 | 60.3 | 75.3 | 58.7 | 40.7 | 27   | 16.5 | 19.7 | 101.6 | 14.3 |
| 53        | 73.0  | 85.3  | 71.1  | 148.8 | 60.3 | 75.3 | 58.7 | 40.7 | 15.1 | 16.5 | 19.7 | 113.5 | 17.4 |
| 55        | 75.0  | 85.3  | 72.9  | 148.8 | 60.3 | 75.3 | 58.7 | 40.7 | 15.1 | 16.5 | 19.7 | 113.5 | 17.4 |
| 58        | 76.2  | 88.5  | 74.2  | 165.1 | 60.3 | 75.3 | 58.7 | 40.7 | 15.1 | 16.5 | 19.7 | 116   | 17.4 |
| 60        | 79.4  | 91.7  | 77.4  | 165.1 | 64.2 | 77.8 | 62.6 | 43.6 | 15.9 | 15.2 | 18.3 | 119.9 | 17.4 |
| 63        | 85.7  | 98.8  | 83.8  | 171.5 | 66.7 | 75.7 | 65.1 | 43.6 | 15.9 | 10.6 | 13.8 | 127   | 17.4 |
| 65        | 85.7  | 98.8  | 83.8  | 171.5 | 66.7 | 75.7 | 65.1 | 43.6 | 15.9 | 10.6 | 13.8 | 127.0 | 17.4 |
| 68        | 92.1  | 103.2 | 90.2  | 171.5 | 65.1 | 78.4 | 63.5 | 41.3 | 15.9 | 14.9 | 18.1 | 131.3 | 17.4 |
| 70        | 92.1  | 103.2 | 90.2  | 171.5 | 65.1 | 78.4 | 63.5 | 41.3 | 15.9 | 14.9 | 18.1 | 131.3 | 17.4 |
| 75        | 99.9  | 113.5 | 98.1  | 196.9 | 66.7 | 78.4 | 65.1 | 45.4 | 17.4 | 13.4 | 16.5 | 145.3 | 20.6 |
| 80        | 104.8 | 116.8 | 102.2 | 188.9 | 66.9 | 80.2 | 63.8 | 40.5 | *    | 14.8 | 18   | 148.5 | 20.6 |
| 85        | 111.1 | 123.2 | 107.9 | 206.4 | 68.3 | 80.2 | 65.1 | 40.5 | *    | 15.1 | 18.3 | 154.8 | 20.6 |
| 90        | 117.5 | 129.5 | 114.3 | 212.7 | 68.3 | 80.2 | 65.1 | 40.5 | *    | 15.1 | 18.3 | 158.8 | 17.4 |
| 95        | 120.0 | 132.1 | 117.5 | 222.3 | 68.3 | 80.2 | 65.1 | 40.5 | *    | 15.1 | 18.3 | 172.0 | 17.4 |
| 100       | 127.0 | 139.7 | 123.8 | 228.6 | 68.3 | 80.2 | 65.1 | 40.5 | *    | 15.1 | 18.3 | 171.7 | 20.6 |
| 105       | 130.2 | 142.9 | 127   | 228.6 | 68.3 | 80.2 | 65.1 | 40.5 | *    | 15.1 | 18.3 | 174.9 | 20.6 |
| 110       | 139.7 | 152.4 | 136.5 | 241.3 | 68.3 | 80.2 | 65.1 | 40.5 | *    | 15.1 | 18.3 | 184.4 | 20.6 |
| 115       | 139.7 | 152.4 | 136.5 | 241.3 | 68.3 | 80.2 | 65.1 | 40.5 | *    | 15.1 | 18.3 | 184.4 | 20.6 |
| 120       | 146.1 | 160.4 | 142.9 | 263.5 | 68.3 | 80.2 | 65.1 | 40.5 | *    | 15.1 | 18.3 | 192.4 | 20.6 |
| 125       | 158.8 | 184.4 | 155.6 | 304.8 | 80.5 | 91.7 | 77.3 | 91.4 | *    | 14.4 | 17.6 | 254   | 20.6 |
| 130       | 165.1 | 190.8 | 161.9 | 311.2 | 80.5 | 91.7 | 77.3 | 91.4 | *    | 14.4 | 17.6 | 260.0 | 20.6 |
| 135       | 171.5 | 203.2 | 168.3 | 322.3 | 80.5 | 91.7 | 77.3 | 91.4 | *    | 14.4 | 17.6 | 266.7 | 23.8 |
| 140       | 171.5 | 203.2 | 168.3 | 322.3 | 80.5 | 91.7 | 77.3 | 91.4 | *    | 14.4 | 17.6 | 266.7 | 23.8 |

Type: Single Cartridge Seal  
 Replacement: Crane 5611  
 Temperature: -30°C to +205°C  
 Pressure:  $\leq 2.8\text{Mpa}$   
 Speed:  $\leq 25\text{m/s}$   
 Material: Q1,Q2,U2,T,V,M1,F,G,M



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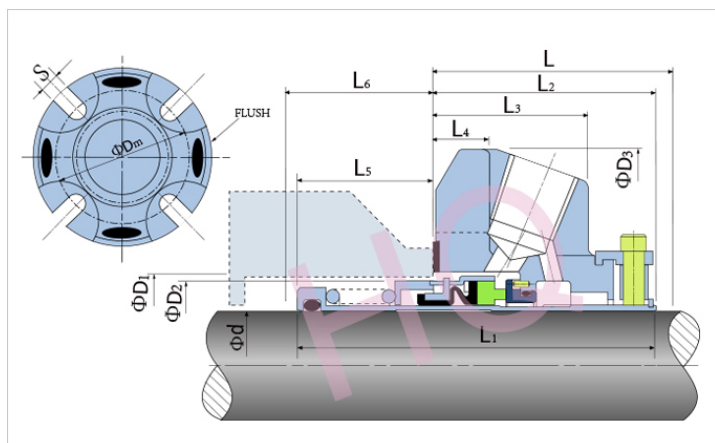


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| d<br>(mm) | D1    |       | D2    | D3    | L    | L1    | L2   | L3   | L4   | L5   | L6   | S    | Dm    |
|-----------|-------|-------|-------|-------|------|-------|------|------|------|------|------|------|-------|
|           | min   | max   |       |       |      |       |      |      |      |      |      |      |       |
| 25        | 38.1  | 48.0  | 34.9  | 101.6 | 50.8 | 69.6  | 49.6 | 34.4 | 13.5 | 20.0 | 23.1 | 13.3 | 71.2  |
| 28        | 41.3  | 51.2  | 38.1  | 104.8 | 54.0 | 65.9  | 52.4 | 36.7 | 13.5 | 13.5 | 16.7 | 13.3 | 74.5  |
| 30        | 46.0  | 56.5  | 42.8  | 108.0 | 54.0 | 69.0  | 52.4 | 36.7 | 13.5 | 16.7 | 19.8 | 13.3 | 81.6  |
| 32        | 46.0  | 58.3  | 42.8  | 108.0 | 54.0 | 69.0  | 52.4 | 36.7 | 13.5 | 16.7 | 19.8 | 13.3 | 81.6  |
| 33        | 49.2  | 61.5  | 46.0  | 111.1 | 54.0 | 66.7  | 52.4 | 36.7 | 13.5 | 14.3 | 17.5 | 13.3 | 84.8  |
| 35        | 49.2  | 61.5  | 46.0  | 111.8 | 54.0 | 66.7  | 52.4 | 36.7 | 13.5 | 14.3 | 17.5 | 13.3 | 84.8  |
| 38        | 54.0  | 68.1  | 50.8  | 123.8 | 55.6 | 75.2  | 54.0 | 37.8 | 15.1 | 21.2 | 24.4 | 13.3 | 91.4  |
| 40        | 57.2  | 71.4  | 54.0  | 127   | 55.6 | 76.8  | 54.0 | 37.8 | 15.1 | 22.8 | 26   | 14.3 | 95.7  |
| 43        | 60.3  | 74.1  | 57.2  | 133.4 | 55.6 | 77.2  | 54.0 | 37.8 | 15.1 | 23.2 | 26.4 | 14.3 | 98.4  |
| 45        | 60.3  | 74.1  | 57.2  | 133.4 | 55.6 | 77.2  | 54.0 | 37.8 | 15.1 | 23.2 | 26.4 | 14.3 | 98.4  |
| 48        | 63.5  | 74.1  | 60.3  | 133.4 | 55.6 | 77.2  | 54.0 | 37.8 | 15.1 | 23.2 | 26.4 | 14.3 | 98.4  |
| 50        | 69.9  | 76.6  | 68.2  | 139.7 | 60.3 | 87.7  | 58.7 | 40.7 | 15.1 | 29.0 | 32.2 | 14.3 | 101.6 |
| 53        | 73.0  | 85.3  | 71.4  | 148.8 | 60.3 | 87.7  | 58.7 | 40.7 | 15.1 | 29.0 | 32.2 | 17.4 | 113.5 |
| 55        | 73.0  | 85.3  | 69.9  | 148.8 | 60.3 | 90.9  | 58.7 | 40.7 | 15.1 | 32.2 | 35.4 | 17.4 | 113.5 |
| 58        | 75.0  | 88.5  | 69.7  | 165.1 | 60.3 | 90.9  | 58.7 | 40.7 | 15.1 | 32.2 | 35.4 | 17.4 | 116   |
| 60        | 79.4  | 91.7  | 77.8  | 165.1 | 64.2 | 88.1  | 62.6 | 43.6 | 15.9 | 25.5 | 35.4 | 17.4 | 119.9 |
| 63        | 85.7  | 98.8  | 82.6  | 171.5 | 66.7 | 97.3  | 65.1 | 43.6 | 15.9 | 32.2 | 35.4 | 17.4 | 127.0 |
| 65        | 85.7  | 98.8  | 82.6  | 171.5 | 66.7 | 97.3  | 65.1 | 43.6 | 15.9 | 32.2 | 35.4 | 17.4 | 127.0 |
| 68        | 92.1  | 103.2 | 88.9  | 171.5 | 65.1 | 101   | 63.5 | 41.2 | 15.9 | 37.5 | 40.7 | 17.4 | 131.3 |
| 70        | 92.1  | 103.2 | 88.9  | 171.5 | 65.1 | 101   | 63.5 | 41.2 | 15.9 | 37.5 | 40.7 | 17.4 | 131.3 |
| 75        | 101.6 | 113.5 | 100   | 196.9 | 66.7 | 106   | 65.1 | 45.4 | 17.4 | 40.9 | 44.1 | 20.6 | 145.3 |
| 80        | 104.8 | 116.8 | 103.2 | 188.9 | 66.9 | 106.4 | 63.8 | 40.5 | *    | 42.6 | 45.8 | 20.6 | 148.5 |
| 85        | 111.8 | 123.2 | 109.5 | 206.4 | 68.3 | 111.1 | 65.1 | 40.5 | *    | 46.1 | 49.2 | 20.6 | 154.8 |
| 90        | 117.5 | 129.5 | 115.9 | 212.7 | 68.3 | 117.5 | 65.1 | 40.5 | *    | 52.4 | 55.6 | 17.4 | 158.8 |
| 95        | 120.0 | 132.1 | 117.7 | 222.3 | 68.3 | 112.7 | 65.1 | 40.5 | *    | 47.6 | 50.8 | 17.4 | 172.0 |
| 100       | 127.8 | 139.7 | 125.4 | 228.6 | 68.3 | 122.2 | 65.1 | 40.5 | *    | 57.2 | 60.3 | 20.6 | 171.7 |
| 125       | 167.5 | 184.4 | 165.1 | 304.8 | 80.5 | 164.0 | 77.2 | 44.4 | *    | 68.8 | 71.9 | 20.6 | 154   |

# HQCS-J26(5611Q)

Type: Single Cartridge Seal  
 Replacement: Crane 5611Q  
 Temperature:  $-30^{\circ}\text{C}$  to  $+205^{\circ}\text{C}$   
 Pressure:  $\leq 2.8\text{Mpa}$   
 Speed:  $\leq 25\text{m/s}$   
 Material: Q1,Q2,U2,T,V,M1,F,G,M



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| d<br>(mm) | D1    |       | D2    | D3    | L    | L1    | L2   | L3   | L4   | L5   | L6   | Dm   | S     |
|-----------|-------|-------|-------|-------|------|-------|------|------|------|------|------|------|-------|
|           | min   | max   |       |       |      |       |      |      |      |      |      |      |       |
| 25        | 41.3  | 48.0  | 39.7  | 101.6 | 50.8 | 84.5  | 49.6 | 34.4 | 13.5 | 34.9 | 38.0 | 13.3 | 71.2  |
| 28        | 44.5  | 51.2  | 42.9  | 104.8 | 54.0 | 80.8  | 52.4 | 36.7 | 13.5 | 28.5 | 31.6 | 13.3 | 74.5  |
| 30        | 46.1  | 56.5  | 44.5  | 108.0 | 54.0 | 81.7  | 52.4 | 36.7 | 13.5 | 29.4 | 32.5 | 13.3 | 81.6  |
| 32        | 47.6  | 58.3  | 45.0  | 108.0 | 54.0 | 86.1  | 52.4 | 36.7 | 13.5 | 33.7 | 36.9 | 13.3 | 81.6  |
| 33        | 50.8  | 61.5  | 49.2  | 111.1 | 54.0 | 83.6  | 52.4 | 36.7 | 13.5 | 31.2 | 34.4 | 13.3 | 84.8  |
| 35        | 50.8  | 61.5  | 49.2  | 111.8 | 54.0 | 83.6  | 52.4 | 36.7 | 13.5 | 31.2 | 34.4 | 13.3 | 84.8  |
| 38        | 56.3  | 68.1  | 54.8  | 123.8 | 55.6 | 90.1  | 54.0 | 37.8 | 15.1 | 36.1 | 39.3 | 13.3 | 91.4  |
| 40        | 59.5  | 71.4  | 57.9  | 127   | 55.6 | 91.7  | 54.0 | 37.8 | 15.1 | 37.7 | 40.9 | 14.3 | 95.7  |
| 43        | 63.0  | 74.1  | 61.1  | 133.4 | 55.6 | 92.1  | 54.0 | 37.8 | 15.1 | 38.1 | 41.3 | 14.3 | 98.4  |
| 45        | 63.0  | 74.1  | 61.1  | 133.4 | 55.6 | 92.1  | 54.0 | 37.8 | 15.1 | 38.1 | 41.3 | 14.3 | 98.4  |
| 48        | 66.7  | 74.1  | 64.3  | 133.4 | 55.6 | 92.1  | 54.0 | 37.8 | 15.1 | 38.1 | 41.3 | 14.3 | 98.4  |
| 50        | 70.0  | 76.6  | 68.2  | 139.7 | 60.3 | 102.7 | 58.7 | 40.7 | 15.1 | 43.9 | 47.1 | 14.3 | 101.6 |
| 53        | 73.0  | 85.3  | 71.4  | 148.8 | 60.3 | 102.7 | 58.7 | 40.7 | 15.1 | 43.9 | 47.1 | 17.4 | 113.5 |
| 55        | 76.7  | 85.3  | 74.6  | 148.8 | 60.3 | 105.8 | 58.7 | 40.7 | 15.1 | 47.1 | 50.3 | 17.4 | 113.5 |
| 58        | 76.2  | 88.5  | 74.6  | 165.1 | 60.3 | 105.8 | 58.7 | 40.7 | 15.1 | 47.1 | 50.3 | 17.4 | 116.0 |
| 60        | 79.4  | 91.7  | 77.8  | 165.1 | 64.2 | 103.2 | 62.6 | 43.6 | 15.9 | 40.5 | 43.7 | 17.4 | 119.9 |
| 63        | 85.7  | 98.8  | 82.6  | 171.5 | 66.7 | 109.9 | 65.1 | 43.6 | 15.9 | 44.8 | 48.0 | 17.4 | 127.0 |
| 65        | 85.7  | 98.8  | 82.6  | 171.5 | 66.7 | 109.9 | 65.1 | 43.6 | 15.9 | 44.8 | 48.0 | 17.4 | 127.0 |
| 68        | 92.1  | 103.2 | 88.9  | 171.5 | 65.1 | 116   | 63.5 | 41.2 | 15.9 | 52.5 | 55.7 | 17.4 | 131.3 |
| 70        | 92.1  | 103.2 | 88.9  | 171.5 | 65.1 | 116   | 63.5 | 41.2 | 15.9 | 52.5 | 55.7 | 17.4 | 131.3 |
| 75        | 101.6 | 113.5 | 100   | 196.9 | 66.7 | 120.7 | 65.1 | 45.4 | 17.4 | 55.6 | 58.8 | 20.6 | 145.3 |
| 80        | 104.8 | 116.8 | 103.2 | 188.9 | 66.9 | 119.8 | 63.8 | 40.5 | *    | 56.1 | 59.3 | 20.6 | 148.5 |
| 85        | 111.1 | 123.2 | 109.5 | 206.4 | 68.3 | 126.2 | 65.1 | 40.5 | *    | 61.1 | 64.3 | 20.6 | 154.8 |
| 90        | 117.5 | 129.5 | 115.9 | 212.7 | 68.3 | 132.5 | 65.1 | 40.5 | *    | 67.5 | 70.6 | 17.4 | 158.8 |
| 95        | 121.4 | 132.1 | 119.1 | 222.3 | 68.3 | 127.8 | 65.1 | 40.5 | *    | 62.7 | 65.9 | 17.4 | 172.0 |
| 100       | 129.9 | 139.7 | 127.5 | 228.6 | 68.3 | 137.3 | 65.1 | 40.5 | *    | 72.2 | 75.4 | 20.6 | 171.7 |
| 125       | 167.5 | 184.4 | 165.1 | 304.8 | 80.5 | 162.7 | 77.2 | 44.4 | *    | 88.4 | 88.5 | 20.6 | 154.0 |

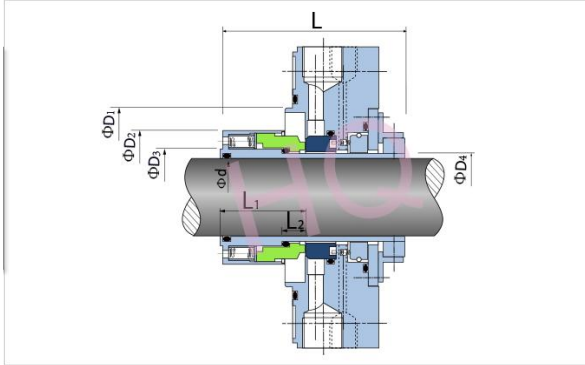
# HQCS-J27(48LP/48HP/48MP)

Type: Single Cartridge Seal Crane  
 Replacemnent: 48LP/48HP/48MP  
 Temperature: -40 to +200 °C

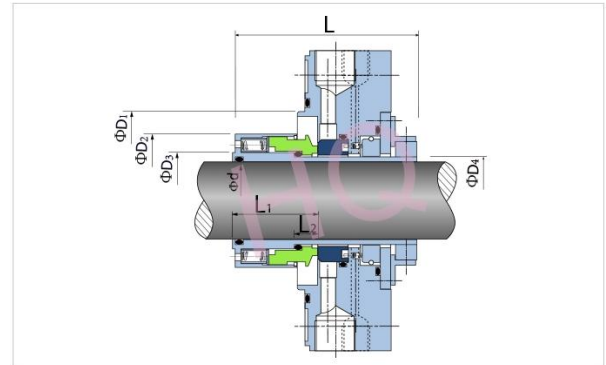
Pressure:  $\leq 15\text{m/s}$   
 Speed:  $\leq 20\text{Mpa}$   
 Material: Q1,Q2,U2,T,V,M1,F,G,M



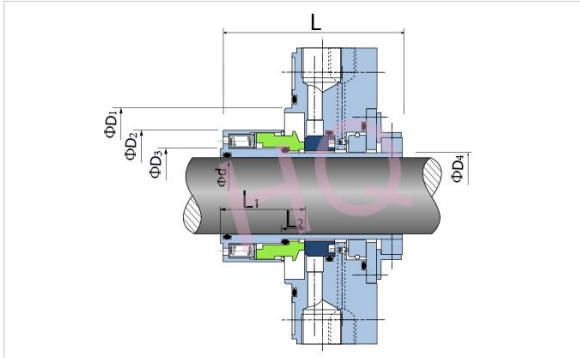
48LP



48HP



48MP



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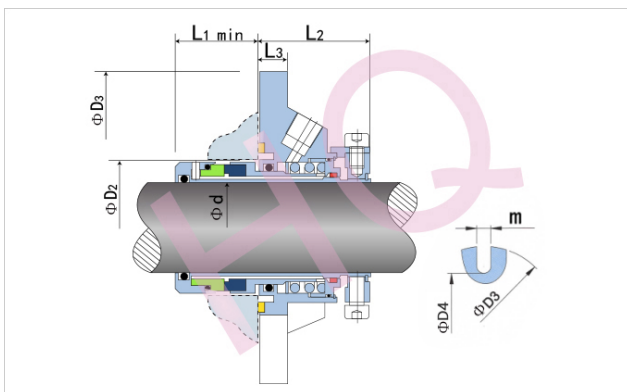
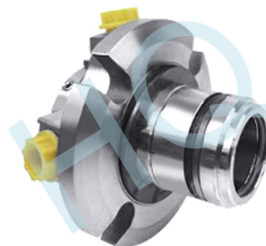
[hq@hqseal.com](mailto:hq@hqseal.com)

| d<br>(inch) | D1<br>(min) | D2    | D3    | D4    | L     | L1    | L2    |
|-------------|-------------|-------|-------|-------|-------|-------|-------|
| 1.000       | 2.500       | 2.125 | 1.500 | 1.250 | 3.687 | 1.437 | 0.343 |
| 1.125       | 2.750       | 2.375 | 1.625 | 1.375 | 4.000 | 1.750 | 0.437 |
| 1.250       | 2.875       | 2.500 | 1.750 | 1.500 | 4.000 | 1.750 | 0.437 |
| 1.375       | 3.000       | 2.625 | 1.875 | 1.625 | 4.062 | 1.750 | 0.437 |
| 1.500       | 3.125       | 2.750 | 2.00  | 1.750 | 4.062 | 1.750 | 0.437 |
| 1.625       | 3.375       | 3.000 | 2.125 | 1.875 | 4.375 | 2.062 | 0.500 |
| 1.750       | 3.500       | 3.125 | 2.250 | 2.000 | 4.375 | 2.062 | 0.500 |
| 1.875       | 3.625       | 3.250 | 2.375 | 2.125 | 4.437 | 2.062 | 0.500 |
| 2.000       | 3.750       | 3.375 | 2.500 | 2.250 | 4.437 | 2.062 | 0.500 |
| 2.125       | 3.875       | 3.500 | 2.625 | 2.375 | 4.437 | 2.062 | 0.500 |
| 2.250       | 4.000       | 3.625 | 2.750 | 2.500 | 4.437 | 2.062 | 0.500 |
| 2.375       | 4.125       | 3.750 | 2.875 | 2.625 | 4.500 | 2.062 | 0.500 |
| 2.500       | 4.187       | 3.812 | 3.000 | 2.750 | 4.500 | 2.062 | 0.500 |
| 2.625       | 4.312       | 3.937 | 3.125 | 2.875 | 4.500 | 2.062 | 0.562 |
| 2.750       | 4.500       | 4.125 | 3.250 | 3.000 | 4.500 | 2.062 | 0.562 |
| 2.875       | 4.625       | 4.250 | 3.375 | 3.125 | 4.656 | 2.062 | 0.562 |
| 3.000       | 4.750       | 4.375 | 3.500 | 3.250 | 4.656 | 2.062 | 0.562 |
| 3.125       | 4.875       | 4.500 | 3.625 | 3.375 | 4.656 | 2.062 | 0.562 |
| 3.250       | 5.000       | 4.625 | 3.750 | 3.500 | 4.656 | 2.062 | 0.562 |
| 3.375       | 5.125       | 4.750 | 3.875 | 3.625 | 4.656 | 2.062 | 0.562 |
| 3.500       | 5.250       | 4.875 | 4.000 | 3.750 | 4.656 | 2.062 | 0.562 |
| 3.625       | 5.500       | 5.125 | 4.125 | 3.875 | 4.656 | 2.062 | 0.562 |
| 3.750       | 5.625       | 5.250 | 4.250 | 4.000 | 4.656 | 2.062 | 0.562 |
| 3.875       | 5.750       | 5.375 | 4.375 | 4.125 | 4.656 | 2.062 | 0.562 |
| 4.000       | 5.875       | 5.500 | 4.500 | 4.250 | 4.656 | 2.062 | 0.562 |



