# K81
## Back-up Ring



K81 back-up rings are sealing elements typically used behind O-rings to ensure system integrity and minimize extrusion gaps in various applications.
They can be manufactured from different materials using various production methods.

### Advantages
- High extrusion resistance
- Long service life

### Application
- Agricultural machinery
- Construction machinery
- Loading platforms
- Injection moulding machines
- Forklifts
- Standard industrial cylinders

## Operating Conditions

| | | | |
|---|---|---|---|
| **PRESSURE (bar):** | 400 bar (max) | | |
| **TEMPERATURE (°C):** | -40/+100 °C | +5/+60 °C | -30/+60 °C |
| **MEDIA TYPE:** | Mineral Oils | HFA/HFB | HFC |

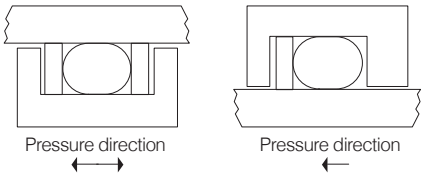
*NOTE: The above values (speed, pressure, temperature) are maximum values, all cannot be used at the same time.*

## Material Information

| Back-up Ring | Remarks |
|---|---|
| Termoplastik Elastomer-TP5501 | TPE malzemeden standart olarak üretilmektedir. |
| PTFE/Termoplastik | Back-up ring can be produced from PTFE / Thermoplastic type materials. |

*Note: In the special application conditions (temperature, media, etc.) Can be produced from different materials. You can refer to Table 2.7 and Table 2.8 for details or you can contact our sales department.*

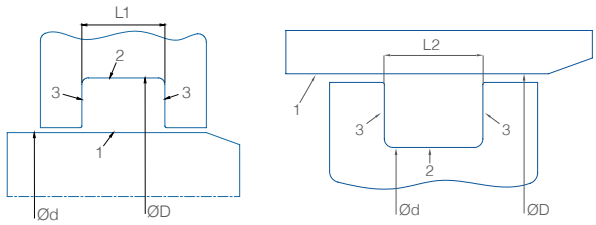
## Akma Boşluğu «S»




*A double back-up ring is used when the flow comes from two directions, and a single back-up ring is used when it comes from one direction.*

In static studies, o-rings can work at high pressures. It is recommended to use them with back-up ring in cases of 100 bar and above. With the use of a back-up ring, the system is protected against sudden pressure increases and a long working life is provided. It is important to manufacture within H8/f7 tolerances in piston and throat applications to ensure that the extrusion gap remains at low values. For diameters of Ø400 and above, H7 / f7 fit is recommended for static applications.

## Surface Roughness

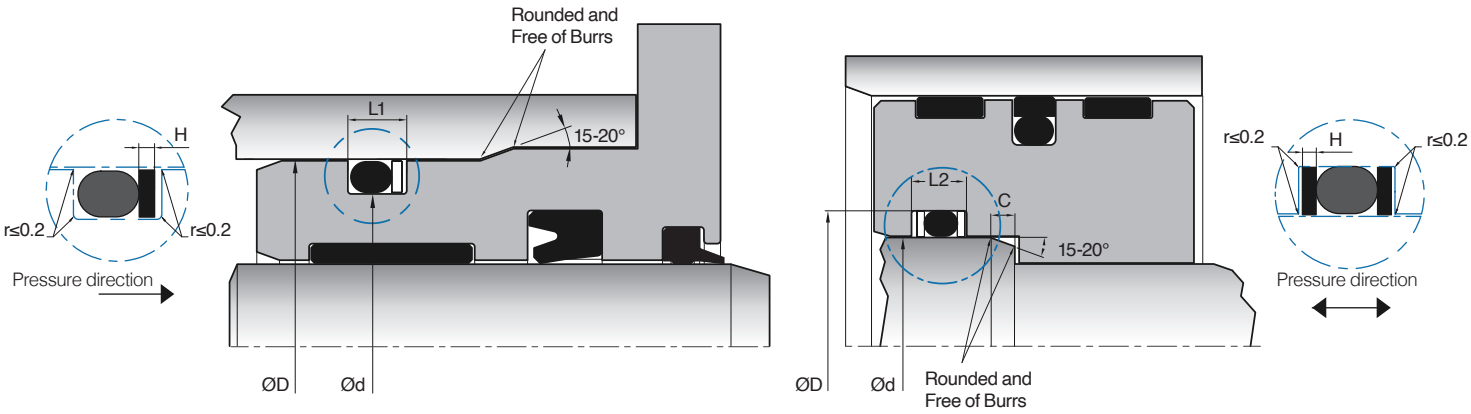



| | 1 (rod) | 2 (groove base) | 3 (groove flanks) |
|---|---|---|---|
| **Ra** | 0.1-0.8 µm | 0.2-1.8 µm | 0.2-3 µm |
| **Rmax** | < 3.2 µm | < 6.3 µm | < 16 µm |

## Installation Information

During installation, precautions should be taken with protective apparatuses against the notch damages caused by thread. It should be checked before assembly if the chamfers are proper. It is recommended that the sealing element be lubricated with oil.

