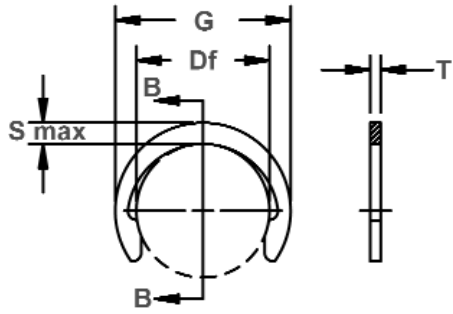


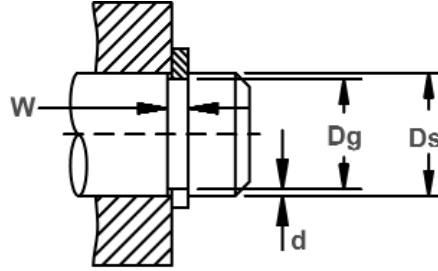
MC Shaft Rings

Radially Assembled, External Crescent, ANSI Metric

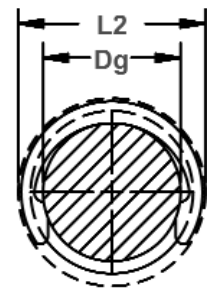
Ideal for low clearance applications where radial installation is preferred.