# HQCS-J37(FFET)

Type: Single Cartridge O-Ring Seal  
 Replacement: Crane FFET  
 Temperature: -40 to +205°C  
 Pressure:  $\leq 2.5\text{Mpa}$   
 Speed:  $\leq 25\text{m/s}$   
 Material: Q1,Q2,U2,T,V,M1,F,G,M



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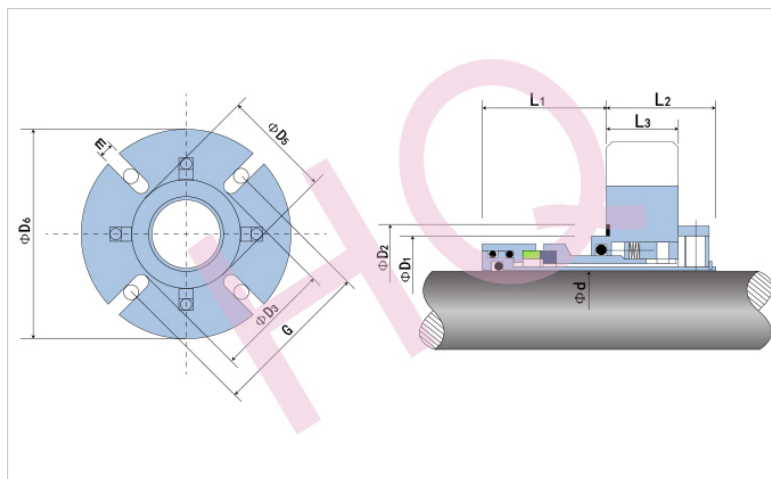
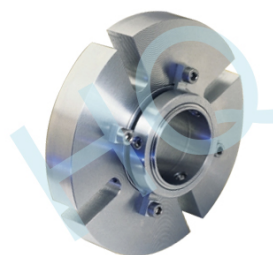


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| d<br>(mm) | D2    |       | D3  | D4    | L1 | L2   | L3 | m     |
|-----------|-------|-------|-----|-------|----|------|----|-------|
|           | min   | max   |     |       |    |      |    |       |
| 25        | 41.0  | 47.5  | 112 | 58.0  | 38 | 48.0 | 12 | 9.53  |
| 28        | 44.0  | 50.5  | 116 | 58.0  | 38 | 48.0 | 12 | 9.53  |
| 30        | 46.0  | 52.5  | 117 | 58.0  | 38 | 48.0 | 12 | 9.53  |
| 32        | 48.0  | 54.5  | 119 | 58.0  | 38 | 48.0 | 12 | 9.53  |
| 33        | 51.0  | 57.5  | 122 | 58.0  | 38 | 48.0 | 12 | 9.53  |
| 35        | 51.0  | 57.5  | 122 | 58.0  | 38 | 48.0 | 12 | 9.53  |
| 38        | 57.0  | 63.5  | 128 | 74.0  | 40 | 48.0 | 12 | 9.53  |
| 40        | 60.0  | 66.5  | 136 | 76.5  | 40 | 48.0 | 12 | 12.70 |
| 43        | 63.5  | 70.0  | 140 | 81.0  | 40 | 48.0 | 12 | 12.70 |
| 45        | 63.5  | 70.0  | 140 | 81.0  | 40 | 48.0 | 12 | 12.70 |
| 48        | 66.8  | 73.0  | 145 | 74.0  | 40 | 50.0 | 13 | 12.70 |
| 50        | 70.0  | 76.5  | 150 | 87.0  | 40 | 50.0 | 13 | 12.70 |
| 53        | 73.0  | 79.5  | 155 | 91.0  | 40 | 50.0 | 13 | 12.70 |
| 55        | 73.0  | 79.5  | 155 | 91.0  | 40 | 50.0 | 13 | 12.70 |
| 60        | 79.4  | 85.5  | 165 | 98.5  | 40 | 50.0 | 13 | 12.70 |
| 65        | 90.0  | 96.5  | 190 | 111.0 | 46 | 57.0 | 13 | 15.87 |
| 70        | 95.0  | 101.4 | 200 | 118.5 | 46 | 57.0 | 13 | 15.87 |
| 75        | 101.6 | 108.0 | 205 | 125.0 | 46 | 57.0 | 13 | 15.87 |
| 80        | 108.0 | 114.5 | 210 | 131.5 | 46 | 57.0 | 13 | 15.87 |
| 85        | 111.0 | 124.0 | 240 | 138.0 | 48 | 60.5 | 13 | 15.87 |
| 90        | 117.5 | 131.0 | 275 | 146.0 | 48 | 62.5 | 13 | 19.05 |
| 95        | 120.5 | 131.0 | 275 | 146.0 | 48 | 62.5 | 16 | 19.05 |
| 100       | 127.0 | 136.0 | 280 | 152.0 | 48 | 62.5 | 16 | 19.05 |

# HQCS-J33(SB1)

Type: Single Cartridge Seal  
 Replacement: Crane SB1  
 Temperature: -40 to +220°C  
 Pressure:  $\leq 2.5\text{Mpa}$   
 Speed:  $\leq 20\text{m/s}$   
 Material: Q1,Q2,U2,T,V,M1,F,G,M



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| d<br>(mm) | D1  | D2  | D3  | D5  | D6  | G<br>(mm) | L1 | L2 | L3 | m  |
|-----------|-----|-----|-----|-----|-----|-----------|----|----|----|----|
| 35        | 51  | 67  | 67  | 55  | 130 | 91        | 42 | 44 | 25 | 13 |
| 38        | 58  | 75  | 75  | 65  | 130 | 98        | 42 | 44 | 25 | 13 |
| 40        | 60  | 76  | 76  | 66  | 130 | 98        | 42 | 44 | 25 | 13 |
| 43        | 65  | 78  | 78  | 70  | 140 | 101       | 42 | 44 | 25 | 13 |
| 45        | 65  | 81  | 81  | 68  | 140 | 105       | 42 | 44 | 25 | 13 |
| 48        | 68  | 84  | 84  | 73  | 140 | 105       | 42 | 44 | 25 | 13 |
| 50        | 70  | 86  | 86  | 73  | 160 | 111       | 42 | 44 | 25 | 13 |
| 53        | 75  | 91  | 91  | 80  | 160 | 111       | 42 | 44 | 25 | 13 |
| 55        | 75  | 91  | 91  | 80  | 160 | 111       | 42 | 44 | 25 | 13 |
| 58        | 83  | 97  | 97  | 85  | 160 | 111       | 42 | 44 | 25 | 13 |
| 60        | 85  | 97  | 97  | 87  | 160 | 123       | 42 | 44 | 25 | 13 |
| 63        | 90  | 100 | 100 | 92  | 160 | 127       | 47 | 51 | 30 | 17 |
| 65        | 90  | 105 | 105 | 92  | 160 | 127       | 47 | 51 | 30 | 17 |
| 68        | 95  | 112 | 112 | 95  | 210 | 127       | 47 | 51 | 30 | 17 |
| 70        | 95  | 112 | 112 | 99  | 210 | 155       | 47 | 51 | 30 | 17 |
| 75        | 104 | 115 | 115 | 106 | 210 | 155       | 54 | 51 | 30 | 17 |
| 80        | 109 | 122 | 122 | 111 | 210 | 155       | 54 | 51 | 30 | 17 |
| 85        | 114 | 127 | 127 | 116 | 210 | 165       | 54 | 51 | 30 | 17 |
| 90        | 124 | 132 | 132 | 117 | 210 | 165       | 54 | 51 | 30 | 17 |
| 95        | 124 | 138 | 138 | 126 | 210 | 165       | 54 | 51 | 30 | 17 |
| 100       | 129 | 148 | 148 | 131 | 220 | 175       | 54 | 51 | 30 | 17 |
| 105       | 135 | 160 | 160 | 134 | 220 | 175       | 54 | 51 | 30 | 17 |

# HQCS-J35(SB1A)

Type: Single Cartridge Seal

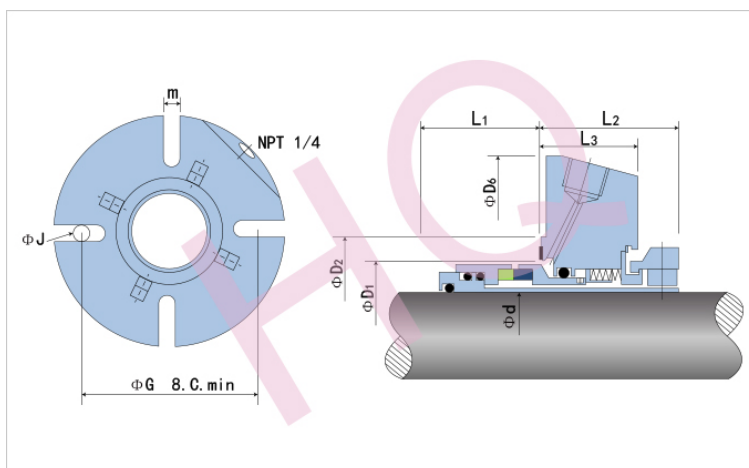
Replacement: Crane SB1A

Temperature: -40 to +220°C

Pressure:  $\leq 2.5\text{Mpa}$

Speed:  $\leq 20\text{m/s}$

Material: Q1,Q2,U2,T,V,M1,F,G,M



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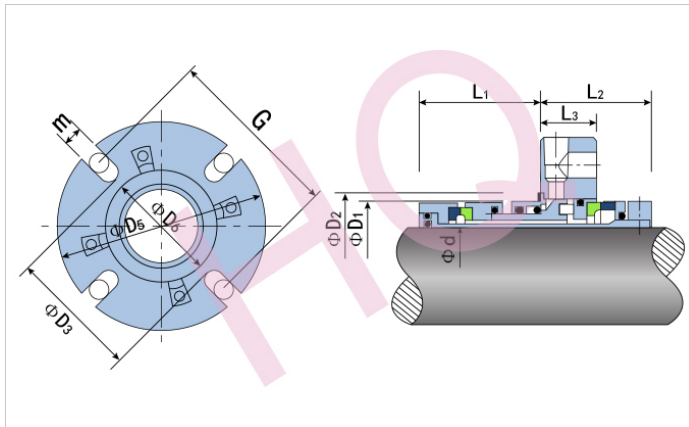
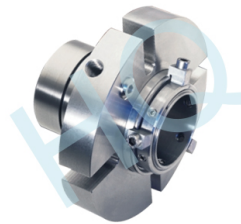


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| d<br>(mm) | D1    |      | D2   | D6    | G    |      | L1   | L2   | L3   | m    |
|-----------|-------|------|------|-------|------|------|------|------|------|------|
|           | min   | max  |      |       | J3/8 | J1/2 |      |      |      |      |
| 1.000     | 1.625 | 2.00 | 2.39 | 3.78  | 2.77 | 2.90 | 1.25 | 1.84 | 1.27 | 0.55 |
| 1.125     | 1.750 | 2.09 | 2.52 | 3.94  | 2.91 | 3.03 | 1.25 | 1.84 | 1.27 | 0.55 |
| 1.250     | 1.875 | 2.24 | 2.63 | 4.13  | 3.01 | 3.13 | 1.28 | 1.84 | 1.27 | 0.55 |
| 1.375     | 2.000 | 2.32 | 2.76 | 4.33  | 3.15 | 3.27 | 1.28 | 1.84 | 1.27 | 0.55 |
| 1.500     | 2.125 | 2.45 | 2.88 | 4.49  | 3.26 | 3.38 | 1.28 | 1.84 | 1.27 | 0.55 |
| 1.625     | 2.375 | 2.68 | 3.11 | 4.96  | 3.49 | 3.61 | 1.33 | 1.84 | 1.27 | 0.55 |
| 1.750     | 2.500 | 2.87 | 3.23 | 5.47  | 3.6  | 3.73 | 1.33 | 1.84 | 1.31 | 0.55 |
| 1.875     | 2.625 | 2.91 | 3.35 | 5.47  | 3.73 | 3.85 | 1.33 | 1.84 | 1.31 | 0.55 |
| 2.000     | 2.750 | 3.19 | 3.46 | 5.51  | 3.86 | 3.98 | 1.33 | 1.84 | 1.31 | 0.55 |
| 2.125     | 2.875 | 3.27 | 3.58 | 5.98  | 3.96 | 4.09 | 1.33 | 1.84 | 1.31 | 0.71 |
| 2.250     | 3.000 | 3.40 | 3.71 | 6.10  | 4.09 | 4.21 | 1.33 | 1.84 | 1.31 | 0.71 |
| 2.375     | 3.125 | 3.50 | 3.9  | 6.30  | 4.28 | 4.40 | 1.33 | 1.84 | 1.31 | 0.71 |
| 2.500     | 3.250 | 3.69 | 4.01 | 6.38  | 4.41 | 4.52 | 1.33 | 1.84 | 1.31 | 0.71 |
| 2.625     | 3.375 | 3.75 | 4.13 | 6.38  | 4.51 | 4.65 | 1.33 | 1.84 | 1.31 | 0.71 |
| 2.750     | 3.750 | 4.14 | 4.84 | 7.95  | 5.30 | 5.42 | 1.33 | 1.84 | 1.31 | 0.71 |
| 2.875     | 3.875 | 4.25 | 4.61 | 7.95  | 4.99 | 5.11 | 1.33 | 1.84 | 1.31 | 0.71 |
| 3.000     | 4.000 | 4.41 | 4.73 | 7.95  | 5.11 | 5.23 | 1.33 | 1.84 | 1.31 | 0.71 |
| 3.125     | 4.125 | 4.50 | 4.84 | 8.25  | 5.22 | 5.34 | 1.33 | 1.84 | 1.31 | 0.71 |
| 3.250     | 4.250 | 4.68 | 4.98 | 8.27  | 5.36 | 5.48 | 1.33 | 1.84 | 1.31 | 0.71 |
| 3.375     | 4.375 | 4.76 | 5.08 | 8.46  | 5.46 | 5.58 | 1.33 | 1.84 | 1.31 | 0.71 |
| 3.500     | 4.500 | 4.85 | 5.24 | 8.47  | 5.62 | 5.74 | 1.33 | 1.84 | 1.31 | 0.71 |
| 3.625     | 4.625 | 4.96 | 5.35 | 8.61  | 5.73 | 5.85 | 1.33 | 1.84 | 1.31 | 0.9  |
| 3.750     | 4.750 | 5.14 | 5.46 | 8.74  | 5.84 | 5.96 | 1.33 | 1.84 | 1.31 | 0.9  |
| 3.875     | 4.875 | 5.21 | 5.60 | 8.87  | 5.98 | 6.10 | 1.33 | 1.84 | 1.31 | 0.9  |
| 4.000     | 5.000 | 5.58 | 5.98 | 9.00  | 6.36 | 6.48 | 1.23 | 2.17 | 1.53 | 0.9  |
| 4.125     | 5.125 | 5.71 | 6.10 | 9.00  | 6.48 | 6.60 | 1.23 | 2.17 | 1.53 | 0.9  |
| 4.250     | 5.250 | 5.83 | 6.22 | 9.10  | 6.60 | 6.72 | 1.23 | 2.17 | 1.53 | 0.9  |
| 4.375     | 5.375 | 5.97 | 6.36 | 9.23  | 6.74 | 6.86 | 1.23 | 2.17 | 1.53 | 0.9  |
| 4.500     | 5.500 | 6.09 | 6.48 | 9.50  | 6.86 | 6.98 | 1.23 | 2.17 | 1.53 | 0.9  |
| 4.625     | 5.625 | 6.22 | 6.61 | 9.50  | 6.99 | 7.11 | 1.23 | 2.17 | 1.53 | 0.9  |
| 4.750     | 5.750 | 6.30 | 6.73 | 9.61  | 7.11 | 7.23 | 1.23 | 2.17 | 1.53 | 0.9  |
| 4.875     | 5.872 | 6.47 | 6.86 | 9.74  | 7.24 | 7.36 | 1.23 | 2.17 | 1.53 | 0.9  |
| 5.000     | 6.000 | 6.59 | 6.98 | 10.00 | 7.36 | 7.48 | 1.23 | 2.17 | 1.53 | 0.9  |

# HQCS-J31(SB2)

Type: Double Cartridge Seal  
 Replacement: Crane SB2  
 Temperature: -40 to +220°C  
 Pressure:  $\leq 2.5\text{Mpa}$   
 Speed:  $\leq 20\text{m/s}$   
 Material: Q1,Q2,,V,K,E,P,G,M5,M6,T4



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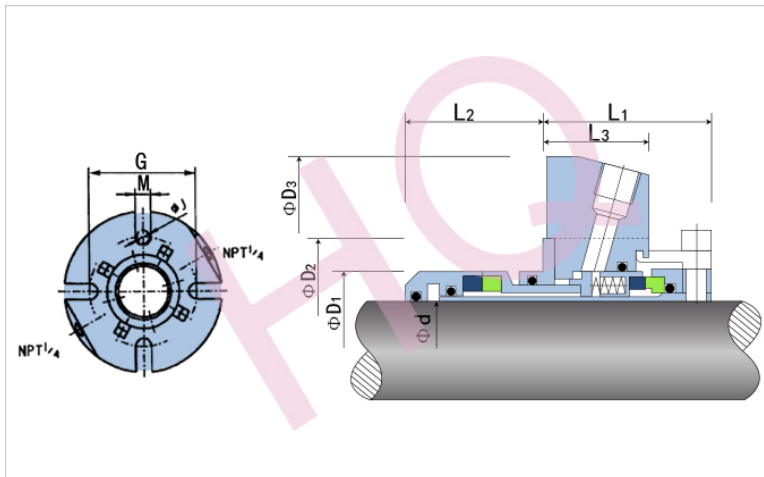


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| d<br>(mm) | D1  | D2  | D3  | D5      | D6  | G       | L2 | L1 | L3 | m     |
|-----------|-----|-----|-----|---------|-----|---------|----|----|----|-------|
| 35        | 58  | 79  | 68  | 130     | 62  | 91      | 49 | 57 | 20 | 13    |
| 38        | 62  | 86  | 72  | 130     | 66  | 98      | 52 | 59 | 23 | 13    |
| 40        | 62  | 86  | 72  | 130     | 66  | 98      | 52 | 59 | 23 | 13    |
| 43        | 67  | 89  | 77  | 130-150 | 70  | 101     | 52 | 59 | 23 | 13    |
| 45        | 69  | 93  | 79  | 130-150 | 75  | 105     | 52 | 59 | 23 | 13    |
| 48        | 72  | 93  | 82  | 140-150 | 75  | 105     | 53 | 60 | 23 | 13    |
| 50        | 74  | 99  | 84  | 140-170 | 77  | 111/115 | 53 | 60 | 23 | 13/17 |
| 53        | 76  | 99  | 86  | 140-170 | 80  | 111     | 53 | 60 | 24 | 13    |
| 55        | 79  | 99  | 89  | 150-170 | 82  | 111/115 | 53 | 64 | 24 | 13/17 |
| 58        | 83  | 99  | 93  | 150     | 84  | 111     | 53 | 64 | 24 | 13    |
| 60        | 85  | 111 | 95  | 150     | 87  | 123/127 | 53 | 64 | 24 | 13/17 |
| 63        | 90  | 111 | 99  | 160     | 90  | 127     | 60 | 72 | 25 | 17    |
| 65        | 93  | 111 | 102 | 160-170 | 92  | 127     | 60 | 72 | 25 | 17    |
| 68        | 95  | 111 | 104 | 170     | 95  | 127     | 60 | 72 | 25 | 17    |
| 70        | 95  | 139 | 105 | 170-220 | 98  | 155     | 60 | 72 | 25 | 17    |
| 80        | 109 | 139 | 118 | 200-220 | 111 | 155     | 65 | 74 | 29 | 17    |
| 85        | 114 | 149 | 123 | 200-220 | 111 | 165     | 70 | 78 | 30 | 17    |
| 90        | 119 | 149 | 128 | 200-220 | 120 | 165     | 70 | 78 | 30 | 17    |
| 95        | 125 | 149 | 134 | 200     | 125 | 165     | 70 | 76 | 30 | 17    |
| 100       | 129 | 159 | 138 | 220     | 130 | 175     | 76 | 76 | 34 | 17    |
| 105       | 135 | 169 | 144 | 220     | 134 | 175     | 76 | 76 | 34 | 17    |
| 110       | 140 | 169 | 149 | 230     | 139 | 175     | 76 | 76 | 34 | 17    |
| 115       | 150 | 179 | 160 | 230     | 150 | 185     | 76 | 76 | 34 | 17    |
| 120       | 157 | 188 | 170 | 245     | 158 | 194     | 76 | 76 | 34 | 17    |
| 125       | 160 | 189 | 175 | 270     | 170 | 194     | 76 | 76 | 34 | 17    |
| 130       | 166 | 194 | 180 | 280     | 174 | 210     | 86 | 84 | 36 | 17    |
| 135       | 172 | 199 | 185 | 280     | 179 | 215     | 86 | 84 | 36 | 17    |
| 140       | 178 | 206 | 192 | 280     | 187 | 222     | 86 | 84 | 36 | 17    |

# HQCS-J36(SB2A)

Type: Double Cartridge Seal  
 Replacement: Crane SB2A  
 Temperature: -40 to +220°C  
 Pressure:  $\leq 2.5\text{Mpa}$   
 Speed:  $\leq 20\text{m/s}$   
 Material: Q1,Q2,U2,T,V,M1,F,G,M



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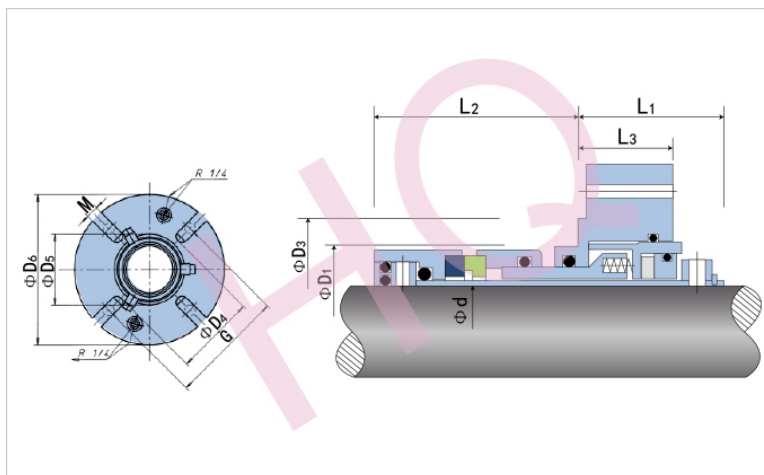


