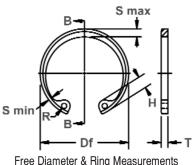
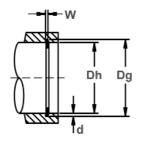
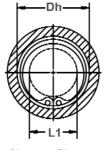


Axially Assembled, Internal Beveled

These rings look exactly like their HO counterpart, only they have a 15° angle on the outer edge. This combines with a complementary groove angle to eliminate endplay by wedging itself between the groove and the retained part.









Free Diameter & Ring Measurements with Section B-B

Housing Diameter & Groove Dimensions

Clearance Diameter Compressed in Housing

Clearance Diameter & Gap Width Released in Groove

| RING | | HOUSING | | | GRO | OVE SIZ | E. | | | | RING | SIZE & W | /EIGHT | | | CLEARAN | ICE DIA. |
|---------|-----------|-------------|----------|-------|-------|---------|-------|-------|-------|----------------------------|------|----------|-----------------|--------------------------------|----------------------------------|-------------------------------|----------|
| NO. | | DIAMETER | | DIAM | ETER | WII | DTH | DEPTH | | FREE THICKNESS*** DIAMETER | | | (NESS Ed end | Weight. Per 1000 Pcs. | Com- pressed in housing | Re- leased in groove | |
| | Dh DEC | Dh Fract | Dh mm | Da | Tol. | w | Tol. | d | Df | Tol. | т | Tol. | U | Tol. | lbs. | L1 | L2 |
| VHO-100 | 1.000 | 1 | 25.4 | 1.076 | +.003 | .036 | 101. | .038 | 1.111 | +.015 | .042 | 10 | .033 | 10 | 2.7 | .665 | .70 |
| VHO-102 | 1.023 | - | 26.0 | 1.101 | 000 | .036 | | .039 | 1.136 | 010 | .042 | 1 | .033 | 1 | 2.8 | .69 | .725 |
| VHO-106 | 1.062 | 1-1/16 | 27.0 | 1.138 | .004* | .044 | | .038 | 1.180 | | .050 | 1 | .041 | 1 | 3.7 | .685 | .72 |
| VHO-112 | 1.125 | 1-1/8 | 28.6 | 1.205 | | .043 | | .040 | 1.249 | | .050 | 1 | .040 | 1 | 4.0 | .745 | .78 |
| VHO-118 | 1.181 | - | 30.0 | 1.265 | | .043 | | .042 | 1.319 | | .050 | 1 | .040 | 1 | 4.3 | .66 | .69 |
| VHO-118 | 1.188 | 1-3/16 | 30.2 | 1.272 | | .043 | | .042 | 1.319 | | .050 | 1 | .040 | 1 | 4.3 | .67 | .70 |
| VHO-125 | 1.250 | 1-1/4 | 31.7 | 1.342 | | .042 | | .046 | 1.388 | +.025 | .050 | ±.002 | .039 | 1 | 4.8 | .875 | .92 |
| VH0-125 | 1.259 | - | 32.0 | 1.351 | +.004 | .042 | | .046 | 1.388 | 020 | .050 | 1 | .039 | 1 | 4.8 | .885 | .93 |
| VHO-131 | 1.312 | 1-5/16 | 33.3 | 1.408 | 000 | .042 | | .048 | 1.456 | | .050 |] | .039 |] | 5.0 | .93 | .97 |
| VH0-137 | 1.375 | 1-3/8 | 34.9 | 1.475 | .005* | .041 | | .050 | 1.526 | | .050 |] | .038 | | 5.1 | .99 | 1.03 |
| VHO-137 | 1.378 | - | 35.0 | 1.478 | | .041 | +.005 | .050 | 1.526 | | .050 |] | .038 | ±.001 | 5.1 | .99 | 1.03 |
| VH0-143 | 1.438 | 1-7/16 | 36.5 | 1.542 | | .040 | 000 | .052 | 1.596 | | .050 | | .037 | | 5.8 | 1.06 | 1.11 |
| VH0-145 | 1.456 | - | 37.0 | 1.562 | | .040 | | .053 | 1.616 | | .050 | | .037 | | 6.4 | 1.08 | 1.13 |
| VHO-150 | 1.500 | 1-1/2 | 38.1 | 1.604 | | .040 | | .052 | 1.660 | | .050 | | .037 | | 6.5 | 1.12 | 1.17 |
| VHO-156 | 1.562 | 1-9/16 | 39.7 | 1.674 | | .052 | | .056 | 1.734 | | .062 | | .048 | | 8.9 | 1.10 | 1.15 |
| VHO-156 | 1.575 | - | 40.0 | 1.687 | | .052 | | .056 | 1.734 | | .062 | | .048 | | 8.9 | 1.11 | 1.16 |
| VHO-162 | 1.625 | 1-5/8 | 41.3 | 1.743 | | .051 | | .059 | 1.804 | | .062 | | .047 | | 10.0 | 1.16 | 1.22 |
| VHO-165 | 1.653 | - | 42.0 | 1.773 | | .051 | | .060 | 1.835 | | .062 | | .047 | | 10.4 | 1.17 | 1.22 |
| VHO-168 | 1.688 | 1-11/16 | 42.9 | 1.810 | +.005 | .050 | | .061 | 1.874 | +.035 | .062 | | .046 | | 10.8 | 1.21 | 1.27 |
| VHO-175 | 1.750 | 1-3/4 | 44.4 | 1.878 | 000 | .050 | | .064 | 1.942 | 025 | .062 | | .046 | | 10.3 | 1.27 | 1.32 |
| VHO-181 | 1.812 | 1-13/16 | 46.0 | 1.944 | .005* | .050 | | .066 | 2.012 | | .062 | ±.003 | .046 | | 11.5 | 1.34 | 1.40 |
| VHO-185 | 1.850 | - | 47.0 | 1.984 | | .050 | | .067 | 2.054 | | .062 | | .046 | | 12.8 | 1.36 | 1.43 |
| VHO-187 | 1.875 | 1-7/8 | 47.6 | 2.011 | | .050 | | .068 | 2.054 | | .062 | | .046 | | 12.8 | 1.38 | 1.45 |
| VHO-193 | 1.938 | 1-15/16 | 49.2 | 2.082 | | .049 | | .072 | 2.141 | | .062 | | .045 | | 13.3 | 1.46 | 1.53 |
| VHO-200 | 2.000 | 2 | 50.8 | 2.144 | | .048 | | .072 | 2.210 | | .062 | | .044 | | 14.0 | 1.52 | 1.59 |
| VHO-206 | 2.047 | - | 52.0 | 2.195 | | .065 | | .074 | 2.280 | | .078 | | .060 | | 18.0 | 1.52 | 1.59 |
| VHO-206 | 2.062 | 2-1/16 | 52.4 | 2.210 | +.006 | .065 | +.007 | .074 | 2.280 | +.040 | .078 | | .060 | | 18.0 | 1.54 | 1.61 |
| VHO-212 | 2.125 | 2-1/8 | 54.0 | 2.279 | 000 | .065 | 000 | .077 | 2.350 | 030 | .078 | | .060 | ±.0015 | 19.4 | 1.60 | 1.67 |
| VH0-218 | 2.165 | - | 55.0 | 2.327 | .006* | .064 | | .081 | 2.415 | | .078 | | .059 | l | 19.6 | 1.63 | 1.71 |
| VHO-218 | 2.188 | 2-3/16 | 55.6 | 2.350 | | .064 | | .081 | 2.415 | | .078 | | .059 | | 19.6 | 1.66 | 1.74 |