# **K81** Back-up Ring




| KASTAŞ NO | d (f7) | D (H8) | H | L1 (+0.2/-0) | L2 (+0.2/-0) | O-Ring d2 | KASTAŞ CODE |
|---|---|---|---|---|---|---|---|
| K81-006 | 6 | 12 | 2 | 6.5 | 8.5 | 3.53 | 10028658 |
| K81-012 | 12 | 16 | 1.2 | 4.6 | 5.8 | 2.62 | 10028659 |
| K81-014 | 14 | 18 | 1.3 | 4.7 | 6 | 2.62 | 10028660 |
| K81-019 | 19 | 23 | 1.3 | 4.7 | 6 | 2.62 | 10028663 |
| K81-020 | 20 | 25 | 1.3 | 5.2 | 6.5 | 3 | 10028664 |
| K81-022 | 22 | 28 | 1.5 | 6 | 7.5 | 3.53 | 10028666 |
| K81-025 | 25.4 | 30 | 1.9 | 5.8 | 7.7 | 3 | 10028668 |
| K81-025/1 | 25 | 30 | 1.3 | 5.2 | 6.5 | 3 | 10028669 |
| K81-026 | 26 | 30 | 2 | 5.4 | 7.4 | 2.62 | 10028671 |
| K81-027 | 27 | 32 | 1.3 | 5.2 | 6.5 | 3 | 10028672 |
| K81-028 | 28.2 | 34.6 | 1.3 | 6.5 | 7.8 | 4 | 10028673 |
| K81-029 | 29.8 | 35 | 1 | 4.9 | 5.9 | 3 | 10028675 |
| K81-030 | 30 | 35 | 1.3 | 5.2 | 6.5 | 3 | 10028676 |
| K81-034 | 34.68 | 39.68 | 1.75 | 5.65 | 7.4 | 3 | 10028679 |
| K81-035 | 35 | 40 | 1.3 | 5.2 | 6.5 | 3 | 10028681 |
| K81-036 | 36 | 40.5 | 1.25 | 5.15 | 6.4 | 3 | 10028685 |
| K81-036/1 | 36 | 40 | 1.8 | 5.2 | 7 | 2.62 | 10028686 |
| K81-037 | 37 | 42 | 1.3 | 5.2 | 6.5 | 3 | 10028687 |
| K81-038 | 38 | 43 | 1.3 | 5.2 | 6.5 | 3 | 10028688 |
| K81-040 | 40 | 45 | 1.3 | 5.2 | 6.5 | 3 | 10028690 |
| K81-040/1 | 40 | 45 | 1.9 | 5.8 | 7.7 | 3 | 10028693 |
| K81-041 | 41 | 45.5 | 1.25 | 5.15 | 6.4 | 3 | 10028696 |
| K81-043 | 43 | 48 | 1.3 | 5.2 | 6.5 | 3 | 10028697 |
| K81-043/1 | 43 | 50 | 1.9 | 7.1 | 9 | 4 | 10028700 |
| K81-044 | 44.3 | 50.5 | 1.3 | 6.5 | 7.8 | 4 | 10028701 |
| K81-045 | 45 | 50 | 1.3 | 5.2 | 6.5 | 3 | 10028703 |
| K81-045/4 | 45 | 55 | 1.5 | 9.3 | 10.8 | 6 | 10028707 |
| K81-046 | 46 | 50.5 | 1.25 | 5.15 | 6.4 | 3 | 10028709 |
| K81-047 | 47 | 52 | 1.3 | 5.2 | 6.5 | 3 | 10028710 |
| K81-048 | 48 | 54 | 1.5 | 6 | 7.5 | 3.53 | 10028712 |
| K81-049 | 49 | 55 | 1.3 | 5.8 | 7.1 | 3.53 | 10028713 |
| K81-050 | 50 | 55 | 1.3 | 5.2 | 6.5 | 3 | 10028715 |
| K81-050/2 | 50 | 60 | 1.7 | 9.1 | 10.8 | 5.7 | 10028719 |
| K81-052 | 52 | 60 | 1.9 | 8.4 | 10.3 | 5 | 10028722 |
| K81-053 | 53.7 | 60 | 1.9 | 7.1 | 9 | 4 | 10028723 |
| K81-053/1 | 53 | 63 | 1.7 | 9.1 | 10.8 | 5.7 | 10028724 |
| K81-055 | 55 | 63 | 1.9 | 8.4 | 10.3 | 5 | 10028727 |
| K81-055/1 | 55.7 | 60 | 1.3 | 5.2 | 6.5 | 3 | 10028728 |
| K81-055/2 | 55.15 | 61 | 1.45 | 5.95 | 7.4 | 3.53 | 10028729 |
| K81-055/4 | 55 | 65 | 1.9 | 9.7 | 11.6 | 6 | 10028731 |
| K81-055/5 | 55 | 60 | 1.3 | 5.2 | 6.5 | 3 | 10028732 |
| K81-056 | 56 | 60.5 | 1.3 | 5.2 | 6.5 | 3 | 10028736 |

