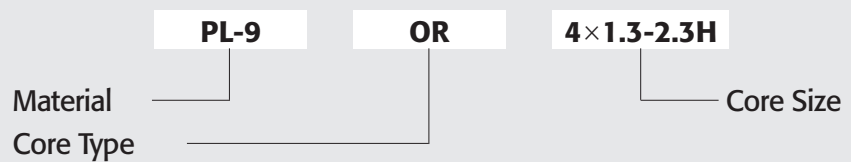




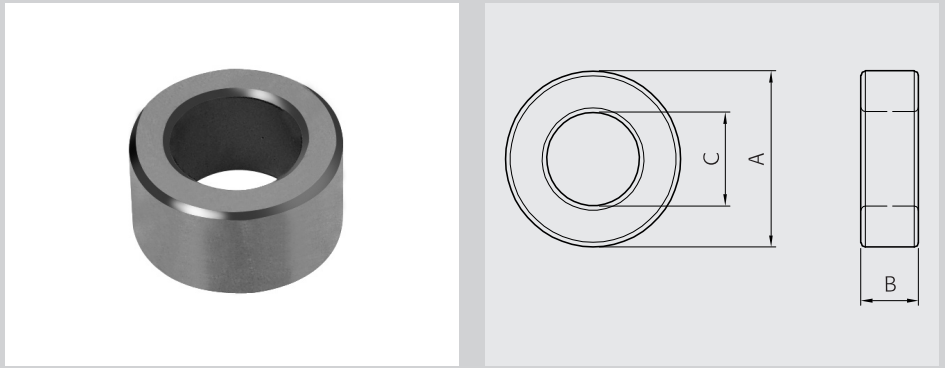
# TOROID CORES

OR2~OR100

Ordering Code System



# OR CORES



| Part No.          | Dimensions in mm |            |  |
|-------------------|------------------|------------|--|
|                   | A                | B          | C  |
| OR2.5×1.3-1.3H    | 2.54 ±0.20       | 1.27 ±0.15 | 1.27 ±0.10                               |
| OR4×1.6-2H        | 4.00 ±0.20       | 1.60 ±0.20 | 2.00 ±0.20                               |
| OR8×2-4H          | 8.00 ±0.30       | 2.00 ±0.20 | 4.00 ±0.30                               |
| OR8×3-4H          | 8.00 ±0.30       | 3.00 ±0.30 | 4.00 ±0.30                               |
| OR8×4-4H          | 8.00 ±0.30       | 4.00 ±0.30 | 4.00 ±0.30                               |
| OR9×3-5H          | 9.00 ±0.30       | 3.00 ±0.20 | 5.00 ±0.20                               |
| OR10×4-6H         | 10.00 ±0.30      | 4.00 ±0.25 | 6.00 ±0.30                               |
| OR10×5-5H         | 10.00 ±0.20      | 5.00 ±0.30 | 5.00 ±0.20                               |
| OR12×4-6H         | 12.00 ±0.30      | 4.00 ±0.25 | 6.00 ±0.30                               |
| OR12.7×3.1-8.1H   | 12.70 ±0.25      | 3.10 ±0.25 | 8.10 ±0.25                               |
| OR12.7×4.7-7.1H   | 12.70 ±0.30      | 4.70 ±0.25 | 7.10 ±0.30                               |
| OR12.7×6.35-7.92H | 12.70 ±0.25      | 6.35 ±0.25 | 7.92 ±0.20                               |
| OR12.7×6.35-8.1H  | 12.70 ±0.25      | 6.35 ±0.25 | 8.10 ±0.25                               |
| OR12.7×6-8.1H     | 12.70 ±0.25      | 6.00 ±0.25 | 8.10 ±0.25                               |
| OR13×5-8H         | 13.00 ±0.50      | 5.00 ±0.30 | 8.00 <sup>+0.00</sup> / <sub>-1.00</sub> |
| OR13×6.5-8H       | 13.00 ±0.50      | 6.50 ±0.30 | 8.00 <sup>+0.00</sup> / <sub>-1.00</sub> |
| OR13×6-8H         | 13.00 ±0.50      | 6.00 ±0.30 | 8.00 <sup>+0.00</sup> / <sub>-1.00</sub> |
| OR14×4-7.5H       | 14.00 ±0.30      | 4.00 ±0.30 | 7.50 ±0.30                               |
| OR14×4-8H         | 14.00 ±0.20      | 4.00 ±0.20 | 8.00 ±0.20                               |
| OR14×5-7.5H       | 14.00 ±0.30      | 5.00 ±0.30 | 7.50 ±0.30                               |
| OR14×5-9H         | 14.00 ±0.30      | 5.00 ±0.30 | 9.00 ±0.30                               |
| OR14×6.5-7.5H     | 14.00 ±0.30      | 6.50 ±0.30 | 7.50 ±0.30                               |
| OR14×7-7.5H       | 14.00 ±0.30      | 7.00 ±0.30 | 7.50 ±0.30                               |
| OR14×7-8H         | 14.00 ±0.20      | 7.00 ±0.20 | 8.00 ±0.20                               |
| OR16×4-12H        | 16.00 ±0.30      | 4.00 ±0.30 | 12.00 ±0.30                              |
| OR16×4-9.6H       | 16.00 ±0.30      | 4.00 ±0.30 | 9.60 ±0.30                               |
| OR16×5-12H        | 16.00 ±0.30      | 5.00 ±0.30 | 12.00 ±0.30                              |
| OR16×5-9.6H       | 16.00 ±0.30      | 5.00 ±0.30 | 9.60 ±0.30                               |