Î BASED ON HOUSINGS/SHAFTS MADE OF COLD ROLLED STEEL. Note: Contact rotor clip for availability of Sizes Listed.

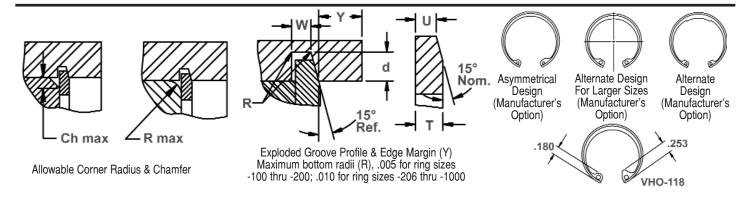
***FOR PLATED RINGS ADD .002" TO THE LISTED MAXIMUM THICKNESS (T) AND BEVELED END THICKNESS (U) VALUES.

^{*} F.I.M. (FULL INDICATOR MOVEMENT)- MAXIMUM ALLOWABLE DEVIATION OF CONCENTRICITY BETWEEN GROOVE AND HOUSING.

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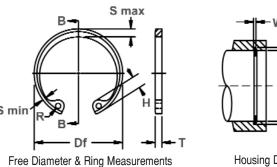
| RING NO. | ALLOWABLE CORNER RADII & | | MAX. LOAD w/ R max | EDGE Mar- Gin | END- Play Take- | LU HEI(| | MAXII SECT | | MININ SECT | | HOLE DIAMETER | | GAP WIDTH Ring | | r LD. (lbs.) er abutment |
|-------------|--------------------------------|--------|---------------------------|---------------------|-----------------------|------------|-------|---------------|-------|---------------|----------|------------------|-------|----------------------|----------------------------------|------------------------------------|
| | CHAM | IFERS | or Ch max (in lbs.) | | UP | | | | | | | | | in groove | Ring Safety factor of 4 | Groove Safety factor of 2 |
| | R max | Ch max | P'r | Υ | ln. | Н | Tol. | S max | Tol. | S min | Tol. | R | Tol. | G min | Pr | Pg |
| VHO-100 | .042 | .034 | 1650 | .057 | .005 | .155 | | .104 | ±.005 | .052 | ±.005 | .062 | +.010 | .145 | 6039 | 1600 |
| VHO-102 | .042 | .034 | 1650 | .058 | .005 | .155 |] | .106 | | .054 | | .062 | 002 | .150 | 6141 | 1700 |
| VHO-106 | .044 | .035 | 2400 | .057 | .005 | .180 |] | .110 | | .055 | | .078 | | .143 | 7562 | 1700 |
| VH0-112 | .047 | .036 | 2400 | .060 | .005 | .180 | | .116 | | .057 | | .078 | | .157 | 8019 | 1900 |
| VH0-118 | .047 | .036 | 2400 | .063 | .0055 | .180 | | .120 | | .058 | | .078 | | .150 | 8526 | 2100 |
| VH0-118 | .047 | .036 | 2400 | .063 | .0055 | .180 | | .120 | | .058 | | .078 | | .169 | 8526 | 2100 |
| VH0-125 | .048 | .038 | 2400 | .069 | .006 | .180 | | .124 | ±.006 | | ±.006 | .078 | | .184 | 8932 | 2400 |
| VH0-125 | .048 | .038 | 2400 | .069 | .006 | .180 | | .124 | | .062 | | .078 | | .209 | 8932 | 2400 |
| VH0-131 | .048 | .038 | 2400 | .072 | .006 | .180 | | .130 | | .062 | | .078 | | .198 | 9440 | 2650 |
| VH0-137 | .048 | .038 | 2400 | .075 | .0065 | .180 | | .130 | | .063 | | .078 | | .211 | 9846 | 2900 |
| VH0-137 | .048 | .038 | 2400 | .075 | .0065 | .180 | | .130 | | .063 | | .078 | | .219 | 9846 | 2900 |
| VH0-143 | .048 | .038 | 2400 | .078 | .007 | .180 | | .133 | | .065 | | .078 | | .221 | 10353 | 3100 |
| VHO-145 | .048 | .038 | 2400 | .078 | .007 | .180 | | .133 | | .065 | | .078 | | .226 | 10455 | 3250 |
| VHO-150 | .048 | .038 | 2400 | .078 | .007 | .180 | ±.005 | | | .066 | \sqcup | .078 | +.015 | | 10708 | 3300 |
| VHO-156 | .064 | .050 | 3900 | .084 | .0075 | .202 | | .157 | | .078 | | .078 | 002 | .238 | 13906 | 3600 |
| VHO-156 | .064 | .050 | 3900 | .084 | .0075 | .202 | | .157 | | .078 | | .078 | | .275 | 13906 | 3600 |
| VHO-162 | .064 | .050 | 3900 | .088 | .008 | .230 | | .164 | | .082 | | .078 | | .242 | 14413 | 4000 |
| VHO-165 | .064 | .050 | 3900 | .090 | .008 | .230 | | .167 | | .083 | | .078 | | .245 | 14718 | 4200 |
| VHO-168 | .064 | .050 | 3900 | .091 | .008 | .230 | | .170 | | .085 | | .078 | | .255 | 15022 | 4300 |
| VHO-175 | .064 | .050 | 3900 | .096 | .0085 | .230 | | .171 | | .083 | | .078 | | .267 | 15580 | 4700 |
| VHO-181 | .064 | .050 | 3900 | .099 | .009 | .230 | | .170 | ±.007 | .084 | ±.007 | .093 | | .277 | 16139 | 5050 |
| VHO-185 | .064 | .050 | 3900 | .100 | .009 | .234 | | .170 | | .085 | | .093 | | .245 | 16443 | 5200 |
| VHO-187 | .064 | .050 | 3900 | .102 | .009 | .234 | | .170 | | .085 | | .093 | | .310 | 16697 | 5400 |
| VHO-193 | .064 | .050 | 3900 | .108 | .0095 | .230 | | .170 | | .085 | | .093 | | .328 | 17255 | 5900 |
| VHO-200 | .064 | .050 | 3900 | .108 | .0095 | .230 | | .170 | | .085 | | .093 | | .332 | 17763 | 6100 |
| VHO-206 | .076 | .061 | 6200 | .111 | .0095 | .250 | | .186 | | .091 | | .093 | | .311 | 23091 | 6500 |
| VHO-206 | .078 | .062 | 6200 | .111 | .0095 | .250 | | .186 | | .091 | | .093 | | .349 | 23091 | 6500 |
| VH0-212 | .078 | .062 | 6200 | .115 | .010 | .250 | | .195 | | .096 | | .093 | 1 | .345 | 23751 | 7000 |
| VH0-218 | .078 | .062 | 6200 | .121 | .010 | .250 | | .199 | | .098 | | .093 | | .323 | 24462 | 7450 |
| VHO-218 | .078 | .062 | 6200 | .121 | .010 | .250 | | .199 | | .098 | | .093 | | .373 | 24462 | 7450 |

FOR HARDNESS SPECIFICATIONS, SEE END OF THIS SECTION.

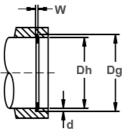


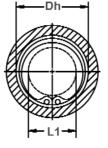
Axially Assembled, Internal Beveled

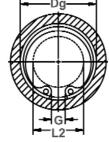
These rings look exactly like their HO counterpart, only they have a 15° angle on the outer edge. This combines with a complementary groove angle to eliminate endplay by wedging itself between the groove and the retained part.