Free Diameter & Ring Measurements With Section B-B



Shaft Diameter & Groove Dimensions



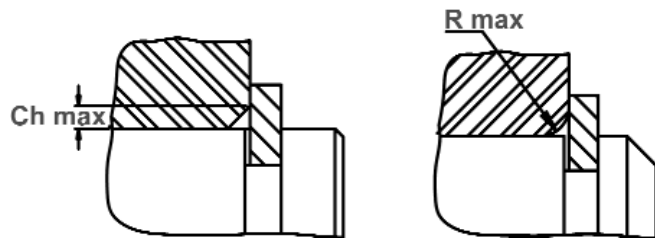
Clearance Diameter Installed In Groove

| RING NO. | SHAFT DIAMETER | | GROOVE SIZE | | | | | RING SIZE & WEIGHT | | | | CLEARANCE DIA. | | i THRUST LD (kN) Sqr. Corner Abutment | | | |
|----------|----------------|--------|-------------|-------|---------|------|-------|--------------------|-------|--------------|-----|-------------------|------------------------|--|---------------------------|-----------------------------|------|
| | | | DIAMETER | | WIDTH | | DEPTH | FREE DIAMETER | | THICKNESS*** | | Wt. Per 1000 Pcs. | Free Outside Dia. Ref. | Re-released In Groove | Ring (Safety factor of 3) | Groove (Safety factor of 2) | |
| | Ds mm | Ds DEC | Dg | Tol. | F.I.M.* | W | Tol. | d | Df | Tol. | T | | | | | | Tol. |
| MC-3 | 3 | 0.118 | 2.3 | -0.05 | 0.04 | 0.5 | +0.10 | 0.35 | 2.18 | ±0.06 | 0.4 | ±0.06 | 0.019 | 3.98 | 4.3 | 0.4 | 0.2 |
| MC-4 | 4 | 0.157 | 3.2 | -0.07 | 0.04 | 0.5 | +0.10 | 0.40 | 3.00 | ±0.08 | 0.4 | ±0.06 | 0.025 | 5.00 | 5.4 | 0.5 | 0.4 |
| MC-5 | 5 | 0.197 | 4.0 | | 0.06 | 0.7 | | 0.50 | 3.80 | | 0.6 | | 0.055 | 6.20 | 6.6 | 0.9 | 0.6 |
| MC-6 | 6 | 0.236 | 5.0 | -0.10 | 0.06 | 0.7 | +0.15 | 0.50 | 4.80 | ±0.09 | 0.6 | ±0.06 | 0.072 | 7.40 | 7.8 | 1.1 | 0.7 |
| MC-7 | 7 | 0.276 | 6.0 | | 0.06 | 0.7 | | 0.50 | 5.80 | | 0.6 | | 0.090 | 8.60 | 9.0 | 1.3 | 0.8 |
| MC-8 | 8 | 0.315 | 7.0 | -0.10 | 0.06 | 0.7 | +0.15 | 0.50 | 6.80 | ±0.09 | 0.6 | ±0.06 | 0.12 | 10.00 | 10.4 | 1.5 | 1.0 |
| MC-9 | 9 | 0.354 | 8.0 | | 0.06 | 0.7 | | 0.50 | 7.80 | | 0.6 | | 0.13 | 11.20 | 11.6 | 2.2 | 1.1 |
| MC-10 | 10 | 0.393 | 9.0 | -0.10 | 0.06 | 0.7 | +0.15 | 0.50 | 8.75 | ±0.18 | 0.6 | ±0.06 | 0.15 | 12.15 | 12.6 | 2.3 | 1.2 |
| MC-11 | 11 | 0.433 | 10.0 | | 0.10 | 0.7 | | 0.50 | 9.65 | | 0.6 | | 0.17 | 13.20 | 13.8 | 2.6 | 1.3 |
| MC-12 | 12 | 0.472 | 10.9 | -0.10 | 0.10 | 0.7 | +0.15 | 0.55 | 10.55 | ±0.18 | 0.6 | ±0.06 | 0.20 | 14.35 | 15.0 | 2.8 | 1.6 |
| MC-13 | 13 | 0.512 | 11.8 | | 0.10 | 1.1 | | 0.60 | 11.40 | | 1.0 | | 0.39 | 15.40 | 16.1 | 4.9 | 1.9 |
| MC-14 | 14 | 0.551 | 12.7 | -0.10 | 0.10 | 1.1 | +0.15 | 0.65 | 12.30 | ±0.18 | 1.0 | ±0.06 | 0.42 | 16.30 | 17.0 | 5.5 | 2.1 |
| MC-15 | 15 | 0.591 | 13.6 | | 0.10 | 1.1 | | 0.70 | 13.20 | | 1.0 | | 0.50 | 17.40 | 18.1 | 6.0 | 2.5 |
| MC-16 | 16 | 0.630 | 14.5 | -0.10 | 0.10 | 1.1 | +0.15 | 0.75 | 14.10 | ±0.21 | 1.0 | ±0.06 | 0.51 | 18.50 | 19.2 | 6.3 | 2.9 |
| MC-17 | 17 | 0.669 | 15.4 | | 0.10 | 1.1 | | 0.80 | 14.90 | | 1.0 | | 0.55 | 19.40 | 20.2 | 6.7 | 3.3 |