| Core Set Parameters   |        |                      |                      |                      |      |
|-----------------------|--------|----------------------|----------------------|----------------------|------|
| C1(mm <sup>-1</sup> ) | Le(mm) | Ae(mm <sup>2</sup> ) | Ve(mm <sup>3</sup> ) | Aw(mm <sup>2</sup> ) | W(g) |
| 7.140                 | 5.5    | 0.8                  | 4.3                  | 1.3                  | 0.02 |
| 5.670                 | 8.7    | 1.5                  | 13                   | 3.1                  | 0.1  |
| 4.530                 | 17.4   | 3.8                  | 67                   | 12.6                 | 0.4  |
| 3.020                 | 17.4   | 5.8                  | 100                  | 12.6                 | 0.6  |
| 2.270                 | 17.4   | 7.7                  | 134                  | 12.6                 | 0.7  |
| 3.560                 | 20.8   | 5.8                  | 121                  | 19.6                 | 0.6  |
| 3.080                 | 24.1   | 7.8                  | 188                  | 28.3                 | 0.9  |
| 1.810                 | 21.8   | 12.0                 | 262                  | 19.6                 | 1.4  |
| 2.270                 | 26.1   | 11.5                 | 301                  | 28.3                 | 1.6  |
| 4.510                 | 31.6   | 7.0                  | 222                  | 51.5                 | 1.2  |
| 2.300                 | 29.4   | 12.8                 | 376                  | 39.6                 | 1.9  |
| 2.100                 | 31.2   | 14.9                 | 465                  | 49.2                 | 2.4  |
| 2.200                 | 31.6   | 14.4                 | 454                  | 51.5                 | 2.3  |
| 2.330                 | 31.6   | 13.6                 | 429                  | 51.5                 | 2.2  |
| 2.590                 | 31.7   | 12.3                 | 389                  | 50.2                 | 2.2  |
| 1.990                 | 31.7   | 15.9                 | 506                  | 50.2                 | 2.8  |
| 2.160                 | 31.7   | 14.7                 | 467                  | 50.2                 | 2.7  |
| 2.520                 | 31.7   | 12.6                 | 399                  | 44.2                 | 2.1  |
| 2.810                 | 32.8   | 11.7                 | 384                  | 50.2                 | 2.0  |
| 2.010                 | 31.7   | 15.7                 | 498                  | 44.2                 | 2.5  |
| 2.840                 | 35.0   | 12.3                 | 430                  | 63.6                 | 2.2  |
| 1.550                 | 31.7   | 20.5                 | 648                  | 44.2                 | 3.4  |
| 1.440                 | 31.7   | 22.0                 | 698                  | 44.2                 | 3.5  |
| 1.600                 | 32.8   | 20.5                 | 672                  | 50.2                 | 3.4  |
| 5.460                 | 43.4   | 8.0                  | 345                  | 113.0                | 1.7  |
| 3.080                 | 38.5   | 12.5                 | 482                  | 72.3                 | 2.5  |
| 4.370                 | 43.4   | 9.9                  | 431                  | 113.0                | 2.1  |
| 2.460                 | 38.5   | 15.7                 | 603                  | 72.3                 | 2.9  |

**Note : 1) AL value**- Unit : nH/N<sup>2</sup>

- Measuring conditions : 1kHz, 0.1V, 10Ts, 23°C

- Tolerance : ±25% (SM-100, SM-120 : ±30%)