with Section B-B







Housing Diameter & Groove Dimensions

Clearance Diameter Compressed in Housing

Clearance Diameter & Gap Width Released in Groove

| NO. | D | IAMETER | | HOUSING | | | | | RING SIZE & WEIGHT | | | | | | | CLEARANCE DIA. | |
|------------|------------|---------|-------|---------|-------|------|-------|-------|--------------------|-------|---------|-------|-------|---------|---------|----------------|--------|
| | Dirime ren | | | DIAMI | ETER | WID | TH | DEPTH | | REE | THICKNE | SS*** | | KNESS | Weight. | Com- | Re- |
| | | | | | | | | | DIAN | METER | | | BEVEL | .ED END | Per | pressed | leased |
| | | | | | | | | | | | | | | | 1000 | in . | in |
| | | | | | | | | | | | | | | | Pcs. | housing | groove |
| H | Dh | Dh l | Dh | | | | | | | | | | | | | | |
| | DEC | FRACT | mm | Dg | Tol. | W | Tol. | d | Df | Tol. | T | Tol. | U | Tol. | lbs. | L1 | L2 |
| VHO-225 | 2.250 | 2-1/4 | 57.1 | 2.420 | | .064 | | .085 | 2.490 | | .078 | | .059 | | 21.8 | 1.67 | 1.75 |
| VHO-231 | 2.312 | 2-5/16 | 58.7 | 2.484 | | .063 | | .086 | 2.560 | | .078 | | .058 | | 22.6 | 1.73 | 1.80 |
| VHO-237 | 2.375 | 2-3/8 | 60.3 | 2.552 | | .063 | | .089 | 2.630 | | .078 | | .058 | ±.0015 | 23.2 | 1.79 | 1.87 |
| VH0-244 | 2.440 | 2-7/16 | 62.0 | 2.618 | | .062 | | .089 | 2.702 | | .078 | | .057 | | 25.4 | 1.86 | 1.94 |
| VH0-250 | 2.500 | 2-1/2 | 63.5 | 2.684 | | .062 | | .092 | 2.775 | | .078 | | .057 | | 25.5 | 1.91 | 2.00 |
| VH0-250 | 2.531 | 2-17/32 | 64.3 | 2.717 | | .062 | | .093 | 2.775 | | .078 | | .057 | | 25.5 | 1.94 | 2.03 |
| VH0-256 | 2.562 | 2-9/16 | 65.1 | 2.750 | | .078 | +.007 | .094 | 2.844 | +.040 | .093 | | .072 | | 34.0 | 1.93 | 2.02 |
| VH0-262 | 2.625 | 2-5/8 | 66.7 | 2.820 | | .077 | 000 | .097 | 2.910 | 030 | .093 | | .071 | | 34.5 | 2.02 | 2.11 |
| VHO-268 | 2.677 | - | 68.0 | 2.876 | | .077 | | .099 | 2.980 | | .093 | | .071 | | 35.0 | 2.05 | 2.15 |
| VH0-268 | 2.688 | 2-11/16 | 68.3 | 2.887 | | .077 | | .099 | 2.980 | | .093 | | .071 | | 35.0 | 2.06 | 2.16 |
| VH0-275 | 2.750 | 2-3/4 | 69.8 | 2.955 | | .076 | | .102 | 3.050 | | .093 | | .070 | ±.002 | 35.5 | 2.12 | 2.21 |
| VH0-281 | 2.812 | 2-13/16 | 71.4 | 3.020 | | .076 | | .104 | 3.121 | | .093 | | .070 | | 36.0 | 2.18 | 2.27 |
| VH0-281 | 2.835 | - | 72.0 | 3.043 | +.006 | .076 | | .104 | 3.121 | | .093 | | .070 | | 36.0 | 2.21 | 2.31 |
| VH0-287 | 2.875 | 2-7/8 | 73.0 | 3.085 | 000 | .076 | | .105 | 3.191 | | .093 | ±.003 | .070 | | 41.0 | 2.24 | 2.34 |
| VHO-300 | 2.953 | - | 75.0 | 3.178 | .006* | .074 | | .112 | 3.325 | | .093 | | .068 | | 42.5 | 2.32 | 2.43 |
| VHO-300 | 3.000 | 3 | 76.2 | 3.225 | | .074 | | .112 | 3.325 | | .093 | | .068 | | 42.5 | 2.37 | 2.48 |
| VHO-306 | 3.062 | 3-1/16 | 77.8 | 3.290 | | .089 | | .114 | 3.418 | | .109 | | .082 | | 53.0 | 2.41 | 2.51 |
| VH0-312 | 3.125 | 3-1/8 | 79.4 | 3.355 | | .089 | | | 3.488 | | .109 | | .082 | | 56.0 | 2.47 | 2.58 |
| VHO-315 | 3.149 | - | 80.0 | 3.381 | | .089 | | .116 | 3.523 | | .109 | | .082 | | 57.0 | 2.49 | 2.60 |
| VHO-315 | 3.156 | 3-5/32 | 80.2 | 3.388 | | .089 | | .116 | 3.523 | | .109 | | .082 | | 57.0 | 2.50 | 2.61 |
| VHO-325 | 3.250 | 3-1/4 | 82.5 | 3.489 | | .089 | | .119 | 3.623 | ±.055 | .109 | | .082 | | 60.0 | 2.54 | 2.65 |
| VHO-334SP1 | 3.346 | 3-11/32 | 85.0 | 3.591 | | .089 | +.008 | | 3.734 | | .109 | | .082 | | 65.0 | 2.63 | 2.74 |
| VHO-347 | 3.469 | 3-15/32 | 88.1 | 3.726 | | .089 | 000 | .128 | 3.857 | | .109 | | .082 | ±.0025 | 69.0 | 2.76 | 2.88 |
| VHO-350 | 3.500 | 3-1/2 | 88.9 | 3.760 | | .089 | | .130 | 3.890 | | .109 | | .082 | | 71.0 | 2.79 | 2.91 |
| VH0-354SP1 | 3.543 | - | 90.0 | 3.806 | | .089 | | .132 | 3.936 | | .109 | | .082 | | 72.0 | 2.83 | 2.95 |
| VH0-354SP1 | 3.562 | 3-9/16 | 90.5 | 3.830 | | .089 | | .134 | 3.936 | | .109 | | .082 | | 72.0 | 2.85 | 2.97 |
| VHO-362 | 3.625 | 3-5/8 | 92.1 | 3.900 | | .089 | | .137 | 4.024 | | .109 | | .082 | | 73.0 | 2.91 | 3.03 |
| VH0-375 | 3.740 | - | 95.0 | 4.030 | | .089 | | .145 | 4.157 | | .109 | | .082 | | 78.0 | 3.02 | 3.15 |
| VH0-375 | 3.750 | 3-3/4 | 95.2 | 4.040 | | .089 | | .145 | 4.157 | | .109 | | .082 | | 78.0 | 3.03 | 3.17 |
| VH0-387 | 3.875 | 3-7/8 | 98.4 | 4.171 | | .089 | | .148 | 4.291 | ±.065 | .109 | | .082 | | 87.0 | 3.11 | 3.25 |
| VH0-393 | 3.938 | 3-15/16 | 100.0 | 4.236 | | .089 | | .149 | 4.358 | | .109 | | .082 | | 88.0 | 3.17 | 3.31 |
| VHO-400 | 4.000 | 4 | 101.6 | 4.302 | | .089 | | .151 | 4.424 | | .109 | | .082 | | 93.0 | 3.23 | 3.37 |

 $\hat{\textbf{\i}}$ based on housings/shafts made of cold rolled steel.

NOTE: CONTACT ROTOR CLIP FOR AVAILABILITY OF SIZES LISTED.