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| d<br>(mm) | D1<br>(min) | D1<br>(max) | D2    | D3     | G<br>(J=3/8) | G<br>(J=1/2) | L1    | L2    | L3    | M    |
|-----------|-------------|-------------|-------|--------|--------------|--------------|-------|-------|-------|------|
| 1.000     | 1.625       | 1.940       | 2.394 | 3.811  | 2.769        | 2.894        | 2.087 | 1.772 | 1.339 | 0.55 |
| 1.125     | 1.750       | 2.087       | 2.520 | 3.937  | 2.895        | 3.020        | 2.087 | 1.772 | 1.339 | 0.55 |
| 1.250     | 1.875       | 2.244       | 2.657 | 4.134  | 3.032        | 3.157        | 2.087 | 1.772 | 1.339 | 0.55 |
| 1.375     | 2.000       | 2.362       | 2.795 | 4.331  | 3.170        | 3.295        | 2.087 | 1.772 | 1.339 | 0.55 |
| 1.500     | 2.125       | 2.500       | 2.933 | 4.488  | 3.308        | 3.433        | 2.126 | 1.772 | 1.339 | 0.55 |
| 1.625     | 2.375       | 2.625       | 3.071 | 4.961  | 3.446        | 3.571        | 2.126 | 1.772 | 1.339 | 0.55 |
| 1.750     | 2.500       | 2.875       | 3.228 | 5.472  | 3.603        | 3.728        | 2.126 | 1.772 | 1.339 | 0.55 |
| 1.875     | 2.625       | 2.953       | 3.327 | 5.472  | 3.702        | 3.827        | 2.126 | 1.772 | 1.339 | 0.55 |
| 2.000     | 2.750       | 3.189       | 3.465 | 5.500  | 3.860        | 3.980        | 2.126 | 1.772 | 1.339 | 0.55 |
| 2.125     | 2.875       | 3.425       | 3.900 | 5.984  | 4.275        | 4.400        | 2.126 | 1.772 | 1.339 | 0.70 |
| 2.250     | 3.000       | 3.560       | 4.016 | 5.984  | 4.391        | 4.660        | 2.126 | 1.772 | 1.339 | 0.70 |
| 2.375     | 3.125       | 3.681       | 4.134 | 6.299  | 4.528        | 4.646        | 2.126 | 1.772 | 1.339 | 0.70 |
| 2.500     | 3.250       | 3.819       | 4.291 | 6.378  | 4.667        | 4.791        | 2.126 | 1.890 | 1.339 | 0.70 |
| 2.625     | 3.375       | 3.937       | 4.409 | 6.378  | 4.785        | 4.909        | 2.126 | 1.890 | 1.339 | 0.70 |
| 2.750     | 3.750       | 4.449       | 4.921 | 7.953  | 5.300        | 5.421        | 2.362 | 2.008 | 1.421 | 0.70 |
| 2.875     | 3.875       | 4.567       | 5.039 | 7.953  | 5.414        | 5.539        | 2.362 | 2.008 | 1.421 | 0.70 |
| 3.000     | 4.000       | 4.685       | 5.197 | 7.953  | 5.572        | 5.697        | 2.362 | 2.008 | 1.421 | 0.70 |
| 3.125     | 4.125       | 4.822       | 5.322 | 8.25   | 5.697        | 5.822        | 2.362 | 2.008 | 1.421 | 0.70 |
| 3.250     | 4.250       | 4.937       | 5.394 | 8.25   | 5.769        | 5.894        | 2.362 | 2.008 | 1.421 | 0.70 |
| 3.375     | 4.375       | 5.062       | 5.512 | 8.374  | 5.887        | 6.012        | 2.362 | 2.008 | 1.421 | 0.70 |
| 3.500     | 4.500       | 5.181       | 5.630 | 8.465  | 6.005        | 6.130        | 2.362 | 2.008 | 1.421 | 0.70 |
| 3.625     | 4.625       | 5.306       | 5.752 | 8.583  | 6.127        | 6.252        | 2.362 | 2.008 | 1.421 | 0.90 |
| 3.750     | 4.750       | 5.433       | 5.984 | 8.740  | 6.359        | 6.484        | 2.362 | 2.008 | 1.421 | 0.90 |
| 3.875     | 4.875       | 5.556       | 6.102 | 8.858  | 6.477        | 6.602        | 2.362 | 2.008 | 1.421 | 0.90 |
| 4.000     | 5.000       | 5.687       | 6.181 | 9.000  | 6.572        | 6.697        | 2.362 | 2.126 | 1.421 | 0.90 |
| 4.125     | 5.125       | 5.716       | 6.311 | 9.016  | 6.686        | 6.811        | 2.362 | 2.126 | 1.421 | 0.90 |
| 4.250     | 5.250       | 5.921       | 6.433 | 9.228  | 6.808        | 6.933        | 2.362 | 2.126 | 1.421 | 0.90 |
| 4.375     | 5.375       | 6.056       | 6.559 | 9.331  | 6.934        | 7.059        | 2.362 | 2.126 | 1.421 | 0.90 |
| 4.500     | 5.500       | 6.170       | 6.700 | 9.500  | 7.075        | 7.200        | 2.362 | 2.126 | 1.421 | 0.90 |
| 4.625     | 5.625       | 6.300       | 6.811 | 9.606  | 7.186        | 7.311        | 2.362 | 2.126 | 1.421 | 0.90 |
| 4.750     | 5.750       | 6.417       | 6.969 | 9.606  | 7.344        | 7.469        | 2.362 | 2.126 | 1.421 | 0.90 |
| 4.875     | 5.875       | 6.550       | 7.087 | 9.843  | 7.462        | 7.587        | 2.362 | 2.126 | 1.421 | 0.90 |
| 5.000     | 6.000       | 6.687       | 7.182 | 10.000 | 7.560        | 7.685        | 2.362 | 2.126 | 1.421 | 0.90 |

# HQCS-J34(SBW)

Type: Single Cartridge Seal  
 Replacement: Crane SBW  
 Temperature: -40 to +220°C  
 Pressure:  $\leq 2.5\text{Mpa}$   
 Speed:  $\leq 20\text{m/s}$   
 Material: Q1,Q2,U2,T,V,M1,F,G,M



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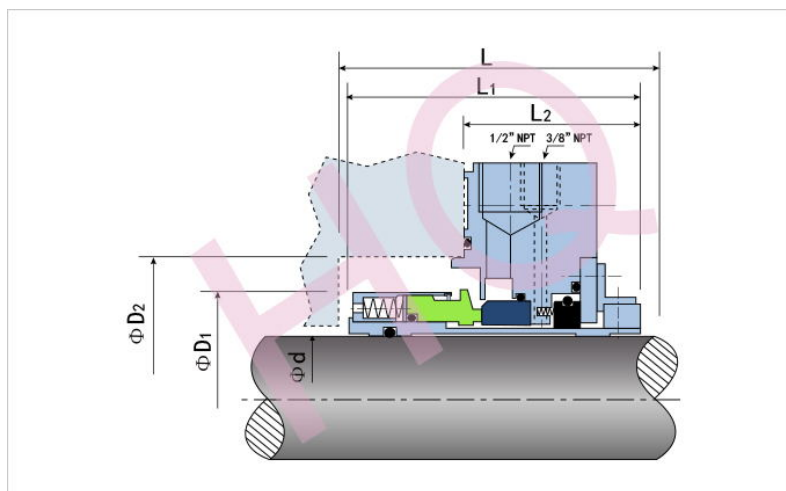
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| d<br>(mm) | D1  | D3  | D4  | G   | D5  | D6  | L1 | L2 | L3 | M  |
|-----------|-----|-----|-----|-----|-----|-----|----|----|----|----|
| 35        | 55  | 79  | 70  | 91  | 61  | 130 | 49 | 52 | 30 | 13 |
| 38        | 58  | 84  | 73  | 98  | 65  | 130 | 52 | 52 | 30 | 13 |
| 40        | 60  | 86  | 75  | 98  | 66  | 130 | 52 | 52 | 30 | 13 |
| 43        | 65  | 93  | 80  | 101 | 70  | 140 | 52 | 52 | 30 | 13 |
| 45        | 65  | 93  | 80  | 105 | 70  | 140 | 52 | 52 | 30 | 13 |
| 48        | 68  | 93  | 83  | 105 | 73  | 140 | 53 | 52 | 30 | 13 |
| 50        | 70  | 99  | 86  | 111 | 75  | 160 | 53 | 52 | 31 | 13 |
| 53        | 75  | 99  | 90  | 111 | 80  | 160 | 53 | 52 | 31 | 13 |
| 55        | 75  | 99  | 90  | 111 | 80  | 160 | 53 | 52 | 31 | 13 |
| 58        | 83  | 99  | 94  | 111 | 85  | 160 | 53 | 52 | 31 | 13 |
| 60        | 85  | 111 | 98  | 123 | 87  | 160 | 53 | 52 | 31 | 13 |
| 63        | 90  | 116 | 102 | 127 | 92  | 160 | 60 | 54 | 35 | 17 |
| 65        | 90  | 116 | 102 | 127 | 92  | 160 | 60 | 54 | 35 | 17 |
| 68        | 95  | 139 | 112 | 127 | 95  | 210 | 60 | 54 | 35 | 17 |
| 70        | 95  | 139 | 112 | 155 | 99  | 210 | 60 | 54 | 35 | 17 |
| 75        | 104 | 139 | 117 | 155 | 106 | 210 | 65 | 62 | 35 | 17 |
| 80        | 109 | 139 | 123 | 155 | 111 | 210 | 65 | 62 | 35 | 17 |
| 85        | 114 | 149 | 134 | 165 | 116 | 210 | 65 | 62 | 35 | 17 |
| 90        | 119 | 149 | 136 | 165 | 121 | 210 | 65 | 62 | 35 | 17 |
| 95        | 124 | 149 | 140 | 165 | 126 | 210 | 65 | 62 | 35 | 17 |
| 100       | 129 | 159 | 145 | 175 | 131 | 210 | 65 | 62 | 35 | 17 |
| 105       | 135 | 169 | 150 | 175 | 136 | 220 | 65 | 62 | 35 | 17 |



# HQCS-J30(1648)

Type: Single Cartridge Seal  
 Replacement: Crane 1648  
 Temperature: -40°C to +260°C  
 Pressure: ≤6.9Mpa  
 Speed: ≤25m/s  
 Material: Q1,Q2,U2,T,V,M1,F,G,M



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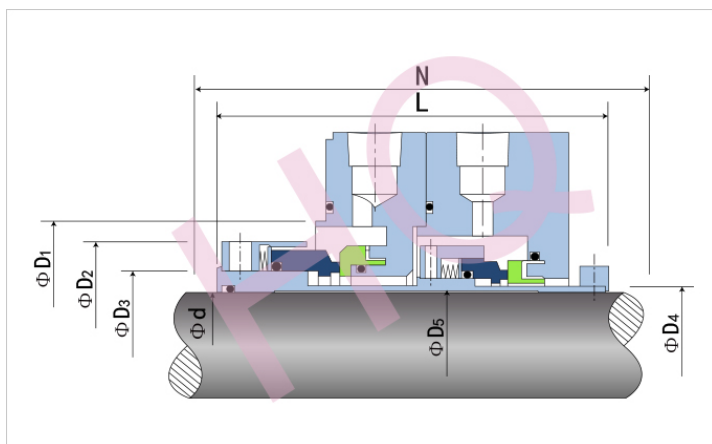
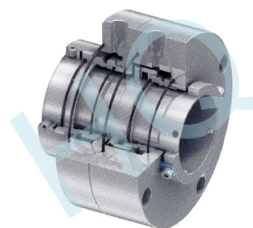


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| d<br>(inch) | D1    | D2    | L    | L1    | L2    |
|-------------|-------|-------|------|-------|-------|
| 1.000       | 2.125 | 2.500 | 5.75 | 3.812 | 2.562 |
| 1.125       | 2.375 | 2.750 | 5.75 | 4.125 | 2.562 |
| 1.250       | 2.500 | 2.875 | 5.75 | 4.125 | 2.562 |
| 1.375       | 2.625 | 3.000 | 5.75 | 4.125 | 2.562 |
| 1.500       | 2.750 | 3.125 | 5.75 | 4.125 | 2.562 |
| 1.625       | 3.000 | 3.375 | 5.75 | 4.437 | 2.562 |
| 1.750       | 3.125 | 3.500 | 5.75 | 4.437 | 2.562 |
| 1.875       | 3.250 | 3.625 | 5.75 | 4.437 | 2.562 |
| 2.000       | 3.375 | 3.750 | 6.50 | 4.437 | 2.562 |
| 2.125       | 3.500 | 3.875 | 6.50 | 4.437 | 2.562 |
| 2.250       | 3.625 | 4.000 | 6.50 | 4.437 | 2.625 |
| 2.375       | 3.750 | 4.125 | 6.50 | 4.500 | 2.625 |
| 2.500       | 3.812 | 4.187 | 6.50 | 4.500 | 2.625 |
| 2.625       | 3.937 | 4.312 | 6.50 | 4.500 | 2.625 |
| 2.750       | 4.125 | 4.500 | 6.50 | 4.500 | 2.781 |
| 2.875       | 4.250 | 4.625 | 6.50 | 4.656 | 2.781 |
| 3.000       | 4.375 | 4.750 | 6.50 | 4.656 | 2.781 |
| 3.125       | 4.500 | 4.875 | 7.00 | 4.656 | 2.781 |
| 3.250       | 4.625 | 5.000 | 7.00 | 4.656 | 2.781 |
| 3.375       | 4.750 | 5.125 | 7.00 | 4.656 | 2.781 |
| 3.500       | 4.875 | 5.250 | 7.00 | 4.656 | 2.781 |
| 3.625       | 5.125 | 5.500 | 7.00 | 4.656 | 2.781 |
| 3.750       | 5.250 | 5.625 | 7.00 | 4.656 | 2.781 |
| 3.875       | 5.375 | 5.750 | 7.00 | 4.656 | 2.781 |
| 4.000       | 5.500 | 5.875 | 7.00 | 4.656 | 2.781 |
| 4.125       | 5.625 | 6.000 | 7.00 | 4.656 | 2.781 |
| 4.250       | 5.750 | 6.125 | 7.00 | 4.656 | 2.781 |

## HQCS-J39(2648)

Type: Double Mechanical Seal  
 Replacement: Crane 2648  
 Temperature: -40 to +230°C  
 Pressure:  $\leq 6\text{Mpa}$   
 Speed:  $\leq 25\text{m/s}$   
 Material: Q1, Q2, Graphite, V, M5, M6, G



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| d<br>(inch) | D1    | D2    | D3    | D4    | D5    | L     | N    |
|-------------|-------|-------|-------|-------|-------|-------|------|
| 1.000       | 2.875 | 2.500 | 1.750 | 1.250 | 1.500 | 5.312 | 5.75 |
| 1.125       | 3.000 | 2.625 | 1.875 | 1.375 | 1.625 | 5.312 | 5.75 |
| 1.250       | 3.125 | 2.750 | 2.000 | 1.500 | 1.750 | 5.312 | 5.75 |
| 1.375       | 3.375 | 3.000 | 2.125 | 1.625 | 1.875 | 5.625 | 5.75 |
| 1.500       | 3.500 | 3.125 | 2.250 | 1.750 | 2.000 | 5.625 | 5.75 |
| 1.625       | 3.625 | 3.250 | 2.375 | 1.875 | 2.125 | 5.750 | 5.75 |
| 1.750       | 3.750 | 3.375 | 2.500 | 2.000 | 2.250 | 5.750 | 5.75 |
| 1.875       | 3.875 | 3.500 | 2.625 | 2.125 | 2.375 | 5.750 | 5.75 |
| 2.000       | 4.000 | 3.625 | 2.750 | 2.250 | 2.500 | 5.937 | 6.50 |
| 2.125       | 4.125 | 3.750 | 2.875 | 2.375 | 2.625 | 5.937 | 6.50 |
| 2.250       | 4.187 | 3.812 | 3.000 | 2.500 | 2.750 | 5.937 | 6.50 |
| 2.375       | 4.312 | 3.937 | 3.125 | 2.625 | 2.875 | 6.218 | 6.50 |
| 2.500       | 4.500 | 4.125 | 3.250 | 2.750 | 3.000 | 6.218 | 6.50 |
| 2.625       | 4.625 | 4.250 | 3.375 | 2.875 | 3.125 | 6.343 | 6.50 |
| 2.750       | 4.750 | 4.375 | 3.500 | 3.000 | 3.250 | 6.343 | 6.50 |
| 2.875       | 4.875 | 4.500 | 3.625 | 3.125 | 3.375 | 6.343 | 6.50 |
| 3.000       | 5.000 | 4.625 | 3.750 | 3.250 | 3.500 | 6.343 | 6.50 |
| 3.125       | 5.125 | 4.750 | 3.875 | 3.375 | 3.625 | 6.343 | 7.00 |
| 3.250       | 5.250 | 4.875 | 4.000 | 3.500 | 3.750 | 6.343 | 7.00 |
| 3.375       | 5.500 | 5.125 | 4.125 | 3.625 | 3.875 | 6.343 | 7.00 |
| 3.500       | 5.625 | 5.250 | 4.250 | 3.750 | 4.000 | 6.343 | 7.00 |
| 3.625       | 5.750 | 5.375 | 4.375 | 3.875 | 4.125 | 6.593 | 7.00 |
| 3.750       | 5.875 | 5.500 | 4.500 | 4.000 | 4.250 | 6.593 | 7.00 |
| 3.875       | 6.000 | 5.625 | 4.625 | 4.125 | 4.375 | 6.593 | 7.00 |
| 4.000       | 6.125 | 5.750 | 4.750 | 4.250 | 4.500 | 6.593 | 7.00 |
| 4.125       | 6.250 | 5.875 | 4.875 | 4.375 | 4.625 | 6.593 | 7.00 |
| 4.250       | 6.375 | 6.000 | 5.000 | 4.500 | 4.750 | 6.593 | 7.00 |



# HQCS-J40(3648)

Type: Double Cartridge Seal

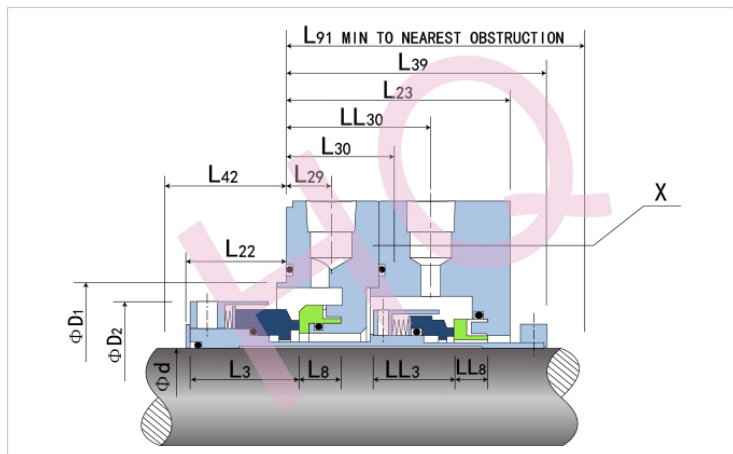
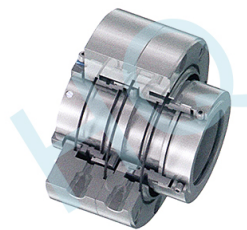
Replacement: Crane 3648

Temperature: -40 to +220°C

Pressure:  $\leq 6.0\text{Mpa}$

Speed:  $\leq 25\text{m/s}$

Material: Q1,U1,V,E,T,T2,G,M5



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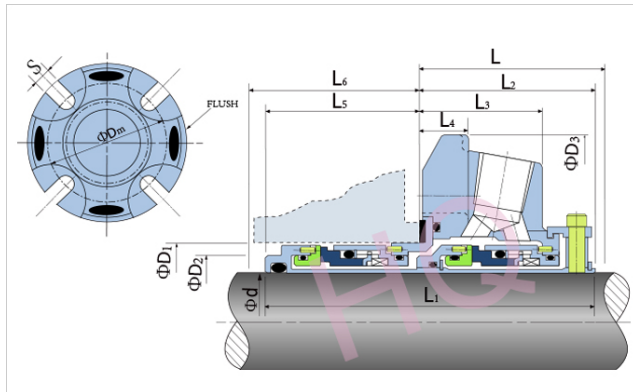
| d<br>(mm) | D1    | D2    | L22  | L23  | L29 | L30  | LL30 | L39 | L42  | L91 | L3   | L8   | LL3  | LL8  | X   |
|-----------|-------|-------|------|------|-----|------|------|-----|------|-----|------|------|------|------|-----|
| 22.6      | 70.0  | 63.6  | 47.0 | 79.9 | 16  | 50.0 | 61   | 98  | 50.0 | 100 | 52.4 | 14.3 | 30.1 | 11.1 | M10 |
| 25.8      | 77.4  | 66.7  | 47.0 | 79.9 | 16  | 50.0 | 61   | 98  | 50.0 | 100 | 52.4 | 14.3 | 30.1 | 11.1 | M10 |
| 28.9      | 80.0  | 69.9  | 47.0 | 79.9 | 16  | 50.0 | 61   | 98  | 50.0 | 100 | 52.4 | 14.3 | 30.1 | 11.1 | M10 |
| 32.1      | 80.0  | 72.2  | 47.0 | 79.9 | 16  | 50.0 | 61   | 98  | 50.0 | 100 | 52.4 | 14.3 | 30.1 | 11.1 | M10 |
| 35.3      | 87.0  | 76.2  | 47.0 | 79.9 | 16  | 50.0 | 61   | 98  | 50.0 | 100 | 52.4 | 14.3 | 30.1 | 11.1 | M10 |
| 38.5      | 90.0  | 79.4  | 47.0 | 79.9 | 16  | 50.0 | 61   | 98  | 50.0 | 100 | 52.4 | 14.3 | 30.1 | 11.1 | M10 |
| 41.6      | 90.0  | 82.6  | 50.2 | 79.9 | 16  | 47.0 | 60   | 98  | 53.2 | 100 | 52.4 | 14.3 | 33.3 | 11.1 | M10 |
| 44.8      | 96.5  | 85.7  | 50.2 | 79.9 | 16  | 47.0 | 60   | 98  | 53.2 | 100 | 52.4 | 14.3 | 33.3 | 11.1 | M10 |
| 48.0      | 99.7  | 88.9  | 50.2 | 79.9 | 16  | 47.0 | 60   | 98  | 53.2 | 100 | 52.4 | 14.3 | 33.3 | 11.1 | M10 |
| 51.2      | 102.8 | 96.8  | 47.6 | 88.9 | 16  | 52.5 | 68   | 107 | 50.6 | 110 | 52.4 | 15.9 | 33.3 | 14.3 | M12 |
| 54.3      | 106.0 | 100.0 | 47.6 | 88.9 | 16  | 52.5 | 68   | 107 | 50.6 | 110 | 52.4 | 15.9 | 33.3 | 14.3 | M12 |
| 57.5      | 110.8 | 104.8 | 47.6 | 88.9 | 16  | 52.5 | 68   | 107 | 50.6 | 110 | 52.4 | 15.9 | 33.3 | 14.3 | M12 |
| 60.7      | 114.0 | 108.0 | 53.1 | 88.9 | 16  | 51.0 | 68   | 107 | 56.1 | 110 | 52.4 | 19.8 | 33.3 | 15.9 | M12 |
| 63.9      | 117.1 | 111.1 | 53.1 | 88.9 | 16  | 51.0 | 68   | 107 | 56.1 | 110 | 52.4 | 19.8 | 33.3 | 15.9 | M12 |
| 67.0      | 120.3 | 114.3 | 53.1 | 88.9 | 16  | 51.0 | 68   | 107 | 56.1 | 110 | 52.4 | 19.8 | 33.3 | 15.9 | M12 |
| 70.2      | 123.5 | 117.5 | 53.1 | 88.9 | 16  | 51.0 | 68   | 107 | 56.1 | 110 | 52.4 | 19.8 | 33.3 | 15.9 | M12 |
| 73.4      | 126.7 | 120.7 | 53.1 | 88.9 | 16  | 51.0 | 68   | 107 | 56.1 | 110 | 52.4 | 19.8 | 33.3 | 15.9 | M12 |
| 76.6      | 129.8 | 123.8 | 53.1 | 88.9 | 16  | 51.0 | 68   | 107 | 56.1 | 110 | 52.4 | 19.8 | 33.3 | 15.9 | M12 |
| 79.7      | 136.2 | 130.2 | 53.1 | 88.9 | 16  | 51.0 | 68   | 107 | 56.1 | 110 | 52.4 | 19.8 | 33.3 | 15.9 | M12 |
| 82.9      | 139.4 | 133.4 | 53.1 | 88.9 | 16  | 51.0 | 68   | 107 | 56.1 | 110 | 52.4 | 19.8 | 33.3 | 15.9 | M12 |
| 86.1      | 142.5 | 136.5 | 53.1 | 88.9 | 16  | 51.0 | 68   | 110 | 56.1 | 113 | 52.4 | 19.8 | 33.3 | 15.9 | M12 |
| 89.3      | 145.7 | 139.7 | 53.1 | 88.9 | 16  | 51.0 | 68   | 110 | 56.1 | 113 | 52.4 | 19.8 | 33.3 | 15.9 | M12 |
| 92.4      | 148.9 | 142.9 | 49.3 | 95.9 | 16  | 57.0 | 75   | 117 | 52.3 | 120 | 52.4 | 19.8 | 36.5 | 15.9 | M12 |
| 95.6      | 152.1 | 146.1 | 49.3 | 95.9 | 16  | 57.0 | 75   | 117 | 52.3 | 120 | 52.4 | 19.8 | 36.5 | 15.9 | M12 |
| 98.8      | 155.2 | 149.2 | 49.3 | 95.9 | 16  | 57.0 | 75   | 117 | 52.3 | 120 | 52.4 | 19.8 | 36.5 | 15.9 | M12 |
| 102.0     | 158.4 | 152.4 | 49.3 | 95.9 | 16  | 57.0 | 75   | 117 | 52.3 | 120 | 52.4 | 19.8 | 36.5 | 15.9 | M12 |
| 105.1     | 161.6 | 155.6 | 49.3 | 95.9 | 16  | 57.0 | 75   | 117 | 52.3 | 120 | 52.4 | 19.8 | 36.5 | 15.9 | M12 |
| 108.3     | 167.9 | 161.9 | 49.3 | 95.9 | 16  | 57.0 | 75   | 117 | 52.3 | 120 | 52.4 | 19.8 | 36.5 | 15.9 | M12 |
| 111.5     | 171.1 | 165.1 | 53.2 | 95.9 | 16  | 55.0 | 75   | 117 | 56.2 | 120 | 52.4 | 19.8 | 36.5 | 19.8 | M12 |
| 121.0     | 180.8 | 174.8 | 53.2 | 95.9 | 16  | 55.0 | 75   | 117 | 56.2 | 120 | 52.4 | 19.8 | 36.5 | 19.8 | M12 |