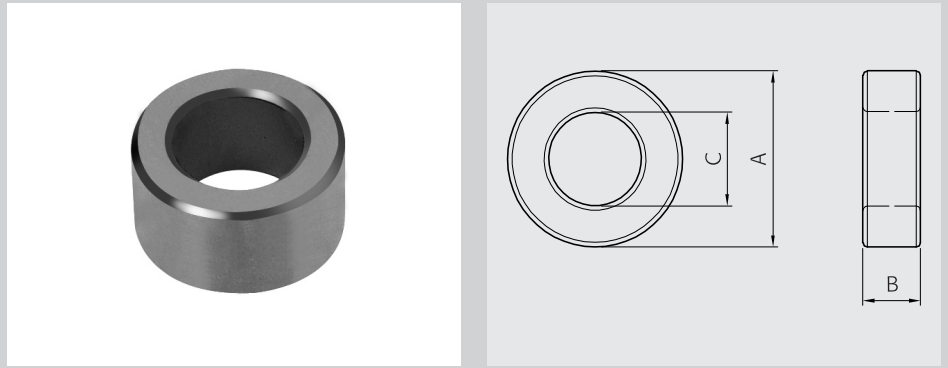
**2) Coating**

- Toroid cores can be coated with epoxy or parylene.

- Isolation voltage : epoxy - DC 1000 V min., parylene - DC 750 V min.

| Part No.          | Electrical Characteristics |      |       |       |        |        |       |       |        |        |        |
|-------------------|----------------------------|------|-------|-------|--------|--------|-------|-------|--------|--------|--------|
|                   | AL value                   |      |       |       |        |        |       |       |        |        |        |
|                   | PL-7                       | PL-9 | PL-11 | SM-8T | SM-23T | SM-43T | SM-50 | SM-60 | SM-70S | SM-100 | SM-120 |
| OR2.5×1.3-1.3H    | 420                        | 530  | 440   | 140   | 400    | 760    | 880   | 1060  | 1320   | 1760   | 2100   |
| OR4×1.6-2H        | 530                        | 670  | 550   | 180   | 510    | 950    | 1110  | 1300  | 1700   | 2200   | 2600   |
| OR8×2-4H          | 670                        | 830  | 690   | 220   | 640    | 1190   | 1400  | 1700  | 2100   | 2800   | 3400   |
| OR8×3-4H          | 1000                       | 1250 | 1040  | 330   | 960    | 1790   | 2100  | 2500  | 3100   | 4200   | 5000   |
| OR8×4-4H          | 1300                       | 1700 | 1400  | 440   | 1270   | 2380   | 2800  | 3300  | 4200   | 5500   | 6600   |
| OR9×3-5H          | 800                        | 1100 | 900   | 280   | 810    | 1520   | 1800  | 2100  | 2600   | 3500   | 4200   |
| OR10×4-6H         | 1000                       | 1200 | 1000  | 330   | 940    | 1750   | 2000  | 2400  | 3100   | 4100   | 4900   |
| OR10×5-5H         | 1700                       | 2100 | 1700  | 560   | 1600   | 2990   | 3500  | 4200  | 5200   | 6900   | 8300   |
| OR12×4-6H         | 1300                       | 1700 | 1400  | 400   | 1300   | 2400   | 2800  | 3300  | 4200   | 5500   | 6600   |
| OR12.7×3.1-8.1H   | 700                        | 800  | 700   | 200   | 600    | 1200   | 1400  | 1700  | 2100   | 2800   | 3400   |
| OR12.7×4.7-7.1H   | 1300                       | 1600 | 1400  | 400   | 1300   | 2400   | 2700  | 3300  | 4100   | 5500   | 6600   |
| OR12.7×6.35-7.92H | 1400                       | 1800 | 1500  | 500   | 1400   | 2600   | 3000  | 3600  | 4500   | 6000   | 7200   |
| OR12.7×6.35-8.1H  | 1400                       | 1700 | 1400  | 500   | 1300   | 2500   | 2900  | 3400  | 4300   | 5700   | 6800   |
| OR12.7×6-8.1H     | 1300                       | 1600 | 1300  | 400   | 1200   | 2300   | 2700  | 3200  | 4000   | 5400   | 6500   |
| OR13×5-8H         | 1200                       | 1500 | 1200  | 400   | 1100   | 2100   | 2400  | 2900  | 3600   | 4900   | 5900   |
| OR13×6.5-8H       | 1500                       | 1900 | 1600  | 500   | 1500   | 2700   | 3200  | 3800  | 4700   | 6300   | 7600   |
| OR13×6-8H         | 1400                       | 1700 | 1500  | 500   | 1300   | 2500   | 2900  | 3500  | 4400   | 5800   | 7000   |
| OR14×4-7.5H       | 1200                       | 1500 | 1200  | 400   | 1100   | 2100   | 2500  | 3000  | 3700   | 5000   | 6000   |
| OR14×4-8H         | 1100                       | 1300 | 1100  | 400   | 1000   | 1900   | 2200  | 2700  | 3400   | 4500   | 5400   |
| OR14×5-7.5H       | 1500                       | 1900 | 1600  | 500   | 1400   | 2700   | 3100  | 3800  | 4700   | 6300   | 7600   |
| OR14×5-9H         | 1100                       | 1300 | 1100  | 400   | 1000   | 1900   | 2200  | 2700  | 3300   | 4400   | 5300   |
| OR14×6.5-7.5H     | 1900                       | 2400 | 2000  | 600   | 1900   | 3500   | 4100  | 4900  | 6100   | 8100   | 9700   |
| OR14×7-7.5H       | 2100                       | 2600 | 2200  | 700   | 2000   | 3800   | 4400  | 5200  | 6500   | 8700   | 10400  |
| OR14×7-8H         | 1900                       | 2400 | 2000  | 600   | 1800   | 3400   | 3900  | 4700  | 5900   | 7900   | 9500   |
| OR16×4-12H        | 600                        | 700  | 600   | 200   | 500    | 1000   | 1200  | 1400  | 1700   | 2300   | 2800   |
| OR16×4-9.6H       | 1000                       | 1200 | 1000  | 300   | 900    | 1800   | 2000  | 2400  | 3100   | 4100   | 4900   |
| OR16×5-12H        | 700                        | 900  | 700   | 200   | 700    | 1200   | 1400  | 1700  | 2200   | 2900   | 3500   |
| OR16×5-9.6H       | 1200                       | 1500 | 1300  | 400   | 1200   | 2200   | 2600  | 3100  | 3800   | 5100   | 6100   |