| KASTAŞ NO | d (f7) | D (H8) | H | L1 (+0.2/-0) | L2 (+0.2/-0) | O-Ring d2 | KASTAŞ CODE |
|---|---|---|---|---|---|---|---|
| K81-057 | 57.6 | 63 | 2 | 6.5 | 8.5 | 3.53 | 10028737 |
| K81-057/1 | 57.7 | 63.7 | 1.05 | 5.55 | 6.6 | 3.53 | 10028738 |
| K81-057/2 | 57.4 | 63 | 1.4 | 5.9 | 7.3 | 3.53 | 10028739 |
| K81-057/4 | 57.61 | 61.97 | 1.14 | 5.04 | 6.18 | 3 | 10028741 |
| K81-058 | 58 | 63 | 1.3 | 5.2 | 6.5 | 3 | 10028743 |
| K81-058/1 | 58.5 | 63.5 | 1.3 | 5.2 | 6.5 | 3 | 10028745 |
| K81-058/2 | 58.7 | 65 | 1.9 | 7.1 | 9 | 4 | 10028746 |
| K81-059 | 59 | 63.5 | 1.3 | 5.2 | 6.4 | 3 | 10028747 |
| K81-060/1 | 60 | 70 | 1.7 | 9.1 | 10.8 | 5.7 | 10028749 |
| K81-060/2 | 60 | 65 | 1.3 | 5.2 | 6.5 | 3 | 10028750 |
| K81-062 | 62 | 70 | 1.9 | 8.4 | 10.3 | 5 | 10028755 |
| K81-062/1 | 62.2 | 68 | 1.3 | 5.8 | 7.1 | 3.53 | 10028756 |
| K81-063 | 63.6 | 70 | 1.4 | 6.6 | 8 | 4 | 10028758 |
| K81-064 | 64 | 73.3 | 1.5 | 8.9 | 10.4 | 5.7 | 10028760 |
| K81-064/1 | 64.4 | 70 | 1.4 | 5.9 | 7.3 | 3.53 | 10028761 |
| K81-065 | 65 | 70 | 1.3 | 5.2 | 6.5 | 3 | 10028764 |
| K81-065/1 | 65 | 75 | 1.7 | 9.1 | 10.8 | 5.7 | 10028767 |
| K81-066 | 66 | 70.5 | 1.3 | 5.2 | 6.5 | 3 | 10028771 |
| K81-067 | 67.4 | 73 | 1.6 | 6.1 | 7.7 | 3.53 | 10028773 |
| K81-069 | 69.8 | 75 | 1.3 | 5.2 | 6.5 | 3 | 10028775 |
| K81-069/2 | 69.4 | 75 | 1.4 | 5.9 | 7.3 | 3.53 | 10028777 |
| K81-070 | 70 | 75 | 1.3 | 5.2 | 6.5 | 3 | 10028778 |
| K81-070/1 | 70 | 80 | 1.7 | 9.1 | 10.8 | 5.7 | 10028781 |
| K81-072 | 72 | 80 | 1.9 | 8.4 | 10.3 | 5 | 10028785 |
| K81-075 | 75 | 80 | 1.3 | 5.2 | 6.5 | 3 | 10028790 |
| K81-075/1 | 75 | 80.5 | 1.25 | 5.15 | 6.4 | 3 | 10028792 |
| K81-075/2 | 75.6 | 82 | 1.9 | 7.1 | 9 | 4 | 10028793 |