# HQCS-J28(5620/5629PR)

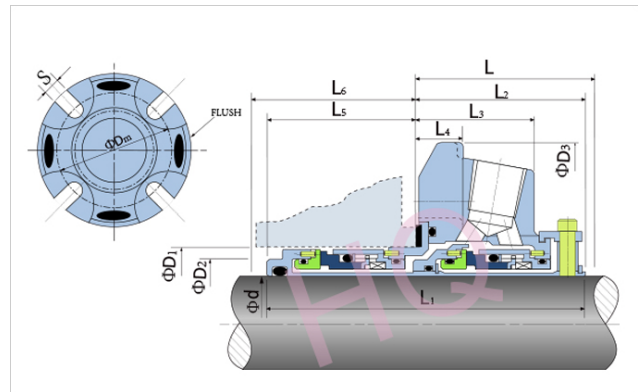
Type: Double Cartridge Seal  
 Replacement: Crane 5620/5620PR  
 Temperature:  $-40^{\circ}\text{C}$  to  $+205^{\circ}\text{C}$   
 Pressure:  $\leq 2.1\text{Mpa}$   
 Speed:  $\leq 25\text{m/s}$   
 Material: Q1,Q2,U2,T,V,M1,F,G,M



HQCS-J28(5620)



HQCS-J28(5620PR)



| d<br>(mm) | D1    |       | D2    | D3    | L    | L1    | L2   | L3   | L4   | L5   | L6   | S    | Dm    |
|-----------|-------|-------|-------|-------|------|-------|------|------|------|------|------|------|-------|
|           | min   | max   |       |       |      |       |      |      |      |      |      |      |       |
| 24        | 41.3  | 48.0  | 39.7  | 101.6 | 50.8 | 94.1  | 49.6 | 34.4 | 13.5 | 44.5 | 47.7 | 13.3 | 71.2  |
| 25        | 41.3  | 48.0  | 39.7  | 101.6 | 50.8 | 94.1  | 49.6 | 34.4 | 13.5 | 44.5 | 47.7 | 13.3 | 71.2  |
| 28        | 44.5  | 51.2  | 42.9  | 104.8 | 54.0 | 97.8  | 52.4 | 36.7 | 13.5 | 45.4 | 48.6 | 13.3 | 74.5  |
| 30        | 46.1  | 56.5  | 44.5  | 108   | 54.0 | 97.8  | 52.4 | 36.7 | 13.5 | 45.4 | 48.6 | 13.3 | 81.6  |
| 32        | 47.6  | 58.3  | 46.0  | 108.0 | 54.0 | 97.8  | 52.4 | 36.7 | 13.5 | 45.4 | 48.6 | 13.3 | 81.6  |
| 33        | 50.8  | 61.5  | 49.3  | 111.1 | 54.0 | 97.8  | 52.4 | 36.7 | 13.5 | 45.4 | 48.6 | 13.3 | 84.8  |
| 35        | 50.8  | 61.5  | 49.3  | 111.1 | 54.0 | 97.8  | 52.4 | 36.7 | 13.5 | 45.4 | 48.6 | 13.3 | 84.8  |
| 38        | 57.2  | 68.1  | 55.5  | 123.8 | 55.6 | 101.5 | 54.0 | 37.8 | 15.1 | 47.5 | 50.7 | 13.3 | 91.4  |
| 40        | 60.3  | 71.4  | 58.7  | 127.0 | 55.6 | 101.5 | 54.0 | 37.8 | 15.1 | 47.5 | 50.7 | 14.3 | 95.7  |
| 43        | 63.0  | 74.1  | 61.1  | 133.4 | 55.6 | 101.5 | 54.0 | 37.8 | 15.1 | 47.5 | 50.7 | 14.3 | 98.4  |
| 45        | 63.0  | 74.1  | 61.1  | 133.4 | 55.6 | 101.5 | 54.0 | 37.8 | 15.1 | 47.5 | 50.7 | 14.3 | 98.4  |
| 48        | 66.7  | 74.1  | 64.7  | 133.4 | 55.6 | 101.5 | 54.0 | 37.8 | 15.1 | 47.5 | 50.7 | 14.3 | 98.4  |
| 50        | 70.0  | 76.6  | 67.9  | 139.7 | 60.3 | 110.6 | 58.7 | 40.7 | 15.1 | 51.9 | 55.0 | 14.3 | 101.6 |
| 53        | 73.0  | 85.3  | 71.1  | 148.8 | 60.3 | 110.6 | 58.7 | 40.7 | 15.1 | 51.9 | 55.0 | 17.4 | 113.5 |
| 55        | 75.0  | 85.3  | 72.9  | 148.8 | 60.3 | 110.6 | 58.7 | 40.7 | 15.1 | 51.9 | 55.0 | 17.4 | 113.5 |
| 58        | 76.2  | 88.5  | 74.2  | 165.1 | 60.3 | 110.6 | 58.7 | 40.7 | 15.1 | 51.9 | 55.0 | 17.4 | 116.0 |
| 60        | 79.4  | 91.7  | 77.4  | 165.1 | 64.2 | 115.4 | 62.6 | 43.6 | 15.9 | 52.8 | 56.0 | 17.4 | 119.9 |
| 63        | 85.7  | 98.8  | 83.8  | 171.5 | 66.7 | 115.4 | 65.1 | 43.6 | 15.9 | 50.3 | 53.5 | 17.4 | 127.0 |
| 65        | 85.7  | 98.8  | 83.8  | 171.5 | 66.7 | 115.4 | 65.1 | 43.6 | 15.9 | 50.3 | 53.5 | 17.4 | 127.0 |
| 68        | 92.1  | 103.2 | 90.2  | 171.5 | 65.1 | 116.7 | 63.5 | 41.2 | 15.9 | 53.2 | 56.4 | 17.4 | 131.3 |
| 70        | 92.1  | 103.2 | 90.2  | 171.5 | 65.1 | 116.7 | 63.5 | 41.2 | 15.9 | 53.2 | 56.4 | 17.4 | 131.3 |
| 75        | 101.6 | 113.5 | 98.1  | 196.9 | 66.7 | 116.7 | 65.1 | 45.4 | 17.4 | 51.6 | 54.8 | 20.6 | 145.3 |
| 80        | 105   | 116.8 | 102.2 | 188.9 | 66.9 | 119.0 | 63.8 | 40.5 | *    | 55.3 | 58.5 | 20.6 | 148.5 |
| 85        | 111.1 | 123.2 | 107.9 | 206.4 | 68.3 | 119.0 | 65.1 | 40.5 | *    | 54.0 | 57.2 | 20.6 | 154.8 |
| 90        | 117.5 | 129.5 | 114.3 | 212.7 | 68.3 | 119.0 | 65.1 | 40.5 | *    | 54.0 | 57.2 | 17.4 | 158.8 |
| 95        | 120.0 | 132.1 | 117.5 | 222.3 | 68.3 | 119.0 | 65.1 | 40.5 | *    | 54.0 | 57.2 | 17.4 | 172.0 |
| 100       | 127.0 | 139.7 | 123.8 | 228.6 | 68.3 | 119.0 | 65.1 | 40.5 | *    | 54.0 | 57.2 | 20.6 | 171.7 |
| 105       | 130.2 | 142.9 | 127.0 | 228.6 | 68.3 | 119.0 | 65.1 | 40.5 | *    | 54.0 | 57.2 | 20.6 | 174.9 |
| 110       | 139.7 | 152.4 | 136.5 | 241.3 | 68.3 | 119.0 | 65.1 | 40.5 | *    | 54.0 | 57.2 | 20.6 | 184.4 |
| 115       | 139.7 | 152.4 | 136.5 | 241.3 | 68.3 | 119.0 | 65.1 | 40.5 | *    | 54.0 | 57.2 | 20.6 | 184.4 |
| 120       | 146.1 | 160.4 | 142.9 | 263.5 | 68.3 | 119.0 | 65.1 | 40.5 | *    | 54.0 | 57.2 | 20.6 | 192.4 |
| 125       | 171.7 | 184.4 | 155.6 | 304.8 | 68.5 | 140.1 | 77.3 | 44.4 | *    | 62.8 | 66.0 | 20.6 | 254.0 |
| 130       | 178.1 | 190.8 | 161.9 | 311.2 | 80.5 | 140.1 | 77.3 | 44.4 | *    | 62.8 | 66.0 | 20.6 | 260.4 |
| 135       | 190.5 | 203.2 | 168.3 | 322.3 | 80.5 | 140.1 | 77.3 | 44.4 | *    | 62.8 | 66.0 | 20.8 | 266.7 |
| 140       | 190.5 | 203.2 | 168.3 | 322.3 | 80.5 | 140.1 | 77.3 | 44.4 | *    | 62.8 | 66.0 | 20.8 | 266.7 |

## HQCS-J41(SE)



Type: Single Cartridge Seal,Suit Sulzer AP Pumps  
Replacement: Crane SE  
Temperature: -40 to +180°C  
Pressure:  $\leq 1.4\text{Mpa}$   
Speed:  $\leq 20\text{m/s}$   
Material: Q1,Q2,U2,T,V,M1,F,G,M

Equivalent with John Crane SE seal ,  
for Sulzer AP series pumps

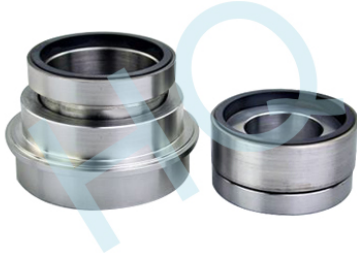


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## HQCS-J42(SE1)



Type: Single Cartridge Seal, Suit for Sulzer Process Pumps  
 Replacement: Crane SE1  
 Temperature: -40 to +180°C  
 Pressure:  $\leq 1.4\text{Mpa}$   
 Speed:  $\leq 35\text{m/s}$   
 Material: Q1, Q2, U2, T, V, M1, F, G, M

### \*Product description:

Type SE1 is the excellent replacement of John Crane type SE1 seal, with more economical price.

The Safe seal Type SE1 is a customer-fitted (OEM standard) single, balanced component or cartridge seal designed for clean and lubricating fluids such as water, different types of oils, solvents and paper stock. The Type SE1 seal is designed especially for the Sulzer APP and APT pump series and Scan pump.

The SE1 seal is easy to install and maintain. In spite of its simple design, SE1 is very advanced in its technical capabilities, including, for example, a patented thermal method for seal face holding and an elastic thrust ring. Several variants of the design are available for different services:

Type SE1C — single, balanced, cartridge seal, used in Sulzer Scan pump

Type SE1F — single, balanced cartridge seal with flush Features:

1. Balanced design — undisturbed operation even with sudden pressure shocks.
2. Spring located in the stationary body of the seal — axial misalignment does not pump up the spring or wear out the O-ring.
3. Installation against the shaft shoulder — easy installation reduces risk of human error. No measurements required for installation.
4. No drive pins at seals — seal face does not crack at start-up.
5. Available in different materials — selection covers all possible single seal applications.



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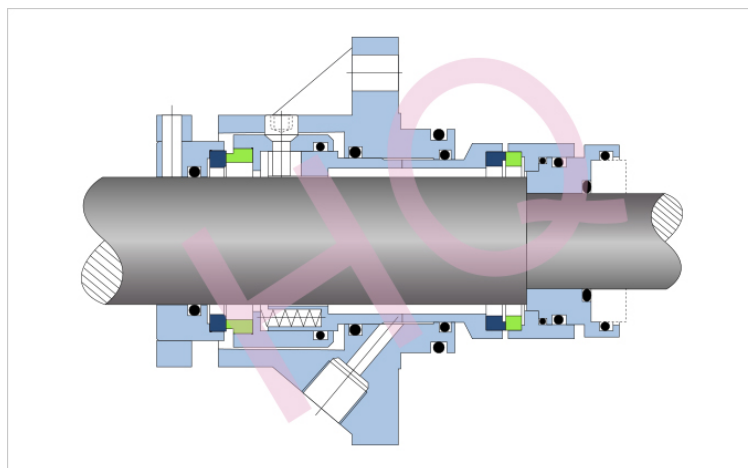


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## HQCS-J43(SE2)



Type: Double Cartridge Seal, Suit Sulzer  
Process Pumps  
Replacement: Crane SE2 Series  
Temperature: -40 to +180°C  
Pressure:  $\leq 1.5\text{Mpa}$   
Speed:  $\leq 30\text{m/s}$   
Material: Q1, Q2, U2, T, V, M1, F, G, M



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## HQCS-J44(SE2C)



Type: Cartridge Seal  
Replacement: Crane SE2C  
Temperature: -40 to +180°C  
Pressure:  $\leq 1.5\text{Mpa}$   
Speed:  $\leq 20\text{m/s}$   
Material: Q1,Q2,U2,T,V,M1,F,G,M

SE2C is a customer-fitted (OEM standard) dual, balanced cartridge seal designed for the severe applications found in the pulp and paper industry and slurry applications.

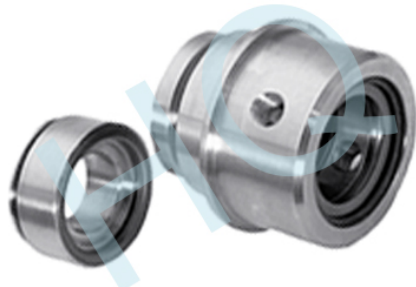


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## HQCS-J45(SEW)



Type: Single Cartridge Seal,Suit Sulzer Process Pumps

Replacement: Crane SEW,Suit for Sulzer,ABS Pumps

Temperature: -40 to +180°C

Pressure:  $\leq 1.5\text{Mpa}$

Speed:  $\leq 20\text{m/s}$

Material: Q1,Q2,U2,T,V,M1,F,G,M



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## HQCS-J46(JCS1)



Type: Single Cartridge Seal  
Replacement: Crane JCS1  
Temperature: -40 to +180°C  
Pressure:  $\leq 1.4\text{Mpa}$   
Speed:  $\leq 10\text{m/s}$   
Material: Q1,Q2,U2,T,V,M1,F,G,M

The JCS1 is originally designed for Sulzer AHLSTARUP pumps and later expanded to cover Andritz process pumps and other equipment.



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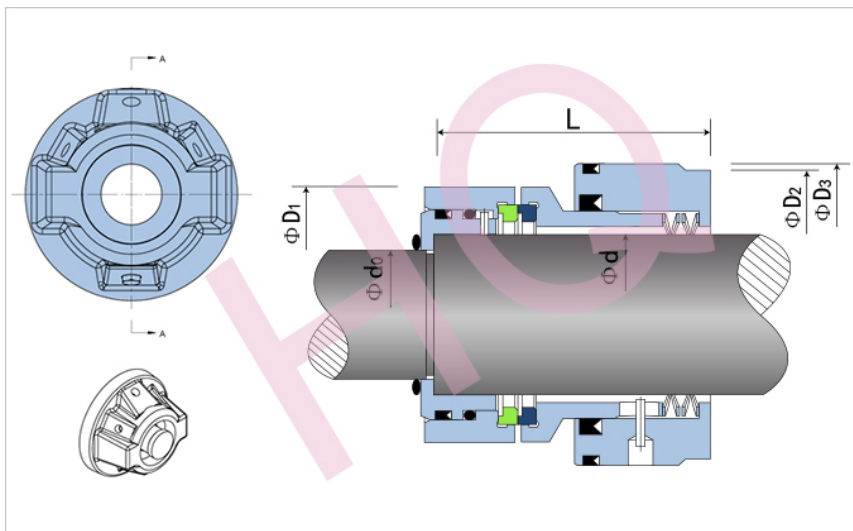
[hq@hqseal.com](mailto:hq@hqseal.com)



## HQCS-J47(JCS1A)



Type: Single Cartridge Seal  
 Replacement: Crane JCS1A  
 Temperature: -40 to +180°C  
 Pressure:  $\leq 5.0\text{Mpa}$   
 Speed:  $\leq 10\text{m/s}$   
 Material: Q1,Q2,U2,T,V,M1,F,G,M



JCS1A - Single application specific seal for Sulzer liquid ring pumps  
 and Andritz ACP pumps



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## HQCS-J48(JCS1F)



Type: Single Cartridge Seal  
Replacement: Crane JCS1F  
Temperature: -40 to +180°C  
Pressure:  $\leq 2.5\text{Mpa}$   
Speed:  $\leq 10\text{m/s}$   
Material: Q1,Q2,U2,T,V,M1,F,G,M

CS1F - Single application-specific seal  
with flush into the medium

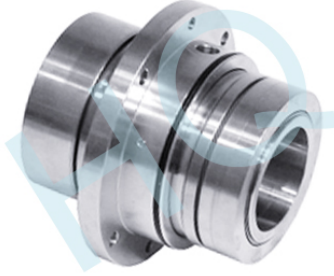


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## HQCS-J49(JCS2)



Type: Double Cartridge Seal,  
SuitSulzer Process Pumps

Replacement: Crane JCS2

Temperature: -40 to +180°C

Pressure:  $\leq 15\text{Mpa}$

Speed:  $\leq 15\text{m/s}$

Material: Q1,Q2,U2,T,V,M1,F,G,M

### \*Product description

Type JCS2 is the excellent replacement of John crane type JCS2 seal, with more economical price.

Type JCS2 seals are designed to be used in pumps for environmentally hazardous and abrasive liquids when operating limits for single-acting seals are exceeded. The double-balanced design of the seal allows the use of both pressurized and non-pressurized sealant fluid. This design ensures reliable and long-lasting operation under the most demanding conditions, reducing seal fluid consumption, and prevents environmental emissions.

Several variant of the design available for different services:

JCS2P — OEM (Sulzer Ahlstar Up) Engineered double external stationary spring O-ring mounted seal

JCS2A — Double application-specific seal for Sulzer liquid ring pumps and Andritz ACP pumps

JCS2M — Double application-specific seal for Sulzer multistage pumps

JCS2-MC — Double application-specific seal for Andritz MC-pumps

JCS E — Double application-specific seal for Sulzer hot liquid



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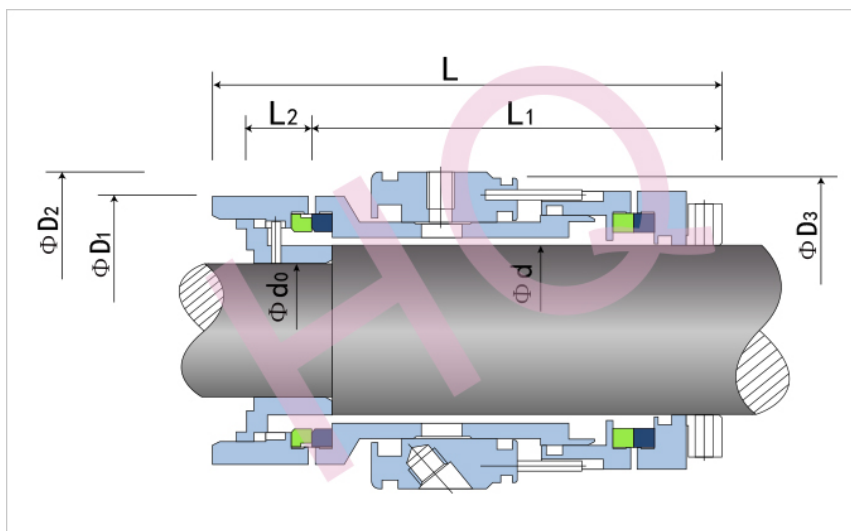


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## HQCS-J50(JCS2P)



Type: Double Cartridge Seal, Suit Sulzer Process Pumps  
 Replacement: Crane JCS2P  
 Temperature:  $-40$  to  $+180^{\circ}\text{C}$   
 Pressure:  $\leq 8.0\text{Mpa}$   
 Speed:  $\leq 15\text{m/s}$   
 Material: Q1, Q2, U2, T, V, M1, F, G, M



JCS2P — OEM (Sulzer Ahlstar Up) Engineered double external stationary  
 spring O-ring mounted seal



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## HQCS-J51(SAF)



Type: Double Cartridge Seal, Suit Sulzer, Andritz Process Pumps

Replacement: Crane SAF

Temperature: -40 to +180°C

Pressure:  $\leq 2.5$  Mpa

Speed:  $\leq 10$  m/s

Material: Q1, Q2, U2, T, V, M1, F, G, M

\* **Product description:** this series mechanical seal is my company in the late 1990 s for mud pump design of a container type mechanical seal, mechanical seal for module focuses on medium containing solid particles, change of the mechanical seal material can also be used for metallurgy, mining, chemical and other industries of high solid content condition.

\* **Apply to the host:**

Andritz pressure screden mechanical seal.



\* **Product features**

Dual face structure, no leakage.

The particle medium has little effect on spring performance.

High temperature resistance, corrosion resistance and wear resistance.

d=40mm, 50mm, 60mm, 70mm, 90mm.