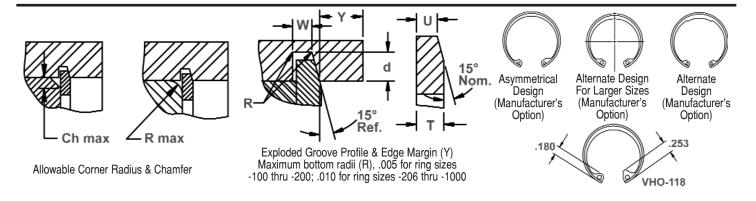
^{*} F.I.M. (FULL INDICATOR MOVEMENT)- MAXIMUM ALLOWABLE DEVIATION OF CONCENTRICITY BETWEEN GROOVE AND HOUSING.

^{***}FOR PLATED RINGS ADD .002" TO THE LISTED MAXIMUM THICKNESS (T) AND BEVELED END THICKNESS (U) VALUES.

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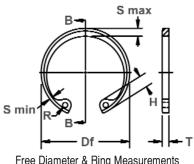
| RING NO. | ALLOV COR RAD CHAM | NER III & IFERS | MAX. LOAD w/ R max or Ch max (in lbs.) | EDGE MAR- GIN | END- PLAY TAKE- UP | LU HEIC | ЭНТ | SECT | MAXIMUM SECTION | | MINIMUM HOI SECTION DIAMI | | ETER | GAP WIDTH Ring in groove | Sqr. corne Ring Safety factor of 4 | T LD. (lbs.) er abutment Groove Safety factor of 2 |
|-------------|-----------------------------|-----------------------|---|---------------------|-----------------------------|------------|-------|------|--------------------|-------|------------------------------|------|-------|--------------------------------------|--|--|
| | R max | Ch max | P'r | Y | In. | Н | Tol. | | Tol. | S min | Tol. | R | Tol. | G min | Pr | Pg |
| VH0-225 | .078 | .062 | 6200 | .127 | .0105 | .280 | | .203 | | .099 | | .093 | | .368 | 25223 | 8050 |
| VH0-231 | .078 | .062 | 6200 | .129 | .011 | .280 | | .206 | | .100 | | .093 | | .362 | 25832 | 8400 |
| VH0-237 | .078 | .062 | 6200 | .133 | .0115 | .280 | | .207 | | .102 | | .093 | | .374 | 26542 | 8900 |
| VH0-244 | .078 | .062 | 6200 | .133 | .012 | .280 | | .209 | | .103 | | .110 | | .386 | 27304 | 9100 |
| VHO-250 | .078 | .062 | 6200 | .138 | .012 | .280 | | .210 | | .103 | | .110 | | .398 | 28014 | 9600 |
| VHO-250 | .078 | .062 | 6200 | .139 | .0125 | .280 | | .210 | | .103 | | .110 | | .460 | 28014 | 9600 |
| VHO-256 | .088 | .070 | 9000 | .141 | .0125 | .300 | ±.005 | .222 | ±.007 | .109 | ±.007 | .110 | | .400 | 34206 | 10200 |
| VHO-262 | .088 | .070 | 9000 | .145 | .013 | .290 | | .226 | | .111 | | .110 | | .418 | 35068 | 10800 |
| VHO-268 | .090 | .072 | 9000 | .148 | .013 | .300 | | .230 | | .113 | | .110 | | .393 | 35931 | 11300 |
| VHO-268 | .090 | .072 | 9000 | .148 | .013 | .300 | | .230 | | .113 | | .110 | | .423 | 35931 | 11300 |
| VH0-275 | .092 | .074 | 9000 | .153 | .014 | .300 | | .234 | | .115 | | .110 | | .442 | 36642 | 11800 |
| VHO-281 | .088 | .070 | 9000 | .156 | .014 | .300 | | .230 | | .115 | | .110 | | .459 | 37504 | 12200 |
| VH0-281 | .088 | .070 | 9000 | .156 | .014 | .300 | | .230 | | .115 | | .110 | | .512 | 37504 | 12200 |
| VHO-287 | .092 | .074 | 9000 | .157 | .014 | .300 | | .240 | | .120 | | .110 | | .451 | 38367 | 12600 |
| VHO-300 | .092 | .074 | 9000 | .168 | .015 | .300 | | .250 | | .122 | | .110 | +.015 | .449 | 40093 | 14200 |
| VHO-300 | .092 | .074 | 9000 | .168 | .015 | .300 | | .250 | | .122 | | .110 | 002 | .568 | 40093 | 14200 |
| VHO-306 | .097 | .078 | 12000 | .171 | .015 | .310 | | .254 | | .126 | | .125 | | .473 | 47807 | 14800 |
| VH0-312 | .099 | .079 | 12000 | .172 | . 0155 | .310 | | .259 | | .129 | | .125 | | .469 | 48822 | 15200 |
| VH0-315 | .100 | .080 | 12000 | .174 | .0155 | .310 | | .262 | | .129 | | .125 | | .462 | 49329 | 15500 |
| VH0-315 | .100 | .080 | 12000 | .174 | .0155 | .310 | | .262 | | .129 | | .125 | | .481 | 49329 | 15500 |
| VH0-325 | .104 | .083 | 12000 | .178 | .016 | .342 | | .269 | | .135 | | .125 | | .509 | 50750 | 16400 |
| VH0-334SP1 | .108 | .086 | 12000 | .183 | .0165 | .342 | | .276 | | .140 | | .125 | | .514 | 52374 | 17300 |
| VH0-347 | .108 | .086 | 12000 | .192 | .017 | .342 | ±.008 | .286 | ±.008 | .144 | ±.008 | .125 | | .571 | 54201 | 18800 |
| VHO-350 | .110 | .088 | 12000 | .195 | .017 | .342 | | .289 | | .142 | | .125 | | .574 | 54709 | 19300 |
| VHO-354SP1 | .110 | .088 | 12000 | .198 | .0175 | .342 | | .292 | | .142 | | .125 | | .586 | 55419 | 19800 |
| VH0-354SP1 | .110 | .088 | 12000 | .201 | .018 | .342 |] | .292 | | .142 | | .125 | | .643 | 55419 | 19800 |
| VHO-362 | .116 | .093 | 12000 | .205 | .018 | .342 | | .299 | | .150 | | .125 | | .639 | 56739 | 21100 |
| VHO-375 | .120 | .096 | 12000 | .217 | .0195 | .342 |] | .309 | | .155 | | .125 | | .647 | 58566 | 23100 |
| VHO-375 | .120 | .096 | 12000 | .217 | .0195 | .342 |] | .309 | | .155 | | .125 | | .674 | 58566 | 23100 |
| VHO-387 | .123 | .098 | 12000 | .222 | .020 | .370 | | .319 | | .160 | | .125 | | .680 | 60494 | 24300 |
| VHO-393 | .124 | .099 | 12000 | .223 | .020 | .370 | 1 | .324 | | .161 | | .125 | | .687 | 61611 | 24900 |
| VHO-400 | .128 | .102 | 12000 | .226 | .020 | .370 | 1 | .330 | | .166 | | .125 | | .694 | 62626 | 25600 |