| MC-18 | 18 | 0.708 | 16.3 | -0.10 | 0.10 | 1.3 | +0.15 | 0.85 | 15.80 | ±0.21 | 1.2 | ±0.06 | 0.67 | 20.40 | 21.3 | 8.5 | 3.6 |
| MC-19 | 19 | 0.748 | 17.2 | | 0.15 | 1.3 | | 0.90 | 16.70 | | 1.2 | | 0.85 | 21.50 | 22.4 | 9.0 | 4.2 |
| MC-20 | 20 | 0.787 | 18.1 | -0.10 | 0.15 | 1.3 | +0.15 | 0.95 | 17.55 | ±0.25 | 1.2 | ±0.06 | 0.85 | 22.65 | 23.6 | 9.5 | 4.6 |
| MC-21 | 21 | 0.826 | 19.0 | | 0.15 | 1.3 | | 1.05 | 19.40 | | 1.2 | | 1.07 | 25.00 | 25.9 | 10.4 | 5.6 |
| MC-22 | 22 | 0.866 | 19.9 | -0.10 | 0.15 | 1.3 | +0.15 | 1.10 | 20.20 | ±0.25 | 1.2 | ±0.06 | 1.15 | 26.00 | 27.0 | 10.9 | 6.1 |
| MC-23 | 23 | 0.905 | 20.8 | | 0.15 | 1.3 | | 1.15 | 21.10 | | 1.2 | | 1.2 | 27.10 | 28.1 | 11.3 | 6.7 |
| MC-24 | 24 | 0.945 | 21.7 | -0.10 | 0.15 | 1.3 | +0.15 | 1.15 | 21.10 | ±0.21 | 1.2 | ±0.06 | 1.2 | 27.10 | 28.1 | 11.3 | 6.7 |
| MC-25 | 25 | 0.984 | 22.6 | | 0.15 | 1.3 | | 1.20 | 22.00 | | 1.2 | | 1.4 | 28.30 | 29.3 | 11.8 | 7.4 |
| MC-26 | 26 | 1.023 | 23.5 | -0.10 | 0.15 | 1.3 | +0.15 | 1.25 | 22.90 | ±0.21 | 1.2 | ±0.06 | 1.5 | 29.40 | 30.4 | 12.2 | 7.8 |
| MC-28 | 28 | 1.062 | 25.2 | | 0.15 | 1.75 | | 1.40 | 24.60 | | 1.6 | | 2.5 | 31.60 | 32.6 | 17.6 | 9.5 |
| MC-30 | 30 | 1.181 | 27.0 | -0.10 | 0.15 | 1.75 | +0.15 | 1.50 | 26.30 | ±0.25 | 1.6 | ±0.06 | 2.6 | 33.70 | 34.9 | 19.2 | 10.8 |
| MC-32 | 32 | 1.260 | 28.8 | | 0.15 | 1.75 | | 1.60 | 28.10 | | 1.6 | | 3.2 | 36.10 | 37.3 | 20.5 | 12.2 |
| MC-35 | 35 | 1.378 | 31.5 | -0.10 | 0.15 | 1.75 | +0.15 | 1.75 | 30.80 | ±0.25 | 1.6 | ±0.06 | 3.5 | 39.40 | 40.6 | 22.4 | 14.7 |
| MC-36 | 36 | 1.417 | 32.4 | | 0.20 | 1.75 | | 1.80 | 31.70 | | 1.6 | | 4.1 | 40.50 | 41.7 | 23.1 | 15.7 |
| MC-38 | 38 | 1.496 | 34.2 | -0.10 | 0.20 | 1.75 | +0.15 | 1.90 | 33.40 | ±0.39 | 1.6 | ±0.06 | 4.3 | 42.60 | 43.9 | 23.8 | 17.2 |
| MC-40 | 40 | 1.575 | 36.0 | | 0.20 | 1.75 | | 2.00 | 35.20 | | 1.6 | | 4.7 | 45.00 | 46.3 | 25.6 | 19.6 |
| MC-42 | 42 | 1.654 | 37.8 | -0.10 | 0.20 | 1.75 | +0.15 | 2.10 | 37.00 | ±0.39 | 1.6 | ±0.06 | 5.0 | 47.20 | 48.5 | 27.5 | 21.0 |
| MC-45 | 45 | 1.772 | 40.5 | | 0.20 | 1.75 | | 2.25 | 39.60 | | 1.6 | | 5.4 | 50.60 | 52.1 | 28.4 | 24.5 |
| MC-48 | 48 | 1.890 | 43.2 | -0.10 | 0.20 | 1.75 | +0.15 | 2.40 | 42.30 | ±0.39 | 1.6 | ±0.06 | 7.1 | 54.10 | 55.6 | 29.9 | 27.5 |
| MC-50 | 50 | 1.969 | 45.0 | | 0.20 | 2.15 | | 2.50 | 44.00 | | 2.0 | | 8.9 | 56.40 | 58.0 | 40.0 | 30.4 |
| MC-52 | 52 | 2.047 | 47.0 | -0.10 | 0.20 | 2.15 | +0.15 | 2.50 | 6.00 | ±0.39 | 2.0 | ±0.06 | 9.3 | 58.60 | 60.3 | 41.0 | 31.3 |
| MC-55 | 55 | 2.165 | 50.0 | | 0.20 | 2.15 | | 2.50 | 48.50 | | 2.0 | | 10.4 | 61.50 | 63.7 | 43.0 | 33.3 |