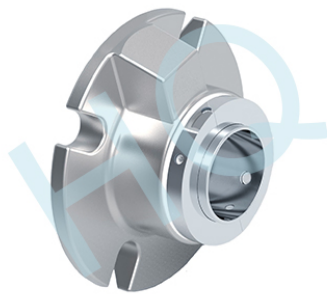


<http://www.hqseal.com>

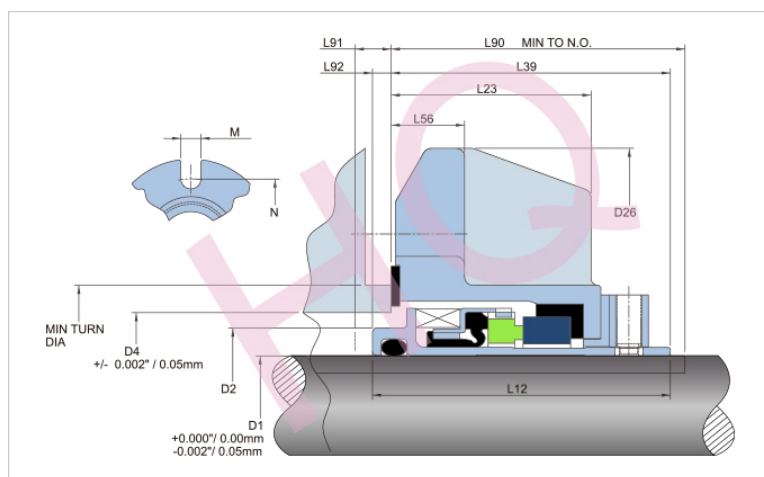


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# HQCS-J52(4111)



Type: Single Cartridge Seal  
 Replacement: Crane 4111  
 Temperature: -40 to +180°C  
 Pressure:  $\leq 20\text{Mpa}$   
 Speed:  $\leq 10\text{m/s}$   
 Material: Q1,Q2,U2,T,V,M1,F,G,M



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| d<br>(mm)   | D2    | D4    | min turn | D26    | L12   | L23   | L39   |
|-------------|-------|-------|----------|--------|-------|-------|-------|
| 35          | 45.14 | 50.80 | 59.51    | 111.13 | 54.74 | 36.73 | 51.28 |
| 45          | 55.27 | 62.99 | 72.21    | 133.35 | 56.62 | 37.77 | 53.64 |
| 48          | 58.42 | 66.68 | 75.39    | 133.35 | 56.62 | 37.77 | 53.64 |
| d<br>(mm)   | L56   | L90   | L91      | L92    | M     | N     |       |
| 35          | 13.49 | 53.98 | 6.6      | 3.43   | 13.34 | 84.79 |       |
| 45          | 15.06 | 55.55 | 6.15     | 2.97   | 14.3  | 98.43 |       |
| 48          | 15.06 | 55.55 | 6.15     | 2.97   | 14.3  | 98.43 |       |
| d<br>(inch) | D2    | D4    | min turn | D26    | L12   | L23   | L39   |
| 1.375       | 1.777 | 2.000 | 2.343    | 4.375  | 2.155 | 1.446 | 2.019 |
| 1.750       | 2.176 | 2.480 | 2.843    | 5.250  | 2.229 | 1.487 | 2.112 |
| 1.875       | 2.300 | 2.625 | 2.968    | 5.250  | 2.229 | 1.487 | 2.112 |
| d<br>(inch) | L56   | L90   | L91      | L92    | M     | N     |       |
| 1.375       | 0.531 | 2.125 | 0.260    | 0.135  | 0.525 | 3.338 |       |
| 1.750       | 0.593 | 2.187 | 0.242    | 0.117  | 0.563 | 3.875 |       |
| 1.875       | 0.593 | 2.187 | 0.242    | 0.117  | 0.563 | 3.875 |       |

# HQCS-J53(8B)

Type: Cartridge Seal

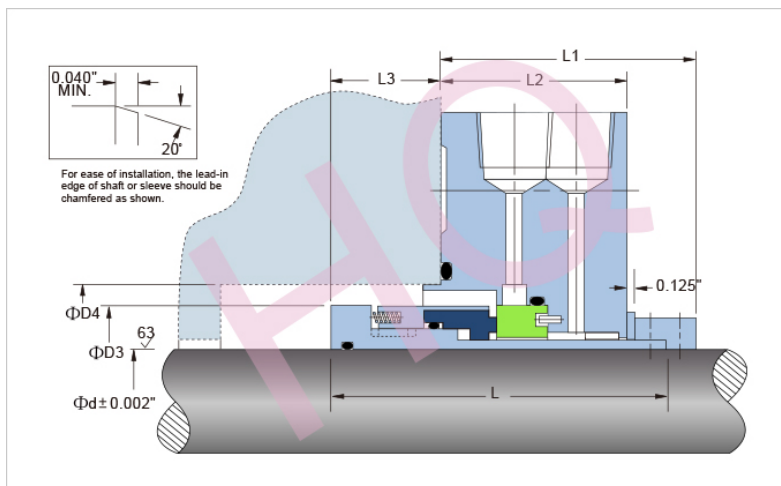
Replacement: Crane 8B

Temperature: -40 to +260°C

Pressure: ≤103.5 Bar

Speed: ≤25m/s

Material: Q1,Q2,U2,T,V,M1,F,G,M



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| d<br>(inch) | D3    | D4    | L     | L1    | L2    | L3    |
|-------------|-------|-------|-------|-------|-------|-------|
| 1.000       | 2.125 | 2.312 | 4.250 | 2.875 | 1.750 | 1.843 |
| 1.125       | 2.250 | 2.437 | 4.250 | 2.875 | 1.750 | 1.843 |
| 1.250       | 2.375 | 2.562 | 4.250 | 2.875 | 1.750 | 1.843 |
| 1.375       | 2.500 | 2.687 | 4.312 | 2.875 | 1.750 | 1.906 |
| 1.500       | 2.625 | 2.812 | 4.312 | 2.875 | 1.750 | 1.906 |
| 1.625       | 2.750 | 2.937 | 4.312 | 2.875 | 1.750 | 1.906 |
| 1.750       | 2.875 | 3.062 | 4.312 | 2.875 | 1.750 | 1.906 |
| 1.875       | 3.000 | 3.187 | 4.375 | 2.875 | 1.750 | 1.968 |
| 2.000       | 3.125 | 3.312 | 4.375 | 2.875 | 1.750 | 1.968 |
| 2.125       | 3.375 | 3.562 | 4.562 | 3.000 | 1.875 | 2.031 |
| 2.250       | 3.500 | 3.687 | 4.562 | 3.000 | 1.875 | 2.031 |
| 2.375       | 3.625 | 3.812 | 4.625 | 3.000 | 1.875 | 2.093 |
| 2.500       | 3.750 | 3.937 | 4.625 | 3.000 | 1.875 | 2.093 |
| 2.625       | 3.875 | 4.062 | 4.625 | 3.000 | 1.875 | 2.093 |
| 2.750       | 4.000 | 4.187 | 4.625 | 3.000 | 1.875 | 2.093 |
| 2.875       | 4.125 | 4.312 | 4.781 | 3.000 | 1.875 | 2.250 |
| 3.000       | 4.250 | 4.437 | 4.781 | 3.000 | 1.875 | 2.250 |
| 3.125       | 4.562 | 4.750 | 4.968 | 3.250 | 2.125 | 2.187 |
| 3.250       | 4.687 | 4.875 | 4.968 | 3.250 | 2.125 | 2.187 |
| 3.375       | 4.812 | 5.000 | 4.968 | 3.250 | 2.125 | 2.187 |
| 3.500       | 4.937 | 5.125 | 4.968 | 3.250 | 2.125 | 2.187 |
| 3.625       | 5.062 | 5.250 | 4.968 | 3.250 | 2.125 | 2.187 |
| 3.750       | 5.187 | 5.375 | 4.968 | 3.250 | 2.125 | 2.187 |
| 3.875       | 5.312 | 5.500 | 4.968 | 3.250 | 2.125 | 2.187 |
| 4.000       | 5.437 | 5.625 | 4.968 | 3.250 | 2.125 | 2.187 |
| 4.125       | 5.750 | 6.000 | 5.156 | 3.250 | 2.125 | 2.375 |
| 4.250       | 5.875 | 6.125 | 5.156 | 3.250 | 2.125 | 2.375 |

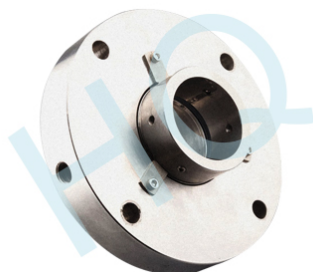
## HQCS-J56(8B1D)



Type: Cartridge Seal  
Replacement: Crane 8B1D  
Temperature: -40 to +260°C  
Pressure:  $\leq 2.8\text{Mpa}$   
Speed:  $\leq 23\text{m/s}$   
Material: Q1,Q2,U2,T,V,M1,F,G,M

Cartridge seal.

Equal to Crane 8B1D.



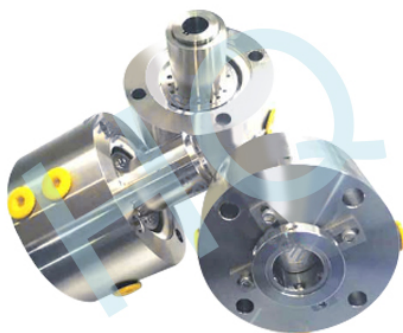
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## HQCS-J54(8BV)/HQCS-J55(8BVS)



Type: Cartridge Seal  
Replacement: Crane 8BV,8BVS  
Temperature: -40 to +180°C  
Pressure:  $\leq 40\text{Mpa}$   
Speed:  $\leq 70\text{m/s}$   
Material: Q1,Q2,U2,T,V,M1,F,G,M

High speed and high Pressure mechanical seal

HQCS-J54 is equal to Crane 8BV,

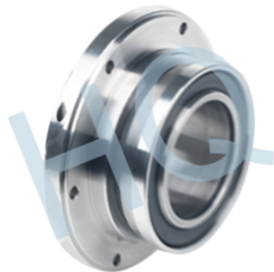
HQCS-J55 is equal to Crane 8BVS.



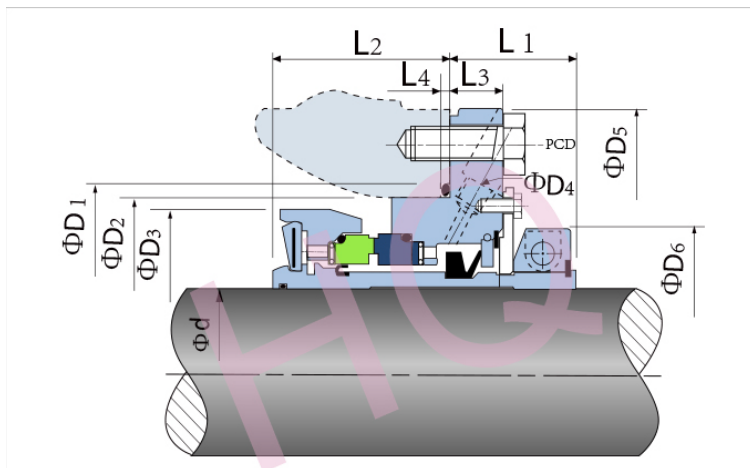
<http://www.hqseal.com>



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Type: Slurry Single Cartridge Seal  
 Replacement: Crane 5840  
 Temperature: -20°C to +75°C  
 Pressure:  $\leq 2.1\text{Mpa}$   
 Speed:  $\leq 15\text{m/s}$   
 Material: Q1, Q2, U2, T, P, M1,  
 F, G, M



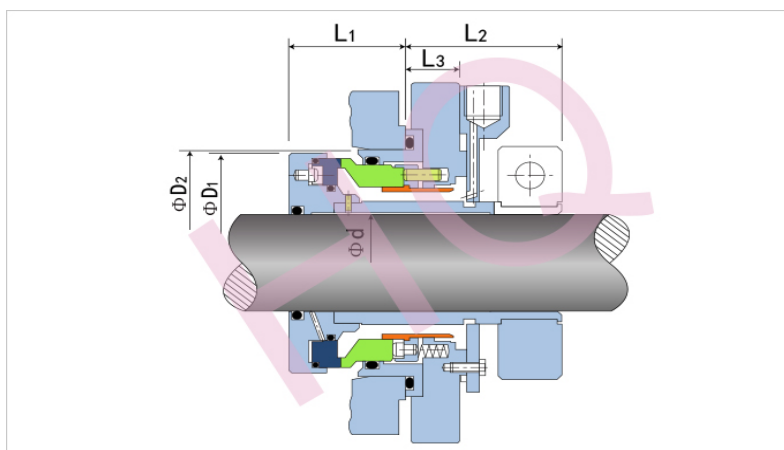
| Size<br>(mm) | d        | D3  | D2    | D5  | D1    | D4       | D6  | L2   | L3   | L4   | L1 | Gland<br>Stud<br>PCD | Stud Dia |
|--------------|----------|-----|-------|-----|-------|----------|-----|------|------|------|----|----------------------|----------|
| 1            | 35-51    | 99  | N/A   | 140 | 133   | 1/4" NPT | 63  | 42   | 24.3 | N/A  | 37 | N/A                  | N/A      |
| 2            | 51-82.5  | 136 | 163   | 217 | 172.7 | 1/4" NPT | 113 | 54.5 | 25   | 2.81 | 45 | 195                  | M12      |
| 3            | 82.5-105 | 170 | 185   | 243 | 200.6 | 1/4" NPT | 154 | 69.5 | 21   | 4.33 | 59 | 220                  | M12      |
| 4            | 105-135  | 204 | 210   | 288 | 225.6 | 3/8" NPT | 196 | 69.5 | 27   | 4.33 | 67 | 260                  | M12      |
| 5            | 135-180  | 258 | 270   | 350 | 285.8 | 3/8" NPT | 235 | 86.5 | 25   | 5.52 | 67 | 320                  | M12      |
| 6            | 180-220  | 310 | 327.3 | 428 | 343.1 | 3/8" NPT | 290 | 101  | 30   | 5.25 | 72 | 388                  | M20      |



# HQS-J5860



Type: Slurry Pumps Seal  
 Replacement: Crane 5860  
 Temperature: Elastomer dependent  
 Pressure:  $\leq 2.80\text{Mpa}$   
 Speed:  $\leq 25\text{m/s}$   
 Material: Q1, Q2, A, B, U1, U2, P, E, V, T, F, G, T2, M5



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| d(mm)<br>(max) | D1    | D2<br>(min) | L1   | L2   | L3   |
|----------------|-------|-------------|------|------|------|
| 30.0           | 67.0  | 73.0        | 32.5 | 54.5 | 20.0 |
| 41.3           | 85.0  | 91.0        | 32.5 | 60.5 | 23.0 |
| 48.0           | 90.0  | 96.0        | 34.5 | 63.5 | 26.0 |
| 55.0           | 100.0 | 106.0       | 34.5 | 63.5 | 26.0 |
| 70.0           | 119.0 | 125.0       | 40.5 | 63.5 | 26.0 |
| 76.2           | 130.0 | 136.0       | 47.5 | 66.5 | 27.0 |
| 86.0           | 138.5 | 144.5       | 45.5 | 66.5 | 27.0 |
| 92.0           | 148.0 | 154.0       | 45.5 | 66.5 | 27.0 |
| 112.0          | 172.0 | 178.0       | 59.0 | 75.0 | 28.5 |
| 124.0          | 187.0 | 193.0       | 59.0 | 75.0 | 28.5 |
| 140.0          | 205.0 | 211.0       | 59.0 | 75.0 | 28.5 |
| 158.0          | 225.0 | 231.0       | 60.5 | 78.5 | 32.0 |
| 165.1          | 240.0 | 246.0       | 60.0 | 79.0 | 32.5 |
| 194.0          | 266.0 | 272.0       | 60.0 | 79.0 | 32.5 |
| 200.0          | 275.0 | 281.0       | 67.4 | 82.0 | 35.5 |
| 220.0          | 288.0 | 294.0       | 69.3 | 82.0 | 35.5 |



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# HQMB-J32(EZ-1)

Type: Metal Bellow Seal

Replacement: Crane EZ-1

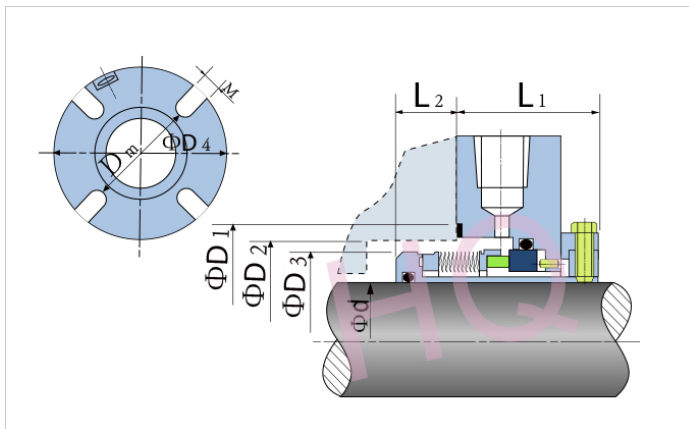
Temperature: -30°C to +200°C

Pressure:  $\leq 2.0\text{Mpa}$

Speed:  $\leq 25\text{m/s}$

Material: A,B,Q1,Q2,U1,U2,T,V,

Graphite,T6,F,G,M, M1



<http://www.hqseal.com>

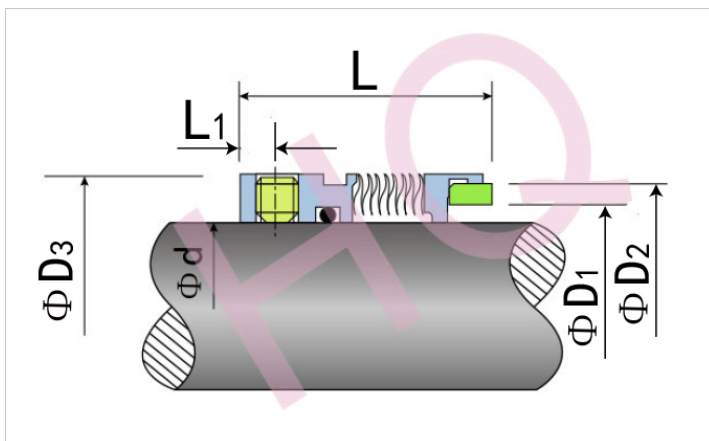
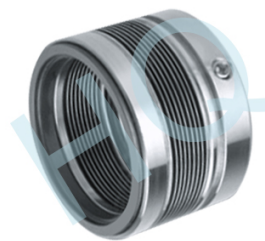


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| d<br>(inch) | D3    | D2    | D1    | L2    | L1    | Dm    | M     | D4    |
|-------------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1.125       | 1.687 | 1.937 | 2.375 | 0.687 | 1.687 | 2.437 | 0.562 | 4.375 |
| 1.125       | 1.687 | 1.937 | 3.250 | 0.687 | 1.687 | 3.312 | 0.437 | 4.500 |
| 1.375       | 1.937 | 2.062 | 2.375 | 0.687 | 1.562 | 2.437 | 0.562 | 4.375 |
| 1.375       | 1.937 | 2.812 | 3.250 | 0.687 | 1.562 | 3.437 | 0.500 | 5.250 |
| 1.500       | 2.187 | 2.937 | 2.750 | 0.750 | 1.687 | 2.812 | 0.562 | 5.125 |
| 1.625       | 2.312 | 2.437 | 2.812 | 0.750 | 1.687 | 2.875 | 0.562 | 5.250 |
| 1.750       | 2.437 | 2.562 | 3.125 | 0.750 | 1.687 | 3.187 | 0.562 | 5.250 |
| 1.750       | 2.437 | 3.437 | 4.250 | 0.750 | 1.687 | 4.562 | 0.562 | 6.500 |
| 1.875       | 2.562 | 2.687 | 3.250 | 0.750 | 1.687 | 3.312 | 0.562 | 5.375 |
| 1.875       | 2.562 | 3.562 | 4.250 | 0.750 | 1.687 | 4.437 | 0.562 | 6.500 |
| 2.000       | 2.687 | 2.812 | 3.250 | 0.750 | 1.750 | 3.312 | 0.687 | 5.500 |
| 2.125       | 2.812 | 2.937 | 3.500 | 0.875 | 1.687 | 3.562 | 0.687 | 5.437 |
| 2.500       | 3.312 | 3.437 | 4.250 | 1.000 | 1.687 | 4.312 | 0.812 | 6.250 |
| 2.500       | 3.312 | 4.375 | 5.500 | 1.000 | 1.687 | 5.625 | 0.750 | 8.000 |
| 2.625       | 3.437 | 3.562 | 4.375 | 1.187 | 1.625 | 4.437 | 0.562 | 6.500 |
| 2.625       | 3.437 | 4.375 | 5.375 | 1.187 | 1.625 | 5.435 | 0.565 | 7.000 |
| 2.750       | 3.625 | 3.750 | 4.500 | 1.062 | 1.625 | 4.562 | 0.750 | 7.000 |
| 3.000       | 3.875 | 4.000 | 4.812 | 1.125 | 1.656 | 4.875 | 0.812 | 7.750 |
| 3.250       | 4.125 | 4.250 | 4.937 | 1.125 | 1.656 | 5.000 | 0.812 | 7.500 |
| 3.500       | 4.375 | 4.687 | 5.625 | 1.125 | 1.656 | 5.687 | 0.812 | 8.500 |

## HQMB-J20(680)

Type: Metal Bellow Seal  
 Replacement: Crane 680  
 Temperature:  $-75^{\circ}\text{C}$  to  $+200^{\circ}\text{C}$   
 Pressure:  $\leq 2.0\text{Mpa}$   
 Speed:  $\leq 23\text{m/s}$   
 Material: B,Q2,U2,V,E,P,F,G,T6



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| d<br>(mm) | D1     | D2     | D3     | L    | L1  | Set Screw<br>Size/Qty |
|-----------|--------|--------|--------|------|-----|-----------------------|
| 24        | 29.79  | 34.93  | 38.10  | 30.0 | 4.5 | M5X3                  |
| 25        | 30.50  | 35.68  | 39.00  | 30.0 | 4.5 | M5X3                  |
| 28        | 33.50  | 38.68  | 42.00  | 32.5 | 5.5 | M5X3                  |
| 30        | 35.50  | 40.68  | 44.00  | 32.5 | 5.1 | M5X3                  |
| 32        | 38.51  | 43.66  | 46.02  | 32.5 | 5.1 | M5X3                  |
| 33        | 38.20  | 44.63  | 47.00  | 32.5 | 4.5 | M5X3                  |
| 35        | 41.68  | 46.86  | 49.20  | 32.5 | 4.5 | M5X3                  |
| 38        | 43.59  | 50.04  | 52.37  | 34.0 | 5.2 | M6X3                  |
| 40        | 46.76  | 53.21  | 55.55  | 34.0 | 5.2 | M6X3                  |
| 43        | 49.94  | 56.39  | 58.72  | 34.0 | 5.2 | M6X3                  |
| 45        | 49.94  | 56.39  | 58.72  | 34.0 | 5.2 | M6X3                  |
| 48        | 53.09  | 59.56  | 61.90  | 34.0 | 5.2 | M6X3                  |
| 50        | 56.29  | 62.76  | 65.07  | 34.0 | 5.2 | M6X3                  |
| 53        | 59.44  | 65.91  | 68.25  | 34.0 | 5.2 | M6X3                  |
| 55        | 62.00  | 68.45  | 71.00  | 34.0 | 4.6 | M6X3                  |
| 58        | 65.79  | 72.29  | 74.60  | 39.5 | 6.6 | M6X3                  |
| 60        | 65.79  | 72.29  | 74.60  | 39.5 | 6.6 | M8X3                  |
| 63        | 70.87  | 78.64  | 80.95  | 39.5 | 6.6 | M8X3                  |
| 65        | 74.04  | 81.81  | 84.12  | 39.5 | 6.0 | M8X3                  |
| 68        | 77.22  | 85.01  | 87.30  | 37.5 | 5.1 | M8X3                  |
| 70        | 77.22  | 85.01  | 87.30  | 45.0 | 8.2 | M8X3                  |
| 75        | 84.38  | 92.13  | 95.25  | 45.0 | 7.8 | M8X3                  |
| 80        | 87.30  | 95.81  | 98.43  | 44.5 | 6.7 | M8X3                  |
| 85        | 93.65  | 102.16 | 104.78 | 44.5 | 6.7 | M8X3                  |
| 90        | 96.82  | 105.33 | 107.95 | 49.5 | 9.0 | M8X3                  |
| 95        | 103.17 | 111.68 | 114.30 | 49.5 | 9.0 | M8X3                  |
| 100       | 109.52 | 118.03 | 120.65 | 49.5 | 9.0 | M8X3                  |