# OR CORES



| Part No.          | Dimensions in mm |             |             |
|-------------------|------------------|-------------|-------------|
|                   | A                | B           | C           |
| OR16×6.3-9.6H     | 16.00 ±0.30      | 6.30 ±0.30  | 9.60 ±0.30  |
| OR16×7-10H        | 16.00 ±0.35      | 7.00 ±0.30  | 10.00 ±0.30 |
| OR16×8-12HT       | 15.80 ±0.30      | 8.00 ±0.30  | 11.90 ±0.30 |
| OR16×8-8H         | 16.00 ±0.50      | 8.00 ±0.40  | 8.00 ±0.40  |
| OR16×11-8H        | 16.00 ±0.50      | 11.00 ±0.40 | 8.00 ±0.40  |
| OR19×5-10H        | 19.00 ±0.30      | 5.00 ±0.30  | 9.80 ±0.40  |
| OR19×6-13H        | 19.00 ±0.30      | 6.00 ±0.20  | 13.00 ±0.30 |
| OR19×9.5-13H      | 19.00 ±0.30      | 9.50 ±0.25  | 13.00 ±0.30 |
| OR19×10-10H       | 19.00 ±0.40      | 10.30 ±0.30 | 9.80 ±0.40  |
| OR19×11-13H       | 19.00 ±0.30      | 11.00 ±0.20 | 13.00 ±0.30 |
| OR19×16-5H        | 19.00 ±0.40      | 16.00 ±0.40 | 5.00 ±0.15  |
| OR19×19-5H        | 19.00 ±0.40      | 19.00 ±0.40 | 5.00 ±0.15  |
| OR20×7-10H        | 20.00 ±0.40      | 7.00 ±0.30  | 10.00 ±0.30 |
| OR20×8-10H        | 20.00 ±0.40      | 8.00 ±0.30  | 10.00 ±0.30 |
| OR20×10-10H       | 20.00 ±0.40      | 10.00 ±0.30 | 10.00 ±0.30 |
| OR22.1×6.35-13.7H | 22.10 ±0.40      | 6.35 ±0.25  | 13.70 ±0.30 |
| OR22.1×8-13.7H    | 22.10 ±0.40      | 8.00 ±0.25  | 13.70 ±0.30 |
| OR22.1×11-13.7H   | 22.10 ±0.40      | 11.00 ±0.25 | 13.70 ±0.30 |
| OR22.1×12.7-13.7H | 22.10 ±0.40      | 12.75 ±0.25 | 13.70 ±0.30 |
| OR22×8-14H        | 22.00 ±0.40      | 8.00 ±0.20  | 14.00 ±0.30 |
| OR22×13-14H       | 22.00 ±0.40      | 13.00 ±0.30 | 14.00 ±0.30 |
| OR25×3-15H        | 25.00 ±0.30      | 3.00 ±0.30  | 15.00 ±0.30 |
| OR25×4-15H        | 25.00 ±0.30      | 4.00 ±0.30  | 15.00 ±0.30 |
| OR25×5-15H        | 25.00 ±0.30      | 5.00 ±0.30  | 15.00 ±0.30 |
| OR25×6-15H        | 25.00 ±0.30      | 6.00 ±0.30  | 15.00 ±0.30 |
| OR25×10-15H       | 25.00 ±0.30      | 10.00 ±0.30 | 15.00 ±0.30 |
| OR25×12-15H       | 25.00 ±0.30      | 12.00 ±0.30 | 15.00 ±0.30 |
| OR25×12.5-15H     | 25.00 ±0.30      | 12.50 ±0.30 | 15.00 ±0.30 |