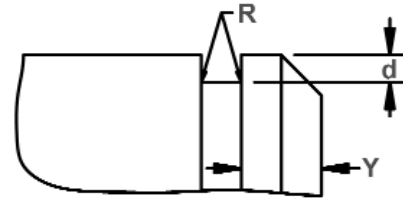
*F.I.M. (FULL INDICATOR MOVEMENT)-MAXIMUM ALLOWABLE DEVIATION OF CONCENTRICITY BETWEEN GROOVE AND SHAFT.

i BASED ON HOUSINGS/SHAFTS MADE OF COLD ROLLED STEEL. FOR AN EXPLANATION OF FORMULAS USED TO DERIVE THRUST LOAD AND OTHER PERFORMANCE DATA, CONTACT THE ROTOR CLIP ENGINEERING DEPT.

*** FOR PLATED RINGS ADD 0.05 TO THE LISTED MAXIMUM THICKNESS. MAXIMUM RING THICKNESS WILL BE A MINIMUM OF 0.005 LESS THAN THE LISTED GROOVE WIDTH (W) MINIMUM.



Maximum Corner Radius & Chamfer



Exploded Groove Profile & Edge Margin (Y)
 Maximum bottom radii (R), 0.10 for ring sizes -3 thru -4; 0.20 for ring sizes -5 thru -16;
 0.30 for ring sizes -17 thru -30
 0.40 for ring sizes -32 thru -55

| RING NO. | MAXIMUM SECTION | ALLOWABLE CORNER RADII & CHAMFERS | | MAX. LOAD w/ R max or Ch max (kN) | EDGE MARGIN | R.P.M. |
|----------|-----------------|-----------------------------------|-------|-----------------------------------|-------------|--------|
| | | Smax/Ref. | R max | | | |
| MC-3 | 0.90 | 0.4 | 0.30 | 0.4 | 1.0 | 80000 |
| MC-4 | 1.00 | 0.4 | 0.30 | 0.4 | 1.2 | 80000 |
| MC-5 | 1.20 | 0.6 | 0.45 | 0.7 | 1.5 | 80000 |
| MC-6 | 1.30 | 0.6 | 0.45 | 0.7 | 1.5 | 80000 |
| MC-7 | 1.40 | 0.6 | 0.45 | 0.7 | 1.5 | 69000 |
| MC-8 | 1.60 | 0.6 | 0.45 | 0.7 | 1.5 | 67000 |
| MC-9 | 1.70 | 0.6 | 0.45 | 0.7 | 1.5 | 58000 |
| MC-10 | 1.70 | 0.6 | 0.45 | 0.7 | 1.5 | 50000 |
| MC-11 | 1.80 | 0.6 | 0.45 | 0.7 | 1.5 | 40000 |
| MC-12 | 1.90 | 0.6 | 0.45 | 0.7 | 1.7 | 35000 |
| MC-13 | 2.00 | 1.0 | 0.8 | 2.0 | 1.8 | 30000 |
| MC-14 | 2.00 | 1.0 | 0.8 | 2.0 | 2.0 | 27000 |
| MC-15 | 2.10 | 1.0 | 0.8 | 2.0 | 2.1 | 25000 |
| MC-16 | 2.20 | 1.0 | 0.8 | 2.0 | 2.3 | 24000 |
| MC-17 | 2.25 | 1.0 | 0.8 | 2.0 | 2.4 | 23000 |
| MC-18 | 2.30 | 1.2 | 0.9 | 2.8 | 2.6 | 21000 |
| MC-19 | 2.40 | 1.2 | 0.9 | 2.8 | 2.7 | 20500 |
| MC-20 | 2.55 | 1.2 | 0.9 | 3.0 | 2.9 | 20000 |
| MC-22 | 2.80 | 1.2 | 0.9 | 3.0 | 3.2 | 16500 |
| MC-23 | 2.90 | 1.2 | 0.9 | 3.2 | 3.3 | 15200 |
| MC-24 | 3.00 | 1.2 | 0.9 | 3.2 | 3.5 | 15100 |
| MC-25 | 3.15 | 1.2 | 0.9 | 3.2 | 3.6 | 15000 |
| MC-26 | 3.25 | 1.2 | 0.9 | 3.2 | 3.8 | 14500 |
| MC-28 | 3.50 | 1.5 | 1.15 | 6.3 | 4.2 | 13200 |
| MC-30 | 3.70 | 1.5 | 1.15 | 6.4 | 4.5 | 13000 |
| MC-32 | 4.00 | 1.5 | 1.15 | 6.6 | 4.8 | 12900 |
| MC-35 | 4.30 | 1.5 | 1.15 | 6.8 | 5.3 | 11000 |
| MC-36 | 4.40 | 1.5 | 1.15 | 6.8 | 5.4 | 10200 |
| MC-38 | 4.60 | 1.5 | 1.15 | 7.1 | 5.7 | 9600 |
| MC-40 | 4.90 | 1.5 | 1.15 | 7.2 | 6.0 | 9200 |
| MC-42 | 5.10 | 1.5 | 1.15 | 7.4 | 6.3 | 8600 |
| MC-45 | 5.50 | 1.5 | 1.15 | 7.6 | 6.8 | 8300 |
| MC-48 | 5.90 | 1.5 | 1.15 | 7.9 | 7.2 | 7500 |
| MC-50 | 6.20 | 2.0 | 1.5 | 12.0 | 7.5 | 6800 |
| MC-52 | 6.30 | 2.0 | 1.5 | 12.0 | 7.5 | 6600 |
| MC-55 | 6.50 | 2.0 | 1.5 | 12.0 | 7.5 | 6500 |

LARGER SIZES MAY BE AVAILABLE UPON REQUEST.

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

| RING TYPE | SIZE RANGE | SCALE | ROCKWELL HARDNESS |
|-----------|------------|-------|-------------------|
| MC | 3-4 | 15N | 82.5-86 |
| | 5-19 | 30N | 63-69.5 |
| | 20-55 | C | 44-51 |

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

| RING TYPE | SIZE RANGE | SCALE | ROCKWELL HARDNESS |
|-----------|------------|-------|-------------------|
| MC | 3-4 | 15N | 84-86 |
| | 5-19 | 30N | 66-69.5 |
| | 20-55 | C | 47-51 |