## HQMB-J22(670/675/676)

Type: Metal Bellow Seal

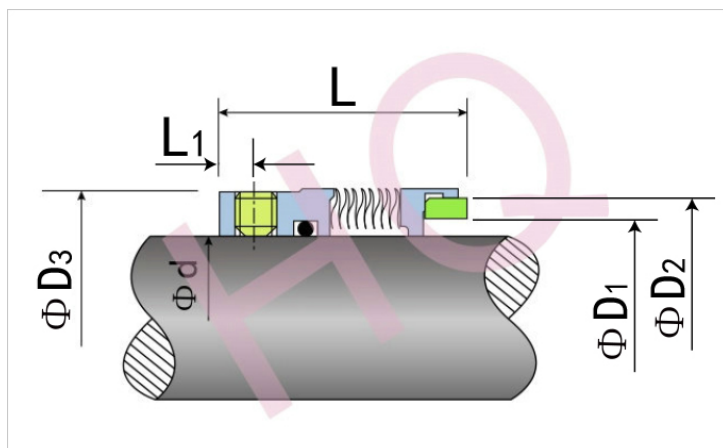
Replacement: Crane

Temperature: -75°C to +200°C

Pressure:  $\leq 2.0\text{Mpa}$

Speed:  $\leq 22\text{m/s}$

Material: B,Q2,U2,V,E,P,F,G,T6



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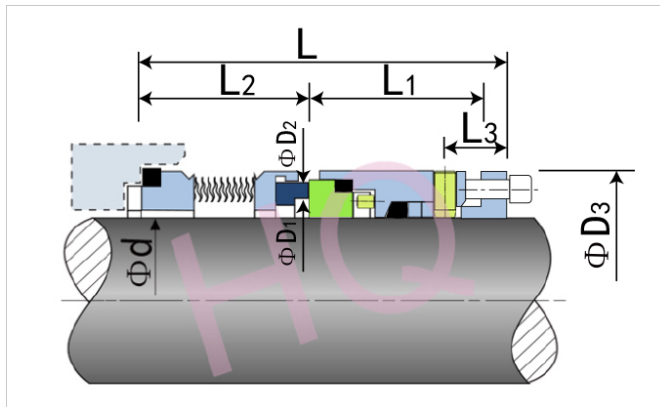
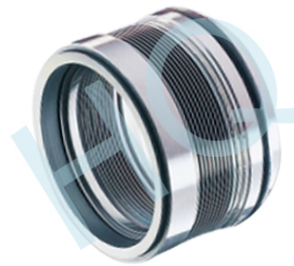
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| d<br>(mm) | D1     | D2     | D3     | L    | L1  | Set Screw<br>Size/Qty |
|-----------|--------|--------|--------|------|-----|-----------------------|
| 24        | 29.79  | 34.93  | 38.10  | 30.0 | 4.5 | M5X3                  |
| 25        | 30.50  | 35.68  | 39.00  | 30.0 | 4.5 | M5X3                  |
| 28        | 33.50  | 38.68  | 42.00  | 32.5 | 5.5 | M5X3                  |
| 30        | 35.50  | 40.68  | 44.00  | 32.5 | 5.1 | M5X3                  |
| 32        | 38.51  | 43.66  | 46.02  | 32.5 | 5.1 | M5X3                  |
| 33        | 38.20  | 44.63  | 47.00  | 32.5 | 4.5 | M5X3                  |
| 35        | 41.68  | 46.86  | 49.20  | 32.5 | 4.5 | M5X3                  |
| 38        | 43.59  | 50.04  | 52.37  | 34.0 | 5.2 | M6X3                  |
| 40        | 46.76  | 53.21  | 55.55  | 34.0 | 5.2 | M6X3                  |
| 43        | 49.94  | 56.39  | 58.72  | 34.0 | 5.2 | M6X3                  |
| 45        | 49.94  | 56.39  | 58.72  | 34.0 | 5.2 | M6X3                  |
| 48        | 53.09  | 59.56  | 61.90  | 34.0 | 5.2 | M6X3                  |
| 50        | 56.29  | 62.76  | 65.07  | 34.0 | 5.2 | M6X3                  |
| 53        | 59.44  | 65.91  | 68.25  | 34.0 | 5.2 | M6X3                  |
| 55        | 62.00  | 68.45  | 71.00  | 34.0 | 4.6 | M6X3                  |
| 58        | 65.79  | 72.29  | 74.60  | 39.5 | 6.6 | M6X3                  |
| 60        | 65.79  | 72.29  | 74.60  | 39.5 | 6.6 | M6X3                  |
| 63        | 70.87  | 78.64  | 80.95  | 39.5 | 6.6 | M6X3                  |
| 65        | 74.04  | 81.81  | 84.12  | 39.5 | 6.0 | M6X3                  |
| 70        | 77.22  | 85.01  | 87.30  | 45.0 | 8.2 | M6X3                  |
| 75        | 84.38  | 92.13  | 95.25  | 45.0 | 7.8 | M6X3                  |
| 80        | 87.3   | 95.81  | 98.43  | 44.5 | 6.7 | M6X4                  |
| 85        | 93.65  | 102.16 | 104.78 | 44.5 | 6.7 | M6X4                  |
| 90        | 96.82  | 105.33 | 107.95 | 49.5 | 9.0 | M6X4                  |
| 95        | 103.17 | 111.68 | 114.30 | 49.5 | 9.0 | M6X4                  |
| 100       | 109.52 | 118.03 | 120.65 | 49.5 | 9.0 | M6X4                  |



# HQMB-J23(604)

Type: Metal Bellow Seal  
 Replacement: Crane 604  
 Temperature: -75°C to +400°C  
 Pressure:  $\leq 2.0\text{Mpa}$   
 Speed:  $\leq 23\text{m/s}$   
 Material: B,Q2,U2,Graphite,F,G,T6



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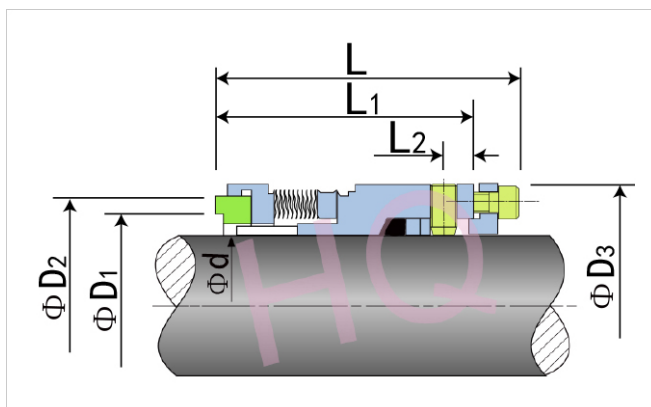


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| Dash No. | d<br>(inch) | D1    | D2    | D3    | L     | L1    | L2    | L3    |
|----------|-------------|-------|-------|-------|-------|-------|-------|-------|
| 18       | 1.000       | 1.365 | 1.565 | 1.937 | 3.107 | 1.969 | 1.138 | 0.500 |
| 20       | 1.125       | 1.519 | 1.719 | 2.062 | 3.107 | 1.969 | 1.138 | 0.500 |
| 22       | 1.250       | 1.645 | 1.845 | 2.187 | 3.107 | 1.969 | 1.138 | 0.500 |
| 24       | 1.375       | 1.72  | 1.970 | 2.312 | 3.076 | 1.938 | 1.138 | 0.501 |
| 26       | 1.500       | 1.845 | 2.095 | 3.562 | 3.254 | 2.063 | 1.191 | 0.620 |
| 28       | 1.625       | 1.970 | 2.22  | 2.562 | 3.282 | 2.060 | 1.222 | 0.625 |
| 30       | 1.750       | 2.095 | 2.345 | 2.687 | 3.312 | 2.060 | 1.254 | 0.625 |
| 32       | 1.875       | 2.221 | 2.471 | 2.812 | 3.315 | 2.062 | 1.254 | 0.629 |
| 34       | 2.000       | 2.345 | 2.596 | 2.937 | 3.345 | 2.060 | 1.285 | 0.623 |
| 36       | 2.125       | 2.471 | 2.721 | 3.187 | 3.499 | 2.182 | 1.317 | 0.620 |
| 38       | 2.250       | 2.596 | 2.846 | 2.312 | 3.566 | 2.218 | 1.346 | 0.657 |
| 40       | 2.375       | 2.796 | 3.096 | 3.437 | 3.565 | 2.186 | 1.379 | 0.625 |
| 42       | 2.500       | 2.921 | 3.221 | 3.562 | 3.595 | 2.184 | 1.410 | 0.625 |
| 44       | 2.625       | 3.047 | 3.347 | 3.687 | 3.693 | 2.250 | 1.443 | 0.625 |
| 46       | 2.750       | 3.202 | 3.502 | 3.937 | 3.858 | 2.250 | 1.608 | 0.625 |
| 48       | 2.875       | 3.327 | 3.327 | 4.062 | 3.889 | 2.281 | 1.608 | 0.656 |
| 50       | 3.000       | 3.442 | 3.772 | 4.187 | 3.858 | 2.250 | 1.608 | 0.625 |
| 52       | 3.125       | 3.567 | 3.897 | 4.312 | 3.858 | 2.250 | 1.608 | 0.625 |
| 54       | 3.250       | 3.692 | 4.022 | 4.437 | 3.827 | 2.219 | 1.608 | 0.594 |
| 56       | 3.375       | 3.817 | 4.147 | 4.562 | 3.89  | 2.282 | 1.608 | 0.657 |
| 58       | 3.500       | 3.942 | 4.272 | 4.687 | 4.023 | 2.373 | 1.650 | 0.656 |
| 60       | 3.625       | 4.067 | 4.397 | 4.812 | 4.025 | 2.375 | 1.650 | 0.656 |
| 62       | 3.750       | 4.192 | 4.522 | 4.937 | 4.025 | 2.375 | 1.650 | 0.656 |
| 64       | 3.875       | 4.317 | 4.647 | 5.062 | 4.027 | 2.377 | 1.650 | 0.656 |

# HQMB-J24(606)

Type: Metal Bellow Seal  
 Replacement: Crane 606  
 Temperature: -20°C to +425°C  
 Pressure:  $\leq 2.5\text{Mpa}$   
 Speed:  $\leq 20\text{m/s}$   
 Material: A,Q1,Q2,U2,Graphite,F,G,M,T6



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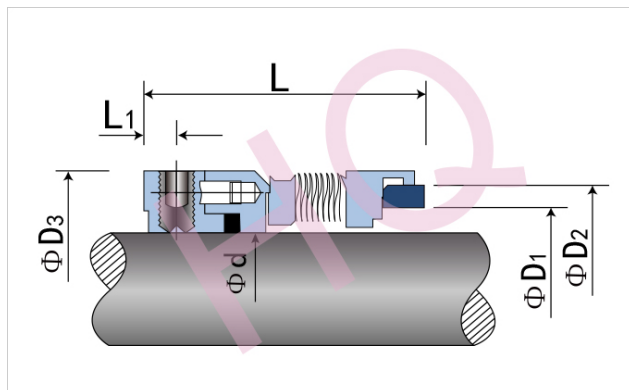
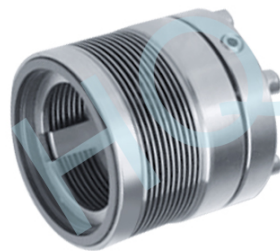
[hq@hqseal.com](mailto:hq@hqseal.com)

| Dash No. | d<br>(inch) | D1    | D2    | D3    | L     | L1    | L2    |
|----------|-------------|-------|-------|-------|-------|-------|-------|
| 16       | 0.750       | 1.238 | 1.438 | 1.625 | 2.312 | 1.687 | 0.188 |
| 18       | 0.875       | 1.365 | 1.565 | 1.750 | 2.343 | 1.719 | 0.188 |
| 20       | 1.000       | 1.519 | 1.719 | 1.875 | 2.343 | 1.719 | 0.188 |
| 22       | 1.125       | 1.645 | 1.845 | 2.000 | 2.375 | 1.750 | 0.188 |
| 24       | 1.250       | 1.720 | 1.970 | 2.125 | 2.375 | 1.750 | 0.188 |
| 26       | 1.375       | 1.845 | 2.095 | 2.250 | 2.468 | 1.844 | 0.250 |
| 28       | 1.500       | 1.970 | 2.220 | 2.375 | 2.500 | 1.875 | 0.250 |
| 30       | 1.625       | 2.095 | 2.345 | 2.500 | 2.500 | 1.875 | 0.250 |
| 32       | 1.750       | 2.221 | 2.471 | 2.625 | 2.531 | 1.906 | 0.250 |
| 34       | 1.875       | 2.345 | 2.596 | 2.750 | 2.531 | 1.906 | 0.250 |
| 36       | 2.000       | 2.471 | 2.721 | 2.875 | 2.562 | 1.937 | 0.250 |
| 38       | 2.125       | 2.596 | 2.846 | 3.000 | 2.562 | 1.937 | 0.250 |
| 40       | 2.250       | 2.796 | 3.096 | 3.250 | 2.750 | 2.000 | 0.250 |
| 42       | 2.375       | 2.921 | 3.221 | 3.375 | 2.781 | 2.031 | 0.250 |
| 44       | 2.500       | 3.047 | 3.347 | 3.500 | 2.781 | 2.031 | 0.250 |
| 46       | 2.625       | 3.202 | 3.502 | 3.687 | 2.875 | 2.125 | 0.250 |
| 48       | 2.750       | 3.327 | 3.327 | 3.812 | 3.000 | 2.250 | 0.281 |
| 50       | 2.875       | 3.442 | 3.772 | 4.000 | 3.000 | 2.250 | 0.281 |
| 52       | 3.000       | 3.567 | 3.897 | 4.125 | 3.000 | 2.250 | 0.281 |
| 54       | 3.125       | 3.692 | 4.022 | 4.250 | 3.000 | 2.250 | 0.281 |
| 56       | 3.250       | 3.817 | 4.147 | 4.375 | 3.000 | 2.250 | 0.281 |
| 58       | 3.375       | 3.942 | 4.272 | 4.500 | 3.000 | 2.250 | 0.281 |
| 60       | 3.500       | 4.067 | 4.397 | 4.625 | 3.000 | 2.250 | 0.281 |
| 62       | 3.625       | 4.192 | 4.522 | 4.750 | 3.000 | 2.250 | 0.281 |
| 64       | 3.750       | 4.317 | 4.647 | 4.875 | 3.000 | 2.250 | 0.281 |



# HQMB-J21(609)

Type: Metal Bellow Seal  
 Replacement: Crane 609  
 Temperature:  $-75^{\circ}\text{C}$  to  $+400^{\circ}\text{C}$   
 Pressure:  $\leq 2.0\text{Mpa}$   
 Speed:  $\leq 23\text{m/s}$   
 Material: B,Q2,U2,Graphite,F,G,T6



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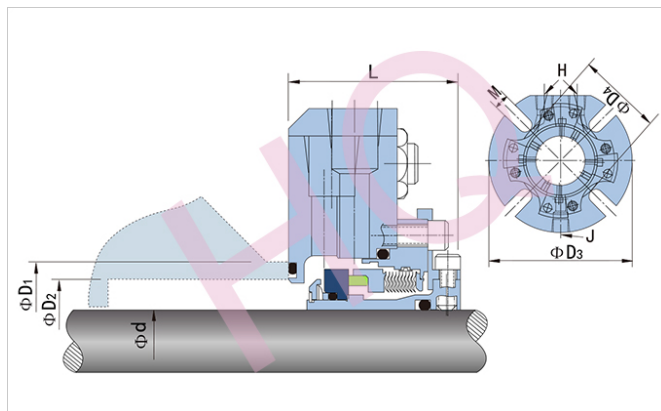


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| Dash No. | d<br>(inch) | D1    | D2    | D3    | L     | L1    |
|----------|-------------|-------|-------|-------|-------|-------|
| 16       | 1.000       | 1.238 | 1.438 | 1.625 | 1.531 | 0.219 |
| 18       | 1.125       | 1.365 | 1.565 | 1.750 | 1.562 | 0.219 |
| 20       | 1.250       | 1.519 | 1.719 | 1.875 | 1.593 | 0.219 |
| 22       | 1.375       | 1.645 | 1.845 | 2.000 | 1.593 | 0.219 |
| 24       | 1.500       | 1.720 | 1.970 | 2.125 | 1.593 | 0.219 |
| 26       | 1.625       | 1.845 | 2.095 | 2.250 | 1.593 | 0.219 |
| 28       | 1.750       | 1.970 | 2.220 | 2.375 | 1.625 | 0.219 |
| 30       | 1.875       | 2.095 | 2.345 | 2.500 | 1.625 | 0.219 |
| 32       | 2.000       | 2.221 | 2.471 | 2.625 | 1.656 | 0.219 |
| 34       | 2.125       | 2.345 | 2.596 | 2.750 | 1.656 | 0.219 |
| 36       | 2.250       | 2.471 | 2.721 | 2.875 | 1.719 | 0.219 |
| 38       | 2.375       | 2.596 | 2.846 | 3.000 | 1.719 | 0.219 |
| 40       | 2.500       | 2.796 | 3.096 | 3.250 | 1.750 | 0.219 |
| 42       | 2.625       | 2.921 | 3.221 | 3.375 | 1.781 | 0.219 |
| 44       | 2.750       | 3.047 | 3.347 | 3.500 | 1.781 | 0.219 |
| 46       | 2.875       | 3.202 | 3.502 | 3.687 | 1.875 | 0.219 |
| 48       | 3.000       | 3.327 | 3.327 | 3.812 | 1.875 | 0.219 |
| 50       | 3.125       | 3.442 | 3.772 | 4.000 | 1.875 | 0.219 |
| 52       | 3.250       | 3.567 | 3.897 | 4.125 | 1.875 | 0.219 |
| 54       | 3.375       | 3.692 | 4.022 | 4.250 | 1.875 | 0.219 |
| 56       | 3.500       | 3.817 | 4.147 | 4.375 | 1.875 | 0.219 |
| 58       | 3.625       | 3.942 | 4.272 | 4.500 | 1.875 | 0.219 |
| 60       | 3.750       | 4.067 | 4.397 | 4.625 | 1.875 | 0.219 |
| 62       | 3.875       | 4.192 | 4.522 | 4.750 | 1.875 | 0.219 |
| 64       | 4.000       | 4.317 | 4.647 | 4.875 | 1.875 | 0.219 |

# HQMB-J25(613)

Type: Metal Bellow Seal  
 Replacement: Crane 613  
 Temperature: -75°C to +200°C  
 Pressure:  $\leq 2.5\text{Mpa}$   
 Speed:  $\leq 10\text{m/s}$   
 Material: A, Q1, Q2, Graphite, F, G, M, M5



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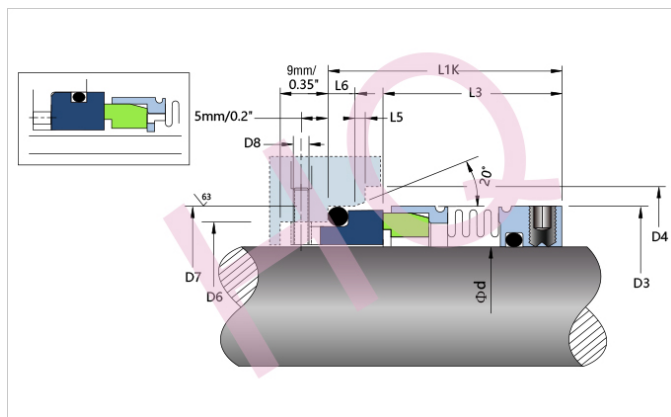
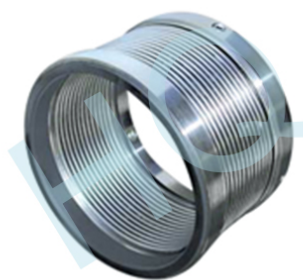
[hq@hqseal.com](mailto:hq@hqseal.com)

| d<br>(mm) | D1     | D2    | D3     | D4     | L     | M     | H         | J         |
|-----------|--------|-------|--------|--------|-------|-------|-----------|-----------|
| 33        | 60.33  | 53.98 | 117.48 | 71.45  | 52.43 | 12.70 | 2001-4-18 | 2003-8-18 |
| 35        | 60.33  | 53.98 | 117.48 | 71.45  | 52.43 | 12.70 | 2001-4-18 | 2003-8-18 |
| 43        | 76.19  | 66.68 | 119.35 | 85.73  | 53.98 | 14.27 | 2003-8-18 | 2003-8-18 |
| 45        | 76.19  | 66.68 | 119.35 | 85.73  | 53.98 | 14.27 | 2003-8-18 | 2003-8-18 |
| 53        | 95.00  | 83.00 | 152.40 | 100.03 | 61.90 | 14.27 | 2003-8-18 | 2003-8-18 |
| 55        | 95.00  | 83.00 | 152.40 | 100.03 | 61.90 | 14.27 | 2003-8-18 | 2003-8-18 |
| 65        | 107.95 | 92.08 | 171.45 | 122.25 | 70.64 | 17.45 | 2003-8-18 | 2003-8-18 |

| d<br>(inch) | D1    | D2    | D3    | D4   | L    | M    | H         | J         |
|-------------|-------|-------|-------|------|------|------|-----------|-----------|
| 1.125       | 2.250 | 2.000 | 4.625 | 2.44 | 2.00 | 0.44 | 2001-4-18 | 2003-8-18 |
| 1.375       | 2.375 | 2.125 | 4.625 | 2.81 | 2.06 | 0.50 | 2001-4-18 | 2003-8-18 |
| 1.375*      | 3.312 | 2.875 | 5.25  | 3.44 | 2.06 | 0.44 | 2001-4-18 | 2003-8-18 |
| 1.750       | 3.000 | 2.625 | 5.50  | 3.38 | 2.13 | 0.56 | 2003-8-18 | 2003-8-18 |
| 1.750*      | 3.937 | 3.500 | 6.75  | 4.44 | 2.13 | 0.69 | 2003-8-18 | 2003-8-18 |
| 1.875       | 3.125 | 2.750 | 5.50  | 3.31 | 2.19 | 0.56 | 2003-8-18 | 2003-8-18 |
| 1.875*      | 4.125 | 3.625 | 6.00  | 4.44 | 2.56 | 0.56 | 2003-8-18 | 2003-8-18 |
| 2.125       | 3.437 | 3.062 | 6.00  | 3.94 | 2.44 | 0.56 | 2003-8-18 | 2003-8-18 |
| 2.125*      | 4.437 | 4.000 | 7.25  | 4.75 | 2.44 | 0.75 | 2003-8-18 | 2003-8-18 |
| 2.500       | 4.000 | 3.500 | 6.75  | 4.25 | 2.63 | 0.75 | 2003-8-18 | 2003-8-18 |
| 2.500*      | 5.250 | 4.750 | 8.00  | 5.56 | 2.63 | 0.69 | 2003-8-18 | 2003-8-18 |
| 2.625       | 4.250 | 3.625 | 6.75  | 4.81 | 2.78 | 0.69 | 2003-8-18 | 2003-8-18 |
| 2.625*      | 5.125 | 4.625 | 7.375 | 5.31 | 2.78 | 0.69 | 2003-8-18 | 2003-8-18 |

# HQMB-J33(GL1B)

Type: Formed Metal Bellows Seal  
 Replacement: Crane GL1B  
 Temperature: -30 to +200°C  
 Pressure:  $\leq 2.5\text{Mpa}$   
 Speed:  $\leq 18\text{m/s}$   
 Material: Q1,Q2,U2,T,V,M1,F,G,M



<http://www.hqseal.com>

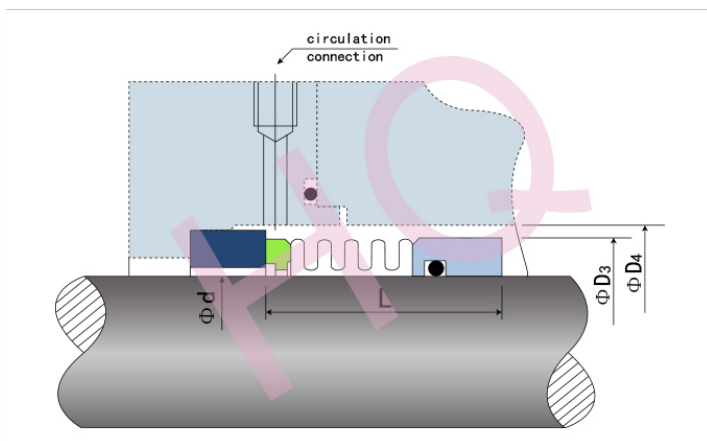


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| d(mm)           | D3    | D4   | D6  | D7              | D8 | L1K      | L3       | L5  | L6 |
|-----------------|-------|------|-----|-----------------|----|----------|----------|-----|----|
| +0.00/<br>-0.05 |       | min. |     | +0.00/<br>-0.05 |    | +/_ 0.05 | +/_ 0.05 |     |    |
| 25              | 39.6  | 41   | 34  | 40              | 3  | 40.0     | 30.0     | 2.0 | 5  |
| 28              | 42.5  | 44   | 37  | 43              | 3  | 42.5     | 32.5     | 2.0 | 5  |
| 30              | 44.5  | 46   | 39  | 45              | 3  | 42.5     | 32.5     | 2.0 | 5  |
| 32              | 46.5  | 48   | 42  | 48              | 3  | 42.5     | 32.5     | 2.0 | 5  |
| 33              | 47.5  | 49   | 42  | 48              | 3  | 42.5     | 32.5     | 2.0 | 5  |
| 35              | 49.4  | 51   | 44  | 50              | 3  | 42.5     | 32.5     | 2.0 | 5  |
| 38              | 54.0  | 58   | 49  | 56              | 4  | 45.0     | 34.0     | 2.0 | 5  |
| 40              | 56.5  | 60   | 51  | 58              | 4  | 45.0     | 34.0     | 2.0 | 6  |
| 43              | 56.5  | 63   | 54  | 61              | 4  | 45.0     | 34.0     | 2.0 | 6  |
| 45              | 63.3  | 65   | 56  | 63              | 4  | 45.0     | 34.0     | 2   | 6  |
| 48              | 65.2  | 68   | 59  | 66              | 4  | 47.5     | 34.0     | 2.5 | 6  |
| 50              | 66.3  | 70   | 62  | 70              | 4  | 47.5     | 34.0     | 2.5 | 6  |
| 53              | 71.5  | 73   | 65  | 73              | 4  | 47.5     | 34.0     | 2.5 | 6  |
| 55              | 71.5  | 75   | 67  | 75              | 4  | 47.5     | 34.0     | 2.5 | 6  |
| 58              | 74.7  | 83   | 70  | 78              | 4  | 52.5     | 39.5     | 2.5 | 6  |
| 60              | 79.3  | 85   | 72  | 80              | 4  | 52.5     | 39.5     | 2.5 | 6  |
| 63              | 82.3  | 88   | 75  | 83              | 4  | 52.5     | 39.5     | 2.5 | 6  |
| 65              | 82.3  | 90   | 77  | 85              | 4  | 52.5     | 39.5     | 2.5 | 7  |
| 68              | 87.5  | 93   | 81  | 90              | 4  | 52.5     | 37.5     | 2.5 | 7  |
| 70              | 89.5  | 95   | 83  | 92              | 4  | 60.0     | 45.0     | 2.5 | 7  |
| 75              | 92.5  | 104  | 88  | 97              | 4  | 60.0     | 45.0     | 2.5 | 7  |
| 80              | 98.6  | 109  | 95  | 105             | 4  | 60.0     | 44.5     | 3.0 | 7  |
| 85              | 107.1 | 114  | 100 | 110             | 4  | 60.0     | 44.5     | 3.0 | 7  |
| 90              | 113.5 | 119  | 105 | 115             | 4  | 65.0     | 49.5     | 3.0 | 7  |
| 95              | 116.7 | 124  | 110 | 120             | 4  | 65.0     | 49.5     | 3.0 | 7  |
| 100             | 123.0 | 129  | 115 | 125             | 4  | 65.0     | 49.5     | 3.0 | 7  |