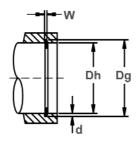
FOR HARDNESS SPECIFICATIONS, SEE END OF THIS SECTION.

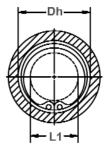
VHO Housing Rings

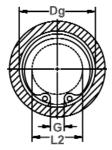
Axially Assembled, Internal Beveled

These rings look exactly like their HO counterpart, only they have a 15° angle on the outer edge. This combines with a complementary groove angle to eliminate endplay by wedging itself between the groove and the retained part.









Free Diameter & Ring Measurements with Section B-B

Housing Diameter & Groove Dimensions

Clearance Diameter Compressed in Housing

Clearance Diameter & Gap Width Released in Groove

| RING | | HOUSING | | | GRO | OVE SIZ | E | | | | RING S | SIZE & V | VEIGHT | | | CLEARANCE | |
|---------------------|-----------|-------------|----------------|------------------|------------------------|---------|-------|-------|------------------|-------|--------------|----------|--------------------------|--------|--------------------------------|----------------------------------|-------------------------------|
| NO. | | | | | DIAMETER DIAMETER WIDT | | TH | DEPTH | FREE Diameter | | THICKNESS*** | | THICKNESS BEVELED END | | Weight. Per 1000 Pcs. | Com- pressed in housing | Re- leased in groove |
| | Dh Dec | Dh Fract | Dh mm | Da | Tol. | W | Tol. | d | Df | Tol. | т | Tol. | U | Tol. | lbs. | L1 | L2 |
| VHO-412 | 4.125 | 4-1/8 | 104.8 | 4.433 | 101. | .089 | 101. | .154 | 4.558 | 101. | .109 | 101. | .082 | 101. | 97.0 | 3.36 | 3.51 |
| VHO-412 | 4.250 | 4-1/4 | 104.0 | 4.562 | | .089 | | .156 | 4.691 | | .109 | 1 1 | .082 | | 101.0 | 3.48 | 3.63 |
| VHO-433 | 4.331 | - | 110.0 | 4.647 | +.006 | .089 | +.008 | .158 | 4.756 | | .109 | 1 1 | .082 | | 105.0 | 3.50 | 3.65 |
| VHO-450 | 4.500 | 4-1/2 | 114.3 | 4.824 | 000 | .089 | 000 | .162 | 4.940 | | .109 | ±.003 | .082 | ±.0025 | 111.00 | 3.66 | 3.81 |
| VHO-462 | 4.625 | 4-5/8 | 117.5 | 4.955 | .006* | .089 | | .165 | 5.076 | | .109 | | .082 | | 117.00 | 3.79 | 3.95 |
| VH0-475 | 4.724 | - | 120.0 | 5.060 | | .089 | | .168 | 5.213 | | .109 | 1 1 | .082 | | 124.0 | 3.88 | 4.04 |
| VHO-475 | 4.750 | 4-3/4 | 120.6 | 5.086 | | .089 | | .168 | 5.213 | ±.065 | .109 |] | .082 | | 124.0 | 3.90 | 4.06 |
| VHO-500 | 5.000 | 5 | 127.0 | 5.346 | | .089 | | .173 | 5.485 | | .109 | | .082 | | 136.0 | 4.08 | 4.25 |
| VHO-525 | 5.250 | 5-1/4 | 133.3 | 5.612 | | .102 | | .181 | 5.770 | | .125 | | .095 | | 174.0 | 4.35 | 4.52 |