| K81-075/3 | 75 | 85 | 1.9 | 9.3 | 11.2 | 5.7 | 10028794 |
| K81-075/4 | 75.4 | 80 | 1.4 | 5.3 | 6.7 | 3 | 10028795 |
| K81-077 | 77 | 83 | 1.5 | 6 | 7.5 | 3.53 | 10028796 |
| K81-079 | 79.8 | 89.1 | 1.5 | 8.9 | 10.4 | 5.7 | 10028797 |
| K81-079/1 | 79.4 | 85 | 1.3 | 5.8 | 7.1 | 3.53 | 10028798 |
| K81-080 | 80 | 85 | 1.3 | 5.2 | 6.5 | 3 | 10028801 |
| K81-082 | 82 | 90 | 1.9 | 8.4 | 10.3 | 5 | 10028806 |
| K81-084 | 84.3 | 90 | 1.3 | 5.8 | 7.1 | 3.53 | 10028808 |
| K81-085 | 85 | 90 | 1.3 | 5.2 | 6.5 | 3 | 10028809 |
| K81-090 | 90 | 95 | 1.3 | 5.2 | 6.5 | 3 | 10028815 |
| K81-090/1 | 90 | 100 | 1.7 | 9.1 | 10.8 | 5.7 | 10028818 |
| K81-091 | 91 | 96.4 | 1.3 | 5.8 | 7.1 | 3.53 | 10028823 |
| K81-092 | 92 | 100 | 1.9 | 8.4 | 10.3 | 5 | 10028824 |
| K81-095 | 95 | 100 | 1.3 | 5.2 | 6.5 | 3 | 10028828 |
| K81-100 | 100 | 110 | 1.7 | 9.1 | 10.8 | 5.7 | 10028834 |
| K81-100/1 | 100 | 108.2 | 1.9 | 8.4 | 10.3 | 5 | 10028837 |
| K81-100/2 | 100.6 | 110 | 1.7 | 9.1 | 10.8 | 5.7 | 10028838 |
| K81-100/3 | 100.2 | 105 | 1.4 | 5.3 | 6.7 | 3 | 10028839 |
| K81-102 | 102 | 110 | 1.9 | 8.4 | 10.3 | 5 | 10028840 |
| K81-105 | 105 | 110 | 1.3 | 5.2 | 6.5 | 3 | 10028841 |
| K81-107 | 107 | 115 | 1.9 | 8.4 | 10.3 | 5 | 10028843 |
| K81-108 | 108 | 114 | 1.5 | 6 | 7.5 | 3.53 | 10028844 |
| K81-109 | 109 | 118.3 | 1.87 | 9.27 | 11.14 | 5.7 | 10028845 |
| K81-110 | 110 | 115 | 1.3 | 5.2 | 6.5 | 3 | 10028846 |
| K81-110/1 | 110 | 120 | 1.7 | 9.1 | 10.8 | 5.7 | 10028849 |
| K81-110/2 | 110 | 120 | 1.9 | 9.3 | 11.2 | 5.7 | 10028852 |
| K81-112 | 112 | 120 | 1.9 | 8.4 | 10.3 | 5 | 10028853 |
| K81-114 | 114.8 | 125 | 2 | 9.8 | 11.8 | 6 | 10028854 |
| K81-115 | 115 | 125 | 1.7 | 9.1 | 10.8 | 5.7 | 10028855 |