## HQMB-J34(515E)

Type: Asymmetric Formed Metal Bellow Seal  
 Replacement: Crane 515E  
 Temperature: -40 to +200°C  
 Pressure:  $\leq 2.5\text{Mpa}$   
 Speed:  $\leq 25\text{m/s}$   
 Material: Q1,Q2,U2,T,V,M1,F,G,M



<http://www.hqseal.com>

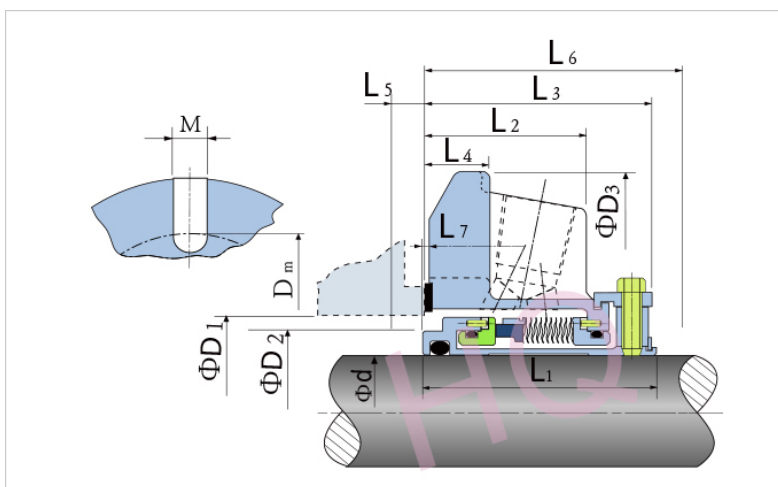


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| Size (mm) | d   | D3    | D4  | L    |
|-----------|-----|-------|-----|------|
| 18        | 18  | 31.0  | 34  | 31.5 |
| 20        | 20  | 31.0  | 36  | 31.5 |
| 22        | 22  | 31.0  | 38  | 31.5 |
| 24        | 24  | 36.0  | 40  | 36.7 |
| 25        | 25  | 36.0  | 41  | 37.0 |
| 28        | 28  | 39.0  | 44  | 37.5 |
| 30        | 30  | 42.0  | 46  | 38.0 |
| 32        | 32  | 46.0  | 48  | 43.0 |
| 33        | 33  | 46.0  | 49  | 43.0 |
| 35        | 35  | 48.5  | 51  | 43.0 |
| 38        | 38  | 51.5  | 58  | 42.0 |
| 40        | 40  | 54.0  | 60  | 42.0 |
| 43        | 43  | 58.4  | 63  | 47.0 |
| 45        | 45  | 58.4  | 65  | 47.0 |
| 48        | 48  | 63.7  | 68  | 47.0 |
| 50        | 50  | 63.7  | 70  | 46.5 |
| 53        | 53  | 69.0  | 73  | 56.5 |
| 55        | 55  | 71.0  | 75  | 56.5 |
| 58        | 58  | 73.3  | 83  | 56.5 |
| 60        | 60  | 76.7  | 85  | 56.5 |
| 63        | 63  | 79.4  | 88  | 56.5 |
| 65        | 65  | 83.0  | 90  | 66.5 |
| 68        | 68  | 87.8  | 93  | 66.5 |
| 70        | 70  | 87.8  | 95  | 65.5 |
| 75        | 75  | 94.0  | 104 | 65.5 |
| 80        | 80  | 100.6 | 109 | 75.0 |
| 85        | 85  | 106.0 | 114 | 75.0 |
| 90        | 90  | 110.3 | 119 | 75.0 |
| 95        | 95  | 114.9 | 124 | 75.0 |
| 100       | 100 | 121.3 | 129 | 75.0 |

# HQMB-J26(5615)

Type: Metal Bellow Seal  
 Replacement: Crane 5615  
 Temperature: -30°C to +205°C  
 Pressure:  $\leq 2.1$  Mpa  
 Speed:  $\leq 25$  m/s  
 Material: A,B,Q1,Q2,U1,U2,T,V,  
 Graphite, T6,F,G,M



<http://www.hqseal.com>

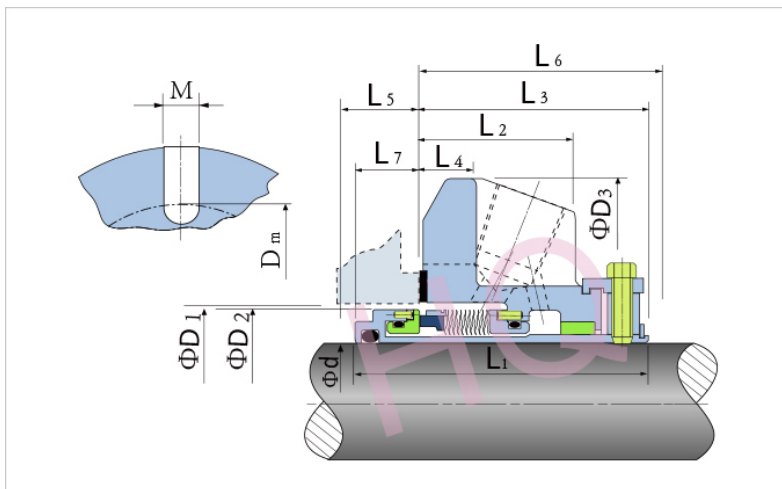
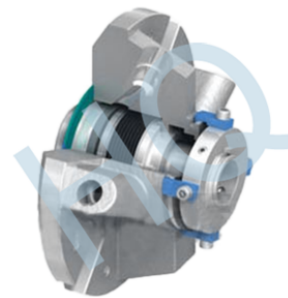


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| d<br>(inch) | D2    | D(min) | D1(max) | D3    | L1    | L2    | L3     | L4    | L6    | L5    | L7    | M     | Dm    |
|-------------|-------|--------|---------|-------|-------|-------|--------|-------|-------|-------|-------|-------|-------|
| 1.000       | 1.375 | 1.445  | 1.889   | 4.000 | 1.989 | 1.353 | 1.954  | 0.531 | 2.000 | 0.160 | 0.035 | 0.525 | 2.805 |
| 1.125       | 1.500 | *      | 2.015   | 4.125 | 2.062 | 1.446 | 2.062  | 0.531 | 2.125 | 0.125 | *     | 0.525 | 2.933 |
| 1.250       | 1.625 | *      | 2.294   | 4.250 | 2.062 | 1.446 | 2.062  | 0.531 | 2.125 | 0.125 | *     | 0.525 | 3.213 |
| 1.375       | 1.750 | *      | 2.421   | 4.375 | 2.062 | 1.446 | 2.062  | 0.531 | 2.125 | 0.125 | *     | 0.525 | 3.338 |
| 1.500       | 1.937 | 2.007  | 2.680   | 4.875 | 2.156 | 1.487 | 2.125  | 0.593 | 2.187 | 0.156 | 0.031 | 0.525 | 3.599 |
| 1.625       | 2.062 | 2.132  | 2.812   | 5.000 | 2.156 | 1.487 | 2.125  | 0.593 | 2.187 | 0.156 | 0.031 | 0.562 | 3.766 |
| 1.750       | 2.170 | 2.24   | 2.918   | 5.250 | 2.156 | 1.487 | 2.125  | 0.593 | 2.187 | 0.156 | 0.031 | 0.562 | 3.875 |
| 1.875       | 2.312 | 2.382  | 2.918   | 5.25  | 2.156 | 1.487 | 2.125  | 0.593 | 2.187 | 0.156 | 0.031 | 0.562 | 3.875 |
| 2.000       | 2.437 | 2.507  | 3.015   | 5.500 | 2.375 | 1.601 | 2.312  | 1.063 | 2.375 | 0.187 | 0.062 | 0.562 | 4.000 |
| 2.125       | 2.562 | 2.632  | 3.360   | 5.859 | 2.375 | 1.601 | 2.312  | 0.593 | 2.375 | 0.187 | 0.062 | 0.687 | 4.469 |
| 2.250       | 2.687 | 2.757  | 3.485   | 6.500 | 2.375 | 1.601 | 2.312  | 0.593 | 2.375 | 0.187 | 0.062 | 0.687 | 4.357 |
| 2.375       | 2.812 | 2.882  | 3.610   | 6.500 | 2.484 | 1.717 | 2.466  | 0.625 | 2.528 | 0.143 | 0.018 | 0.687 | 4.719 |
| 2.500       | 3.062 | *      | 3.891   | 6.75  | 2.484 | 1.717 | 2.563  | 0.625 | 2.625 | 0.125 | *     | 0.687 | 5.000 |
| 2.625       | 3.312 | *      | 4.062   | 6.75  | 2.500 | 1.625 | 2.5000 | 0.625 | 2.562 | 0.125 | *     | 0.687 | 5.170 |
| 2.750       | 3.312 | *      | 4.062   | 6.75  | 2.500 | 1.625 | 2.500  | 0.625 | 2.562 | 0.125 | *     | 0.687 | 5.170 |
| 2.875       | 3.375 | *      | 1.186   | 7.000 | 2.500 | 1.725 | 2.500  | 0.625 | 2.562 | 0.125 | *     | 0.687 | 5.312 |
| 3.000       | 3.625 | *      | 4.469   | 7.75  | 2.500 | 1.787 | 2.562  | 0.685 | 2.625 | 0.125 | *     | 0.812 | 5.720 |

# HQMB-J27(5615Q)

Type: Metal Bellow Seal  
 Replacement: Crane 5615Q  
 Temperature:  $-30^{\circ}\text{C}$  to  $+205^{\circ}\text{C}$   
 Pressure:  $\leq 2.1\text{Mpa}$   
 Speed:  $\leq 25\text{m/s}$   
 Material: A,B,Q1,Q2,U1,U2,T,V,  
 Graphite,T6,F,G,M



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| d<br>(mm) | D2   | D1(min.) | D1(max.) | D3    | L1   | L2   | L3   | L4   | L6   | L5   | L7   | M    | Dm    |
|-----------|------|----------|----------|-------|------|------|------|------|------|------|------|------|-------|
| 24        | 39.7 | 41.3     | 48.0     | 101.6 | 65.4 | 34.4 | 49.6 | 13.5 | 50.8 | 18.9 | 15.8 | 13.3 | 71.2  |
| 25        | 39.7 | 41.3     | 48.0     | 101.6 | 65.4 | 34.4 | 49.6 | 13.5 | 50.8 | 18.9 | 15.8 | 13.3 | 71.2  |
| 28        | 42.9 | 44.5     | 51.2     | 104.8 | 67.3 | 36.7 | 52.4 | 13.5 | 54.0 | 18.1 | 15.0 | 13.3 | 74.5  |
| 30        | 44.5 | 46.1     | 56.5     | 108.0 | 65.1 | 36.7 | 52.4 | 13.5 | 54.0 | 15.9 | 12.7 | 13.3 | 79.9  |
| 32        | 46.0 | 47.6     | 58.3     | 108.0 | 69.3 | 36.7 | 52.4 | 13.5 | 54.0 | 20.1 | 16.9 | 13.3 | 81.6  |
| 33        | 49.3 | 50.8     | 61.5     | 111.1 | 69.3 | 36.7 | 52.4 | 13.5 | 54.0 | 20.1 | 16.9 | 13.3 | 84.6  |
| 35        | 49.3 | 50.8     | 61.5     | 111.1 | 69.3 | 36.7 | 52.4 | 13.5 | 54.0 | 20.1 | 16.9 | 13.3 | 84.6  |
| 38        | 55.5 | 57.2     | 68.1     | 123.8 | 69.7 | 37.8 | 54.0 | 15.1 | 55.5 | 18.9 | 15.7 | 13.3 | 91.4  |
| 40        | 58.7 | 60.3     | 71.4     | 127.0 | 69.7 | 37.8 | 54.0 | 15.1 | 55.5 | 18.9 | 15.7 | 14.3 | 95.7  |
| 43        | 61.1 | 63.0     | 74.4     | 133.4 | 69.7 | 37.8 | 54.0 | 15.1 | 55.5 | 18.9 | 15.7 | 14.3 | 98.4  |
| 45        | 61.1 | 63.0     | 74.1     | 133.4 | 69.7 | 37.8 | 54.0 | 15.1 | 55.5 | 18.9 | 15.7 | 14.3 | 98.4  |
| 48        | 65.1 | 66.7     | 74.1     | 133.4 | 69.7 | 37.8 | 54.0 | 15.1 | 55.5 | 18.9 | 15.7 | 14.3 | 98.4  |
| 50        | 68.3 | 70.0     | 76.6     | 139.7 | 75.3 | 40.7 | 58.7 | 27   | 60.3 | 19.7 | 16.5 | 14.3 | 101.0 |
| 53        | 71.4 | 73.0     | 85.3     | 148.8 | 75.3 | 40.7 | 58.7 | 15.1 | 60.3 | 19.7 | 16.5 | 17.4 | 113.0 |
| 55        | 72.9 | 75.0     | 85.3     | 148.8 | 75.3 | 40.7 | 58.7 | 15.1 | 60.3 | 19.7 | 16.5 | 17.4 | 113.0 |
| 58        | 74.6 | 76.2     | 88.5     | 165.1 | 75.3 | 40.7 | 58.7 | 15.1 | 60.3 | 19.7 | 16.5 | 17.4 | 116.0 |
| 60        | 77.8 | 79.4     | 91.7     | 165.1 | 77.8 | 43.6 | 62.6 | 15.9 | 64.2 | 18.3 | 15.2 | 17.4 | 119.0 |
| 63        | 84.1 | 85.7     | 98.8     | 171.5 | 75.7 | 43.6 | 65.1 | 15.9 | 66.7 | 13.8 | 10.6 | 17.4 | 127.0 |
| 65        | 84.1 | 85.7     | 98.8     | 171.5 | 75.7 | 43.6 | 65.1 | 15.9 | 66.7 | 13.8 | 10.6 | 17.4 | 127.0 |
| 68        | 90.5 | 92.1     | 103.2    | 171.5 | 78.4 | 41.3 | 63.5 | 15.9 | 65.1 | 18.1 | 14.9 | 17.4 | 131.3 |
| 70        | 90.5 | 92.1     | 103.2    | 171.5 | 78.4 | 41.3 | 63.5 | 15.9 | 65.1 | 18.1 | 14.9 | 17.4 | 131.3 |
| 75        | 100  | 101.6    | 113.5    | 196.9 | 78.4 | 45.4 | 65.1 | 17.4 | 66.7 | 16.5 | 13.4 | 20.6 | 145.3 |



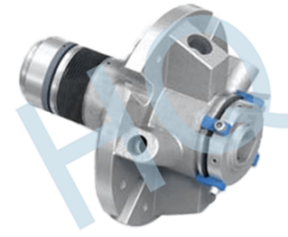
# HQMB-J28(5625/5625P)

Type: Metal Bellow Seal  
Replacement: Crane 5625/5625PR  
Temperature: -30°C to +205°C

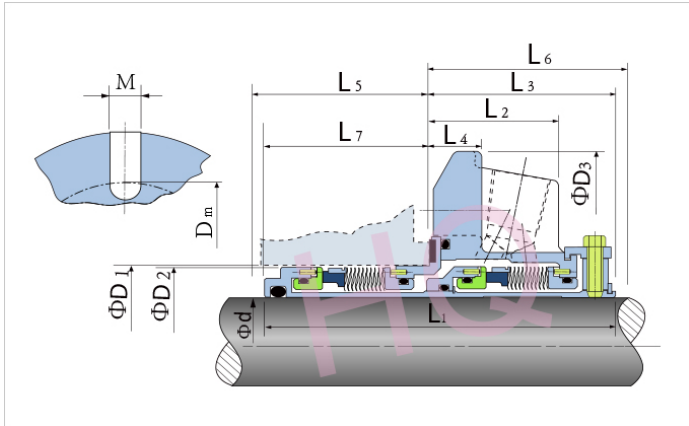
Pressure:  $\leq 2.1\text{Mpa}$

Speed:  $\leq 25\text{m/s}$

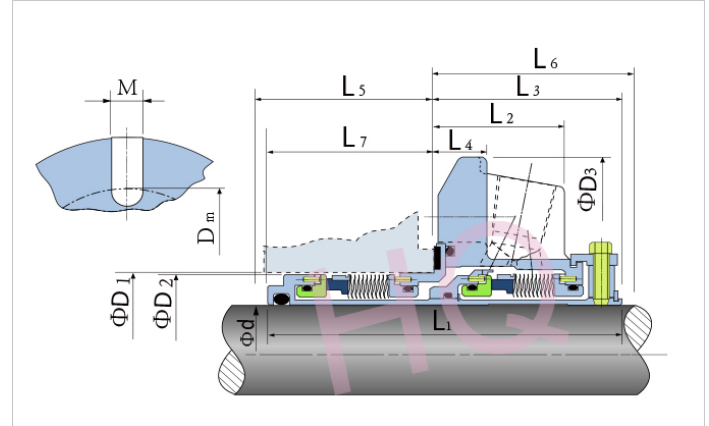
Material: A,B,Q1,Q2,U1,U2,T,V,Graphite,T6,F,G,M



5625



5625PR



| d<br>(mm) | D1<br>(min) | D1<br>(max) | D2    | D3    | L1    | L2   | L3   | L4   | L5   | L6   | L7   | M    | Dm    |
|-----------|-------------|-------------|-------|-------|-------|------|------|------|------|------|------|------|-------|
| 24        | 41.3        | 48.0        | 39.7  | 101.6 | 94.1  | 34.4 | 49.6 | 13.5 | 47.7 | 50.8 | 44.5 | 13.3 | 71.2  |
| 25        | 41.3        | 48.0        | 39.7  | 101.6 | 84.1  | 34.4 | 49.6 | 13.5 | 47.7 | 50.8 | 44.5 | 13.3 | 71.2  |
| 28        | 44.5        | 51.2        | 42.9  | 104.8 | 97.8  | 36.7 | 52.4 | 13.5 | 48.6 | 54.0 | 45.4 | 13.3 | 74.5  |
| 30        | 46.1        | 56.5        | 44.8  | 108.0 | 97.8  | 36.7 | 52.4 | 13.5 | 48.6 | 54.0 | 45.4 | 13.3 | 79.9  |
| 32        | 47.6        | 58.3        | 46.0  | 108.0 | 97.8  | 36.7 | 52.4 | 13.5 | 48.6 | 54.0 | 45.4 | 13.3 | 81.6  |
| 33        | 50.8        | 61.5        | 49.3  | 111.  | 97.8  | 36.7 | 52.4 | 13.5 | 48.6 | 54.0 | 45.4 | 13.3 | 84.8  |
| 35        | 50.8        | 61.5        | 49.3  | 111.  | 97.8  | 36.7 | 52.4 | 13.5 | 48.6 | 54.0 | 45.4 | 13.3 | 84.8  |
| 38        | 57.2        | 68.1        | 55.6  | 123.8 | 101.5 | 37.8 | 54.0 | 15.1 | 50.7 | 55.5 | 47.5 | 13.3 | 91.4  |
| 40        | 60.3        | 71.4        | 58.7  | 127   | 101.5 | 37.8 | 54.0 | 15.1 | 50.7 | 55.5 | 47.5 | 14.3 | 95.7  |
| 43        | 63.0        | 74.1        | 61.5  | 133.4 | 101.5 | 37.8 | 54.0 | 15.1 | 50.7 | 55.5 | 47.5 | 14.3 | 98.4  |
| 45        | 63.0        | 74.1        | 61.5  | 133.4 | 101.5 | 37.8 | 54.0 | 15.1 | 50.7 | 55.5 | 47.5 | 14.3 | 98.4  |
| 48        | 66.7        | 74.1        | 65.1  | 133.4 | 101.5 | 37.8 | 54.0 | 15.1 | 50.7 | 55.5 | 47.5 | 14.3 | 98.4  |
| 50        | 70.0        | 76.6        | 68.3  | 139.7 | 110.6 | 40.7 | 58.7 | 15.1 | 55.0 | 60.3 | 51.9 | 14.3 | 101.6 |
| 53        | 73.0        | 85.3        | 71.4  | 148.8 | 110.6 | 40.7 | 58.7 | 15.1 | 55.0 | 60.3 | 51.9 | 17.4 | 113.5 |
| 55        | 75.0        | 85.3        | 73.0  | 148.8 | 110.6 | 40.7 | 58.7 | 15.1 | 55.0 | 60.3 | 51.9 | 17.4 | 113.5 |
| 58        | 76.2        | 88.5        | 74.6  | 165.1 | 110.6 | 40.7 | 58.7 | 15.1 | 55.0 | 60.3 | 51.9 | 17.4 | 116.0 |
| 60        | 79.4        | 91.7        | 77.8  | 165.1 | 115.4 | 43.6 | 62.6 | 15.9 | 56.0 | 64.2 | 52.8 | 17.4 | 119.9 |
| 63        | 85.7        | 98.8        | 84.1  | 171.5 | 115.4 | 43.6 | 65.1 | 15.9 | 53.5 | 66.7 | 50.3 | 17.4 | 127.0 |
| 65        | 85.7        | 98.8        | 84.1  | 171.5 | 115.4 | 43.6 | 65.1 | 15.9 | 53.5 | 66.7 | 50.3 | 17.4 | 127.0 |
| 68        | 92.1        | 103.2       | 90.5  | 171.5 | 116.7 | 41.3 | 63.5 | 15.9 | 59.4 | 65.1 | 53.2 | 17.4 | 131.3 |
| 70        | 92.1        | 103.2       | 90.5  | 171.5 | 116.7 | 41.3 | 63.5 | 15.9 | 59.4 | 65.1 | 53.2 | 17.4 | 131.3 |
| 75        | 101.6       | 113.5       | 100.0 | 196.9 | 116.7 | 45.4 | 65.1 | 17.4 | 54.8 | 66.7 | 51.6 | 20.6 | 145.3 |

## HQMB-J29(1604)



Type: Metal Bellow Seal

Replacement: Crane 1604

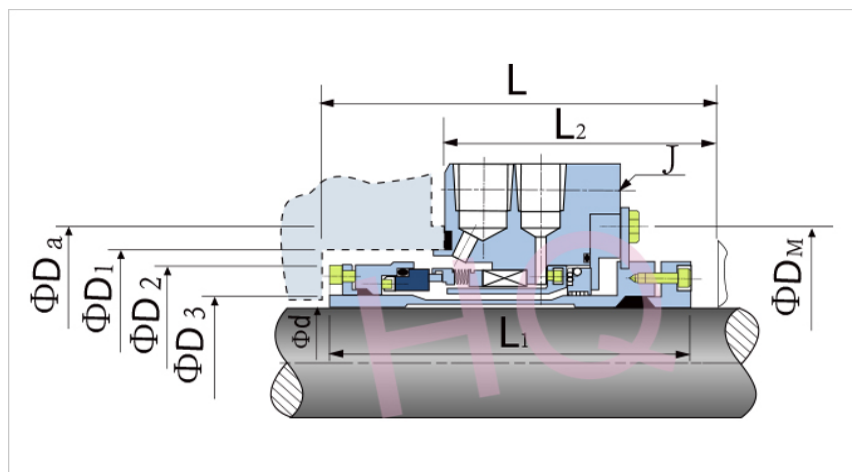
Temperature:  $-75^{\circ}\text{C}$  to  $+425^{\circ}\text{C}$