| VHO-537 | 5.375 | 5-3/8 | 136.5 | 5.739 | +.007 | .102 | | .182 | 5.910 | | .125 |] [| .095 | | 179.0 | 4.45 | 4.62 |
| VHO-550 | 5.500 | 5-1/2 | 139.7 | 5.864 | 000 | .102 | | .182 | 6.066 | | .125 | ±.004 | .095 | | 183.0 | 4.57 | 4.74 |
| VHO-575 | 5.750 | 5-3/4 | 146.0 | 6.120 | .006* | .102 | | .185 | 6.336 | | .125 |] [| .095 | | 192.0 | 4.82 | 5.00 |
| VHO-600 | 6.000 | 6 | 152.4 | 6.374 | | .102 | | .187 | 6.620 | | .125 | | .095 | | 201.0 | 5.07 | 5.25 |
| VHO-625 | 6.250 | 6-1/4 | 158.7 | 6.642 | | .129 | | .196 | 6.895 | | .156 | | .121 | | 266.0 | 5.24 | 5.43 |
| VHO-650 | 6.500 | 6-1/2 | 165.1 | 6.908 | | .129 | | .204 | 7.170 | | .156 | | .121 | | 281.0 | 5.49 | 5.68 |
| VHO-662 | 6.625 | 6-5/8 | 168.3 | 7.042 | | .129 | | .208 | 7.308 | ±.080 | .156 | | .121 | | 305.0 | 5.60 | 5.80 |
| VHO-675 | 6.750 | 6-3/4 | 171.4 | 7.174 | | .128 | +.010 | .212 | 7.445 | | .156 | | .120 | | 325.0 | 5.68 | 5.88 |
| VHO-700 | 7.000 | 7 | 177.8 | 7.441 | | .128 | 000 | .220 | 7.720 | | .156 | | .120 | | 344.0 | 5.91 | 6.12 |
| VH0-725 | 7.250 | 7-1/4 | 184.1 | 7.708 | +.008 | .159 | | .229 | 7.995 | | .187 | | .150 | ±.003 | 428.0 | 6.11 | 6.33 |
| VHO-750 | 7.500 | 7-1/2 | 190.5 | 7.974 | 000 | .159 | | .237 | 8.270 | | .187 | | .150 | | 485.0 | 6.36 | 6.59 |
| VHO-775 | 7.750 | 7-3/4 | 196.8 | 8.240 | .006 | .159 | | .245 | 8.545 | | .187 | ±.005 | .150 | | 520.0 | 6.58 | 6.82 |
| VHO-800 | 8.000 | 8 | 203.2 | 8.507 | | .155 | | .253 | 8.820 | | .187 | | .146 | | 555.0 | 6.83 | 7.07 |
| VHO-825 | 8.250 | 8-1/4 | 209.5 | 8.773 | | .155 | | .261 | 9.095 | . 000 | .187 | | .146 | | 603.0 | 7.04 | 7.29 |
| VHO-850 | 8.500 | 8-1/2 | 215.9 | 9.040 | | .151 | | .270 | 9.285 | ±.090 | .187 | | .142 | | 634.0 | 7.29 | 7.55 |
| VHO-875 | 8.750 | 8-3/4 | 222.2 | 9.307 | | .151 | | .278 | 9.558 | | .187 | | .142 | | 653.0 | 7.38 | 7.65 |
| VHO-900 | 9.000 | 9 | 228.6 | 9.573 | | .151 | | .286 | 9.830 | | .187 | | .142 | | 732.0 | 7.63 | 7.91 |
| VHO-925 | 9.250 | 9-1/4 | 235.0 | 9.838 | | .151 | | .294 | 10.102 | | .187 | | .142 | | 767.0 | 7.88 | 8.16 |
| VHO-950 | 9.500 | 9-1/2 | 241.3 | 10.106 | | .147 | | .303 | 10.375 | | .187 | | .138 | | 803.0 | 7.98 | 8.27 8.52 |
| VHO-975 VHO-1000 | 9.750 | 9-3/4 10 | 247.7 254.0 | 10.372 10.639 | | .147 | | .311 | 10.648 | | .187 .187 | | .138 | | 833.0 863.0 | 8.23 8.48 | 8.78 |
| 1 BYSED UN | | | | | LLED OTE | | | .319 | 10.920 | | .10/ | | .138 | l | 003.0 | 0.48 | 0./8 |