| KASTAŞ NO | d (f7) | D (H8) | H | L1 (+0.2/-0) | L2 (+0.2/-0) | O-Ring d2 | KASTAŞ CODE |
|---|---|---|---|---|---|---|---|
| K81-115/1 | 115 | 124.3 | 1.5 | 8.9 | 10.4 | 5.7 | 10028858 |
| K81-115/2 | 115 | 125 | 1.9 | 9.3 | 11.2 | 5.7 | 10028859 |
| K81-115/3 | 115 | 121.2 | 1.22 | 6.42 | 7.64 | 4 | 10028860 |
| K81-117 | 117 | 125 | 1.9 | 8.4 | 10.3 | 5 | 10028861 |
| K81-118 | 118.2 | 127.5 | 1.5 | 8.9 | 10.4 | 5.7 | 10028862 |
| K81-120 | 120 | 125 | 1.3 | 5.2 | 6.5 | 3 | 10028863 |
| K81-120/1 | 120 | 130 | 1.7 | 9.1 | 10.8 | 5.7 | 10028866 |
| K81-122 | 122 | 130 | 1.9 | 8.4 | 10.3 | 5 | 10028870 |
| K81-125 | 125 | 135 | 1.9 | 9.3 | 11.2 | 5.7 | 10028871 |
| K81-130 | 130 | 140 | 1.7 | 9.1 | 10.8 | 5.7 | 10028872 |
| K81-130/1 | 130.7 | 140 | 1.9 | 9.3 | 11.2 | 5.7 | 10028874 |
| K81-135 | 135 | 140 | 1.25 | 5.15 | 6.4 | 3 | 10028877 |
| K81-137 | 137.8 | 149.8 | 2.45 | 11.6 | 14.1 | 6.99 | 10028878 |
| K81-138 | 138.4 | 150 | 2.5 | 11.6 | 14.1 | 6.99 | 10028880 |
| K81-140 | 140 | 150 | 1.7 | 9.1 | 10.8 | 5.7 | 10028881 |
| K81-145 | 145 | 160 | 2.1 | 13 | 15.1 | 8.4 | 10028885 |
| K81-150 | 150.7 | 160 | 1.9 | 9.3 | 11.2 | 5.7 | 10028889 |
| K81-150/1 | 150 | 160 | 1.7 | 9.1 | 10.8 | 5.7 | 10028890 |
| K81-151 | 151 | 160 | 1.9 | 8.8 | 10.7 | 5.33 | 10028892 |
| K81-153 | 153.3 | 165 | 2 | 11.1 | 13.1 | 6.99 | 10028893 |
| K81-155 | 155 | 170 | 2.1 | 13 | 15.1 | 8.4 | 10028894 |
| K81-155/1 | 155 | 165 | 1.7 | 9.1 | 10.8 | 5.7 | 10028897 |
| K81-156 | 156.12 | 170 | 2.5 | 12.9 | 15.4 | 8 | 10028899 |
| K81-158 | 158.4 | 170 | 2.5 | 11.6 | 14.1 | 6.99 | 10028900 |
| K81-161 | 161.8 | 170 | 1.9 | 8.4 | 10.3 | 5 | 10028902 |
| K81-165 | 165 | 180 | 2.1 | 13 | 15.1 | 8.4 | 10028903 |
| K81-170 | 170.7 | 180 | 1.9 | 9.3 | 11.2 | 5.7 | 10028907 |
| K81-175 | 175 | 190 | 2.1 | 13 | 15.1 | 8.4 | 10028909 |
| K81-181 | 181.8 | 190 | 1.9 | 8.4 | 10.3 | 5 | 10028913 |
| K81-187 | 187.4 | 200 | 2 | 12.9 | 14.9 | 8.4 | 10028916 |
| K81-188 | 188.4 | 200 | 2.5 | 11.6 | 14.1 | 6.99 | 10028917 |
| K81-190 | 190.7 | 200 | 1.9 | 9.3 | 11.2 | 5.7 | 10028918 |
| K81-192 | 192.6 | 202 | 1.9 | 9.3 | 11.2 | 5.7 | 10028919 |
| K81-198 | 198.4 | 210 | 2.5 | 11.6 | 14.1 | 6.99 | 10028923 |
| K81-201 | 201.8 | 210 | 1.9 | 8.4 | 10.3 | 5 | 10028924 |
| K81-205 | 205.7 | 215 | 1.9 | 9.3 | 11.2 | 5.7 | 10028925 |
| K81-210 | 210.7 | 220 | 1.9 | 9.3 | 11.2 | 5.7 | 10028926 |
| K81-220 | 220.7 | 230 | 1.9 | 9.3 | 11.2 | 5.7 | 10028929 |
| K81-228 | 228.4 | 240 | 2.5 | 11.6 | 14.1 | 6.99 | 10028933 |
| K81-235 | 235 | 250 | 2.05 | 13 | 15.1 | 8.4 | 10028934 |
| K81-240 | 240.7 | 250 | 1.9 | 9.3 | 11.2 | 5.7 | 10028935 |
| K81-241 | 241.8 | 250 | 1.9 | 8.4 | 10.3 | 5 | 10028936 |
| K81-245 | 245 | 260 | 2.05 | 13 | 15.1 | 8.4 | 10028937 |
| K81-260 | 260.7 | 270 | 1.9 | 9.3 | 11.2 | 5.7 | 10028939 |
| K81-266 | 266 | 280 | 2.5 | 13.4 | 15.9 | 8.4 | 10028941 |
| K81-290 | 290.7 | 300 | 1.9 | 9.3 | 11.2 | 5.7 | 10028942 |
| K81-295 | 295.7 | 305 | 1.9 | 9.3 | 11.2 | 5.7 | 10028943 |
| K81-316 | 316 | 330 | 2.5 | 13.4 | 15.9 | 8.4 | 10028944 |