Pressure:  $\leq 2.0\text{--}6.9\text{Mpa}$

Speed:  $\leq 25\text{m/s}$

Material: A,B,Q1,Q2,U1,U2,T,V,

Graphite,T6,F,G,M, M1



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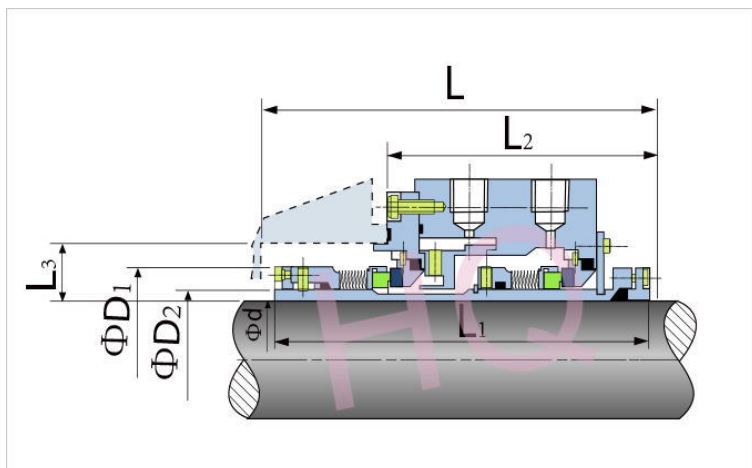


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| d<br>(inch) | D1    | D2    | D3    | L1    | L    | Dm   | L2   | Da  |
|-------------|-------|-------|-------|-------|------|------|------|-----|
| 1.375       | 2.756 | 2.187 | 1.125 | 5.421 | 5.90 | 3.94 | 4.13 | 1/2 |
| 1.750       | 3.150 | 2.562 | 1.500 | 5.508 | 6.10 | 3.94 | 4.53 | 1/2 |
| 2.250       | 3.543 | 3.187 | 2.000 | 5.765 | 6.30 | 3.94 | 4.92 | 1/2 |
| 2.625       | 3.937 | 3.562 | 2.375 | 5.859 | 6.50 | 4.33 | 5.51 | 5/8 |
| 3.000       | 4.724 | 4.063 | 2.750 | 6.109 | 6.69 | 4.33 | 6.30 | 5/8 |
| 3.500       | 5.118 | 4.563 | 3.250 | 6.109 | 6.89 | 4.33 | 6.69 | 5/8 |
| 3.750       | 5.512 | 4.812 | 3.500 | 6.266 | 7.03 | 4.33 | 7.09 | 5/8 |
| 4.250       | 6.299 | 5.312 | 4.000 | 6.266 | 7.28 | 4.72 | 8.07 | 3/4 |
| 4.750       | 6.693 | 5.812 | 4.500 | 6.266 | 7.48 | 4.72 | 8.46 | 3/4 |
| 5.250       | 7.087 | 6.437 | 5.000 | 6.422 | 7.69 | 4.72 | 8.86 | 3/4 |

# HQMB-J30(2609)

Type: Metal Bellow Seal  
 Replacement: Crane 2609  
 Temperature: -75°C to +200°C  
 Pressure: ≤8.0Mpa  
 Speed: ≤25m/s  
 Material: Q1,Q2,U2,T,V,M1,F,G,M



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| d<br>(inch) | D1    | D2    | L    | L1    | L2    | L3    |
|-------------|-------|-------|------|-------|-------|-------|
| 1.125       | 2.125 | 1.500 | 5.75 | 5.540 | 3.332 | 1.000 |
| 1.250       | 2.250 | 1.625 | 5.75 | 5.604 | 3.396 | 1.000 |
| 1.375       | 2.375 | 1.750 | 5.75 | 5.680 | 3.131 | 1.000 |
| 1.500       | 2.500 | 1.875 | 5.75 | 5.720 | 3.453 | 1.000 |
| 1.625       | 2.625 | 2.000 | 5.75 | 5.751 | 3.453 | 1.000 |
| 1.750       | 2.750 | 2.125 | 5.75 | 5.944 | 3.448 | 1.000 |
| 1.875       | 2.875 | 2.250 | 5.75 | 6.002 | 3.448 | 1.000 |
| 2.000       | 3.000 | 2.375 | 6.50 | 6.002 | 3.427 | 1.000 |
| 2.125       | 3.250 | 2.500 | 6.50 | 6.058 | 3.553 | 1.125 |
| 2.250       | 3.375 | 2.625 | 6.50 | 6.163 | 3.556 | 1.125 |
| 2.375       | 3.500 | 2.750 | 6.50 | 6.163 | 3.467 | 1.125 |
| 2.500       | 3.687 | 2.875 | 6.50 | 6.212 | 3.461 | 1.125 |
| 2.625       | 3.812 | 3.000 | 6.50 | 6.307 | 3.538 | 1.125 |
| 2.750       | 4.000 | 3.125 | 6.50 | 6.313 | 3.538 | 1.125 |
| 2.875       | 4.125 | 3.250 | 6.50 | 6.313 | 3.535 | 1.125 |
| 3.000       | 4.25  | 3.375 | 6.50 | 6.313 | 3.535 | 1.125 |
| 3.125       | 4.375 | 3.500 | 7.00 | 6.344 | 3.869 | 1.250 |
| 3.250       | 4.625 | 3.750 | 7.00 | 6.428 | 3.953 | 1.250 |
| 3.375       | 4.750 | 3.875 | 7.00 | 6.500 | 4.025 | 1.250 |
| 3.500       | 4.875 | 4.000 | 7.00 | 6.479 | 4.004 | 1.250 |
| 3.625       | 5.187 | 4.250 | 7.00 | 6.500 | 4.025 | 1.250 |
| 3.750       | 5.187 | 4.250 | 7.00 | 6.500 | 4.025 | 1.250 |
| 3.875       | 5.438 | 4.500 | 7.00 | 6.500 | 4.025 | 1.250 |
| 4.000       | 5.438 | 4.500 | 7.00 | 6.500 | 4.025 | 1.250 |

## HQMB-J31(3609)



Type: Metal Bellow Seal

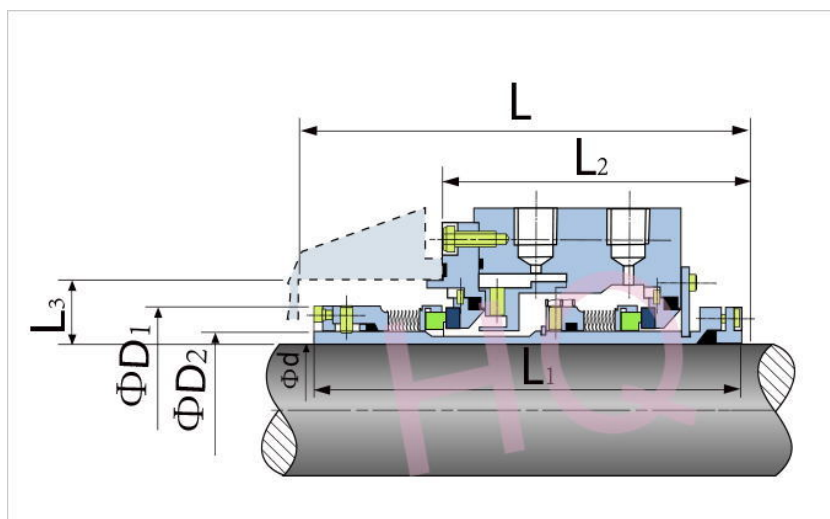
Replacement: Crane 3609

Temperature:  $-75^{\circ}\text{C}$  to  $+290^{\circ}\text{C}$

Pressure:  $\leq 6.0\text{Mpa}$

Speed:  $\leq 20\text{m/s}$

Material: Q1, Q2, U2, T, V, M1, F, G, M



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## Cross Reference Charts

| HQ                                  | BURGMANN | AES             | CRANE | DEPAC | Chesterton | FLOWSERVE | FLEXA | APEX |
|-------------------------------------|----------|-----------------|-------|-------|------------|-----------|-------|------|
| <b>Cartridge,Metal Bellow Seals</b> |          |                 |       |       |            |           |       |      |
| HQCS-A50                            |          | DIN SAI         |       |       |            |           |       |      |
| HQCS-A51                            |          | CS              |       |       |            |           |       |      |
| HQCS-A52                            |          | 1640            |       |       |            |           |       |      |
| HQCS-A53                            |          | CONVERTOR<br>II |       |       |            |           |       |      |
| HQCS-A54                            |          | CURC            |       |       |            |           |       |      |
| HQCS-A55                            |          | CDSA            |       |       |            |           |       |      |
| HQCS-A56                            |          | CSS             |       |       |            |           |       |      |
| HQCS-A57                            |          | CSSN            |       |       |            |           |       |      |
| HQCS-A58                            |          | CDP             |       |       |            |           |       |      |
| HQCS-A59                            |          | CDPN            |       |       |            |           |       |      |
| HQCS-A60                            |          | DMSF            |       |       |            |           |       |      |
| HQCS-A61                            |          | CDFC            |       |       |            |           |       |      |
| HQCS-A62                            |          | NCE             |       |       |            |           |       |      |
| HQCS-63                             |          | DISP            |       |       |            |           |       |      |
| HQCS-A64                            |          | SCUSI           |       |       |            |           |       |      |
| HQCS-A65                            |          | SMSS            |       |       |            |           |       |      |
| HQCS-A32                            |          | SISS            |       |       |            |           |       |      |
| HQCS-A32-1                          |          | SISR            |       |       |            |           |       |      |
| HQS-09                              |          | CDPH            |       |       |            |           |       |      |
| HQMB-A50                            |          | BQFD            |       |       |            |           |       |      |
| HQMB-A51                            |          | BDFC            |       |       |            |           |       |      |
| HQMB-A52                            |          | BDTP            |       |       |            |           |       |      |
| HQMB-A53                            |          | BSFG            |       |       |            |           |       |      |
| HQMB-A54                            |          | BASI            |       |       |            |           |       |      |

## Cross Reference Charts

| HQ                                   | BURGMANN              | AES | CRANE | DEPAC | Chesterton | FLOWSERVE | FLEXA | APEX |
|--------------------------------------|-----------------------|-----|-------|-------|------------|-----------|-------|------|
| <b>Cartridge, Metal Bellow Seals</b> |                       |     |       |       |            |           |       |      |
| HQCS-B01                             | H10/H8                |     |       |       |            |           |       |      |
| HQCS-B02                             | HR                    |     |       |       |            |           |       |      |
| HQCS-B03                             | HRC-N                 |     |       |       |            |           |       |      |
| HQCS-B04                             | SH                    |     |       |       |            |           |       |      |
| HQCS-B05K                            | H75VK                 |     |       |       |            |           |       |      |
| HQCS-B05N                            | H75VN                 |     |       |       |            |           |       |      |
| HQCS-B06                             | MA290/MA390           |     |       |       |            |           |       |      |
| HQCS-B07                             | UNITEX                |     |       |       |            |           |       |      |
| HQCS-B08                             | CARTEX-SN             |     |       |       |            |           |       |      |
| HQCS-B09                             | CARTEX-DN             |     |       |       |            |           |       |      |
| HQCS-B10                             | CARTEX ANSI-S         |     |       |       |            |           |       |      |
| HQCS-B11                             | CARTEX ANSI-D         |     |       |       |            |           |       |      |
| HQCS-B12                             | CARTEX-QN             |     |       |       |            |           |       |      |
| HQCS-B13                             | TSK1                  |     |       |       |            |           |       |      |
| HQCS-B14                             | TSK1D                 |     |       |       |            |           |       |      |
| HQCS-B15                             | APITEX-S              |     |       |       |            |           |       |      |
| HQCS-B16                             | APITEX-T              |     |       |       |            |           |       |      |
| HQCS-B17                             | 4600                  |     |       |       |            |           |       |      |
| HQCS-B18                             | SHF(V)-<br>D/SHF(V)-D |     |       |       |            |           |       |      |
| HQCS-B19                             | SHI300                |     |       |       |            |           |       |      |
| HQCS-B20                             | SHI366                |     |       |       |            |           |       |      |
| HQCS-B21                             | LL9DJUE               |     |       |       |            |           |       |      |



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# Cross Reference Charts

| HQ                                  | BURGMANN   | AES | CRANE | DEPAC | Chesterton | FLOWSERVE | FLEXA | APEX          |
|-------------------------------------|------------|-----|-------|-------|------------|-----------|-------|---------------|
| <b>Cartridge,Metal Bellow Seals</b> |            |     |       |       |            |           |       |               |
| HQ-N13C                             | LP-S       |     |       |       |            |           |       |               |
| HQ-N14C                             | LP-D       |     |       |       |            |           |       |               |
| HQMB-B01                            | MFL65      |     |       |       |            |           |       |               |
| HQMB-B02                            | MBS100     |     |       |       |            |           |       |               |
| HQMB-B03                            | MFL85N     |     |       |       |            |           |       |               |
| HQMB-B04                            | MFLWT80    |     |       |       |            |           |       |               |
| HQMB-B05                            | MFLCT80    |     |       |       |            |           |       |               |
| HQMB-B06                            | LY9SA      |     |       |       |            |           |       |               |
| HQMB-B07                            | MBS682     |     |       |       |            |           |       |               |
| HQMB-B08                            | LY9DZSS    |     |       |       |            |           |       |               |
| HQMB-B09                            | LY9DSTT    |     |       |       |            |           |       |               |
| HQMB-B10                            | MTEX-S     |     |       |       |            |           |       |               |
| HQMB-B11                            | MTEX-D     |     |       |       |            |           |       |               |
| HQMB-B12                            | TS700      |     |       |       |            |           |       |               |
| HQMB-B13                            | MBS682P-D  |     |       |       |            |           |       |               |
| HQMB-B14                            | MBS682-PTA |     |       |       |            |           |       |               |
| HQMB-B15                            | LY9TC      |     |       |       |            |           |       |               |
| HQMB-B16                            | LY9DZTT    |     |       |       |            |           |       |               |
| HQ-N11B                             | MF95N      |     |       |       |            |           |       |               |
| HQ-N12B                             | YE400      |     |       |       |            |           |       |               |
|                                     |            |     |       |       |            |           |       |               |
| HQCS-AP01                           |            |     |       |       |            |           |       | S1            |
| HQCS-AP02                           |            |     |       |       |            |           |       | S1CVD         |
| HQCS-AP03                           |            |     |       |       |            |           |       | S1BB          |
| HQCS-AP04                           |            |     |       |       |            |           |       | D2PR          |
| HQCS-AP05                           |            |     |       |       |            |           |       | HDS           |
| HQMB-AP01                           |            |     |       |       |            |           |       | WB400/450/500 |
| HQMB-AP02                           |            |     |       |       |            |           |       | WB800         |
| HQMB-AP03                           |            |     |       |       |            |           |       | S1WBC         |



# Cross Reference Charts

| HQ                                   | BURGMANN | AES | CRANE      | DEPAC | Chesterton | FLOWSERVE | FLEXA | APEX |
|--------------------------------------|----------|-----|------------|-------|------------|-----------|-------|------|
| <b>Cartridge, Metal Bellow Seals</b> |          |     |            |       |            |           |       |      |
| HQCS-J21                             |          |     | 4610       |       |            |           |       |      |
| HQCS-J22                             |          |     | 4620P      |       |            |           |       |      |
| HQCS-J23                             |          |     | 5610       |       |            |           |       |      |
| HQCS-J24                             |          |     | 5610Q      |       |            |           |       |      |
| HQCS-J25                             |          |     | 5611       |       |            |           |       |      |
| HQCS-J26                             |          |     | 5611Q      |       |            |           |       |      |
| HQCS-J27                             |          |     | 48LP/48HP  |       |            |           |       |      |
| HQCS-J28                             |          |     | 5620/5620P |       |            |           |       |      |
| HQCS-J29                             |          |     | 5840       |       |            |           |       |      |
| HQCS-J30                             |          |     | 1648       |       |            |           |       |      |
| HQCS-J31                             |          |     | SB2        |       |            |           |       |      |
| HQCS-J33                             |          |     | SB1        |       |            |           |       |      |
| HQCS-J34                             |          |     | SBW        |       |            |           |       |      |
| HQCS-J35                             |          |     | SB1A       |       |            |           |       |      |
| HQCS-J36                             |          |     | SB2A       |       |            |           |       |      |
| HQCS-J37                             |          |     | FFET       |       |            |           |       |      |
| HQCS-J39                             |          |     | 2648       |       |            |           |       |      |
| HQCS-J40                             |          |     | 3648       |       |            |           |       |      |
| HQCS-J41                             |          |     | SE         |       |            |           |       |      |
| HQCS-J42                             |          |     | SE1        |       |            |           |       |      |
| HQCS-J43                             |          |     | SE2        |       |            |           |       |      |
| HQCS-J44                             |          |     | SE2C       |       |            |           |       |      |
| HQCS-J45                             |          |     | SEW        |       |            |           |       |      |
| HQCS-J46                             |          |     | JCS1       |       |            |           |       |      |
| HQCS-J47                             |          |     | JCS1A      |       |            |           |       |      |
| HQCS-J48                             |          |     | JCS1F      |       |            |           |       |      |





| HQ                                  | BURGMANN | AES | CRANE      | DEPAC | Chesterton | FLOWSERVE | FLEXA | APEX |
|-------------------------------------|----------|-----|------------|-------|------------|-----------|-------|------|
| <b>Cartridge,Metal Bellow Seals</b> |          |     |            |       |            |           |       |      |
| HQCS-J49                            |          |     | JCS2       |       |            |           |       |      |
| HQCS-J50                            |          |     | JCS2P      |       |            |           |       |      |
| HQCS-J51                            |          |     | SAF        |       |            |           |       |      |
| HQCS-J52                            |          |     | 4111       |       |            |           |       |      |
| HQCS-J53                            |          |     | 8B         |       |            |           |       |      |
| HQCS-J54                            |          |     | 8BV        |       |            |           |       |      |
| HQS-08                              |          |     | 5860       |       |            |           |       |      |
|                                     |          |     |            |       |            |           |       |      |
| HQMB-J20                            |          |     | 680        |       |            |           |       |      |
| HQMB-J21                            |          |     | 609        |       |            |           |       |      |
| HQMB-J22                            |          |     | 670/676    |       |            |           |       |      |
| HQMB-J23                            |          |     | 604        |       |            |           |       |      |
| HQMB-J24                            |          |     | 606        |       |            |           |       |      |
| HQMB-J25                            |          |     | 613        |       |            |           |       |      |
| HQCS-J26                            |          |     | 5615       |       |            |           |       |      |
| HQMB-J27                            |          |     | 5615Q      |       |            |           |       |      |
| HQMB-J28                            |          |     | 5625/5625P |       |            |           |       |      |
| HQMB-J29                            |          |     | 1604       |       |            |           |       |      |
| HQMB-J30                            |          |     | 2609       |       |            |           |       |      |
| HQMB-J31                            |          |     | 3609       |       |            |           |       |      |
| HQMB-J32                            |          |     | EZ1        |       |            |           |       |      |
| HQMB-J33                            |          |     | GL1B       |       |            |           |       |      |
| HQMB-J34                            |          |     | 515E       |       |            |           |       |      |



## Metarial Codes

| Metal Materials          |                                    |            |      |
|--------------------------|------------------------------------|------------|------|
| Type                     | Material Description               | Symbol     | Code |
|                          | Normal Stainless Steel             | 2Cr13      | F2   |
|                          | Stainless Steel                    | 304        | F    |
|                          | Stainless Steel                    | 304L       | F1   |
|                          | Stainless Steel                    | 316        | G    |
|                          | Stainless Steel                    | 316L       | G1   |
|                          | Hastelloy C-4 Alloy                | Hast C4    | M    |
|                          | Hastelloy B-2 Alloy                | Hast B2    | M1   |
|                          | Carpenter                          | Carp.20    | M3   |
|                          | Monel                              | Monel.K50  | M4   |
|                          | Hastelloy C-4C-276 Alloy           | Hast.C-276 | M5   |
|                          | Pure Titanim                       | TA2        | T2   |
|                          | Carpenter                          | Carp.42    | T4   |
|                          | Deposit induration Stainless Steel | Am350      | T6   |
|                          | 08F Coated with Chrome             | Q235-A     | C    |
|                          | Brass                              | H62        | H    |
|                          |                                    |            |      |
| Secondary Seal Materials |                                    |            |      |
| Type                     | Material Description               | Symbol     | Code |
| Rubber                   | Nitrile(NBR)                       | NBR        | P    |
|                          | Ethylene Propylene(EPDM)           | EPR        | E    |
|                          | Fluorocarbon Rubber(Viton)         | FPM        | V    |
|                          | Silicon Rubber                     | SI         | S    |
|                          | Chloroprene Rubber                 | CR         | N    |
|                          | Hydrogen Nitrile                   | HNBR       | H    |
|                          | Perfluoroelastomer(Kalrez,Chemraz) | FFKM       | K    |
| PTFE                     | Pure PTFE                          | PTFE       | T    |
|                          | PTFE, glassfibre reinforced        |            | T2   |
|                          | PTFE,Carbon Reinforced             |            | T3   |
| PTFE Wrapped             | FPM,with PTFE wrapped              | PTFE+FPM   | M1   |
|                          | EPR,with PTFE wrapped              | PTFE+EPR   | M2   |
|                          | MVQ,with PTFE wrapped              | PTFE+MVQ   | M3   |
| Expended graphite        | Expanded Graphite                  |            | G    |



| Seal Ring Materials |                                                  |             |      |
|---------------------|--------------------------------------------------|-------------|------|
| Type                | Material Description                             | Symbol      | Code |
| SIC                 | Silicon Carbide,Sintered Pressureless            | SSIC        | Q1   |
|                     | Silicon Carbide,Sintered Pressureless(shrunk-in) |             | Q12  |
|                     | Silicon Carbide,Reaction bonded                  | RBSIC       | Q2   |
|                     | Silicon Carbide,Reaction bonded(shrunk-in)       |             | Q22  |
|                     | Reaction Silicon Carbide with graphite           |             | Q3   |
|                     | Sintered Silocon Carbide with SB                 |             | Q4   |
| AL203               | Ceramic(Alumina)                                 | 99.5% AL203 | V    |
|                     | Ceramic(Alumina)                                 | 99% AL203   | V1   |
|                     | Ceramic(Alumina)                                 | 95% AL203   | V2   |
|                     | Cermet                                           | Fe+AL203    | V3   |
| TC                  | Co-binder Tungsten Carbide                       | YG6,GY8     | U1   |
|                     | Co-binder Tungsten Carbide(shrunk-in)            |             | U12  |
|                     | Ni-binder Tungsten Carbide                       | M106,M108   | U2   |
|                     | Ni-binder Tungsten Carbide(shrunk-in)            |             | U22  |
|                     | NiCrmo-binder Tungsten Carbide                   |             | U3   |
|                     | NiCrmo-binder Tungsten Carbide(shrunk-in)        |             | U32  |
| Carbon              | Antimony Impreg,Carbon Graphite                  |             | A    |
|                     | Babbit Alloy Impreg,Carbon Graphite              |             | A1   |
|                     | Copper Impreg,Carbon Graphite                    |             | A2   |
|                     | Resin Impregnated Carbon Graphite(Furan)         |             | B    |
|                     | Resin Impregnated Carbon Graphite(Epoxy)         |             | B1   |
|                     | Resin Impregnated Carbon(Phedol-formaldehyde)    |             | B2   |
|                     | Hot-pressing Carbon                              |             | B5   |
| Metal               | Stainless Steel                                  | 304         | F    |
|                     | Stainless Steel                                  | 304L        | F1   |
|                     | Stainless Steel                                  | 316         | G    |
|                     | Stainless Steel                                  | 316L        | G1   |
|                     | Tin bronze                                       | ZQSn6-6-3   | S1   |
|                     | High silicon cast iron                           |             | S2   |
|                     | High nickel cast iron                            |             | S3   |
| Plastic             | PTFE,glassfibre reinforced                       |             | Y1   |
|                     | PTFE,carbon reinforced                           |             | Y2   |
| Spring Materials    |                                                  |             |      |
| Type                | Material Description                             | Symbol      | Code |
|                     | Hastelloy C-4 Alloy                              | Hast.C4     | M    |
|                     | Stainless Steel                                  | 304         | F    |
|                     | Stainless Steel                                  | 304L        | F1   |
|                     | Stainless Steel                                  | 316         | G    |
|                     | Stainless Steel                                  | 316L        | G1   |
|                     | 65Mn Coated with Chrome                          | 65Mn        | G8   |