Î BASED ON HOUSINGS/SHAFTS MADE OF COLD ROLLED STEEL.

NOTE: CONTACT ROTOR CLIP FOR AVAILABILITY OF SIZES LISTED.

***FOR PLATED RINGS ADD .002" TO THE LISTED MAXIMUM THICKNESS (T) AND BEVELED END THICKNESS (U) VALUES.

HARDNESS RANGES: STAINLESS STEEL RINGS (PH 15-7M0)

| RING TYPE | SIZE RANGE | SCALE | ROCKWELL HARDNESS |
|-----------|------------|-------|-------------------|
| VH0 | 100&102 | 30N | 63-69.5 |
| | 106+ | С | 44-51 |

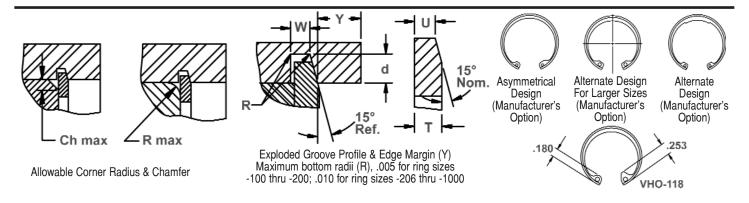


^{*} F.I.M. (FULL INDICATOR MOVEMENT)- MAXIMUM ALLOWABLE DEVIATION OF CONCENTRICITY BETWEEN GROOVE AND HOUSING.

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1.800.557.6867 • +1 732.469.7333 • sales@rotorclip.com





| RING NO. | COR RAI | WABLE RNER DII & MFERS | MAX. LOAD w/ R max or Ch max (in lbs.) | EDGE Mar- Gin | END- PLAY TAKE- UP | LU HEI(| | MAXI SEC | MUM TION | SECTION | | MINIMUM HOLE SECTION DIAMET | | GAP WIDTH Ring in groove | î THRUST Sqr. corner Ring Safety factor of 4 | , , |
|-------------|------------|---------------------------------|---|---------------------|-----------------------------|------------|--------|-------------|-------------|---------|-------|--------------------------------|-------|--------------------------------------|---|--------|
| | R max | Ch max | P'r | Y | In. | Н | Tol. | S max | Tol. | S min | Tol. | R | Tol. | G min | Pr | Pg |
| VH0-412 | .130 | .104 | 12000 | .231 | .021 | .370 | | .330 | | .171 | | .125 | +.015 | .718 | 64554 | 26900 |
| VH0-425 | .138 | .110 | 12000 | .234 | .021 | .370 |] | .335 |] | .180 | | .125 | 002 | .743 | 66483 | 28100 |
| VHO-433 | .142 | .114 | 12000 | .237 | .021 | .405 |] | .343 | | .180 | | .156 | | .803 | 67599 | 29000 |
| VHO-450 | .146 | .117 | 12000 | .243 | .022 | .405 |]±.008 | | | .181 | | .156 | | .787 | 70340 | 30900 |
| VHO-462 | .151 | .121 | 12000 | .247 | .022 | .405 |] | .405 | | .183 | | .156 | | .822 | 72370 | 32400 |
| VHO-475 | .154 | .123 | 12000 | .252 | .023 | .405 | | .370 | | .183 | | .156 | | .773 | 74298 | 33800 |
| VHO-475 | .154 | .123 | 12000 | .252 | .023 | .405 |] | .370 | | .183 | | .156 | | .843 | 74298 | 33800 |
| VHO-500 | .158 | .126 | 12000 | .259 | .023 | .435 | | .435 | | .186 | | .156 | | .753 | 78155 | 38700 |
| VHO-525 | .168 | .134 | 15000 | .271 | .024 | .435 | 1 | .435 | | .198 | | .156 | | .886 | 94091 | 40300 |
| VHO-537 | .168 | .134 | 15000 | .273 | .024 | .435 | 1 | .435 | ±.009 | .198 | ±.009 | .156 | | .893 | 96324 | 41500 |
| VHO-550 | .168 | .134 | 15000 | .273 | .024 | .435 | 1 | .435 | | .198 | | .156 | | .879 | 98658 | 42500 |
| VHO-575 | .168 | .134 | 15000 | .277 | .025 | .435 | 1 | .435 | | .198 | | .156 | | .905 | 103124 | 45100 |
| VHO-600 | .168 | .134 | 15000 | .280 | .025 | .435 | 1 | .435 | | .198 | | .156 | | .929 | 107489 | 47600 |
| VHO-625 | .177 | .142 | 23000 | .294 | .026 | .485 | 1 | .485 | | .211 | | .187 | +.020 | .956 | 139766 | 52000 |
| VHO-650 | .181 | .145 | 23000 | .306 | .027 | .485 | 1 | .485 | | .219 | | .187 | 005 | 1.040 | 145450 | 56200 |
| VHO-662 | .183 | .146 | 23000 | .312 | .028 | .485 | 1 | .485 | | .221 | | .187 | | 1.063 | 148190 | 58400 |
| VHO-675 | .188 | .150 | 23000 | .318 | .028 | .515 | | .515 | | .224 | | .187 | | .985 | 151032 | 60700 |
| VHO-700 | .196 | .157 | 23000 | .330 | .029 | .515 | ±.010 | | | .232 | | .187 | | 1.037 | 156615 | 65300 |
| VHO-725 | .202 | .162 | 34000 | .343 | .031 | .545 | 1 | .545 | | .238 | | .187 | | 1.085 | 194373 | 70400 |
| VHO-750 | .208 | .166 | 34000 | .355 | .032 | .545 | 1 | .545 | | .247 | | .187 | | 1.138 | 201173 | 75400 |
| VHO-775 | .214 | .171 | 34000 | .367 | .033 | .560 | 1 | .560 | | .255 | | .187 | | 1.178 | 207872 | 80500 |
| VHO-800 | .220 | .176 | 34000 | .379 | .034 | .560 | 1 | .560 | | .262 | | .187 | | 1.238 | 214571 | 85800 |
| VHO-825 | .229 | .183 | 34000 | .391 | .035 | .580 | 1 | .580 | ±.010 | .270 | ±.010 | .187 | | 1.269 | 221270 | 91300 |
| VHO-850 | .235 | .188 | 34000 | .405 | .036 | .580 | 1 | .580 | | .277 | | .187 | | 1.444 | 227969 | 97300 |
| VHO-875 | .241 | .193 | 34000 | .417 | .037 | .660 | 1 | .591 | | .286 | | .187 | | 1.481 | 233856 | 103200 |
| VHO-900 | .249 | .199 | 34000 | .429 | .038 | .660 | 1 | .609 | | .294 | | .187 | | 1.539 | 241367 | 109200 |
| VHO-925 | .253 | .202 | 34000 | .441 | .039 | .660 | 1 | .625 | | .299 | | .187 | | 1.559 | 248066 | 115300 |
| VHO-950 | .258 | .206 | 34000 | .454 | .041 | .735 | 1 | .642 | | .304 | | .187 | | 1.596 | 254765 | 122100 |
| VHO-975 | .263 | .210 | 34000 | .466 | .042 | .735 | 1 | .658 | | .309 | | .187 | | 1.680 | 261464 | 128600 |
| VHO-1000 | .270 | .216 | 34000 | .478 | .043 | .735 | | .675 | | .315 | | .187 | | 1.687 | 268163 | 135300 |

HARDNESS RANGES: CARBON STEEL RINGS (SAE 1060-1090)

| TIANDRESS HANGES. CANDON STEEL HINGS (SAL 1000-1090) | | | | | | | | | | |
|--|------------|-------|-------------------|--|--|--|--|--|--|--|
| RING TYPE | SIZE RANGE | SCALE | ROCKWELL HARDNESS | | | | | | | |
| VH0 | 100&102 | 30N | 66-71 | | | | | | | |
| | 106-347 | C | 47-52 | | | | | | | |
| | 350-700 | C | 44-51 | | | | | | | |
| | 725-1000 | C | 40-47 | | | | | | | |

| HARDNESS RANGES: | BERYLLIUM COPPER RINGS |
|------------------|------------------------|
| | |

| 10001000100 | TOLO: DETTILE | 5.00 GG: 1 E11 1 111 1 | 40 |
|-------------|---------------|------------------------|-------------------|
| RING TYPE | SIZE RANGE | SCALE | ROCKWELL HARDNESS |
| VH0 | 100&102 | 30N | 54-62 |
| | 106+ | С | 34-43 |