| Core Set Parameters   |        |                      |                      |                      |      |
|-----------------------|--------|----------------------|----------------------|----------------------|------|
| C1(mm <sup>-1</sup> ) | Le(mm) | Ae(mm <sup>2</sup> ) | Ve(mm <sup>3</sup> ) | Aw(mm <sup>2</sup> ) | W(g) |
| 1.950                 | 38.5   | 19.7                 | 760                  | 72.3                 | 3.9  |
| 1.907                 | 39.3   | 20.6                 | 810                  | 78.5                 | 4.2  |
| 2.790                 | 42.9   | 15.4                 | 661                  | 111.2                | 3.4  |
| 1.130                 | 34.8   | 30.7                 | 1071                 | 50.2                 | 5.7  |
| 0.820                 | 34.8   | 42.3                 | 1472                 | 50.2                 | 7.6  |
| 1.900                 | 42.1   | 22.2                 | 934                  | 75.4                 | 4.7  |
| 2.760                 | 49.1   | 17.8                 | 873                  | 132.7                | 4.5  |
| 1.741                 | 49.1   | 28.2                 | 1385                 | 133                  | 7.0  |
| 0.920                 | 42.1   | 45.7                 | 1923                 | 75.4                 | 10.0 |
| 1.510                 | 49.1   | 32.6                 | 1600                 | 132.7                | 8.1  |
| 0.290                 | 28.7   | 99.1                 | 2842                 | 19.63                | 21.1 |
| 0.244                 | 28.7   | 117.6                | 3375                 | 20                   | 24.8 |
| 1.290                 | 43.6   | 33.6                 | 1465                 | 78.5                 | 7.9  |
| 1.130                 | 43.6   | 38.4                 | 1674                 | 78.5                 | 9.1  |
| 0.910                 | 43.6   | 48.1                 | 2092                 | 78.5                 | 11.3 |
| 2.070                 | 54.2   | 26.2                 | 1417                 | 147.3                | 7.1  |
| 1.640                 | 54.2   | 33.0                 | 1785                 | 147.3                | 9.1  |
| 1.190                 | 54.2   | 45.3                 | 2454                 | 147.3                | 12.4 |
| 1.030                 | 54.2   | 52.5                 | 2845                 | 147.3                | 14.0 |
| 1.740                 | 54.7   | 31.5                 | 1720                 | 153.9                | 8.9  |
| 1.070                 | 54.7   | 51.1                 | 2795                 | 176.0                | 15.0 |
| 4.095                 | 60.2   | 14.7                 | 883                  | 177                  | 6.0  |
| 3.071                 | 60.2   | 19.6                 | 1170                 | 177                  | 7.0  |
| 2.457                 | 60.2   | 24.5                 | 1475                 | 177                  | 7.5  |
| 2.050                 | 60.2   | 29.4                 | 1767                 | 176.6                | 9.0  |
| 1.230                 | 60.2   | 48.9                 | 2944                 | 176.6                | 15   |
| 1.030                 | 60.2   | 58.7                 | 3533                 | 176.6                | 18   |
| 0.980                 | 60.2   | 61.2                 | 3681                 | 176.6                | 19   |

**Note : 1) AL value**- Unit : nH/N<sup>2</sup>

- Measuring conditions : 1kHz, 0.1V, 10Ts, 23°C

- Tolerance : ±25% (SM-100, SM-120 : ±30%)

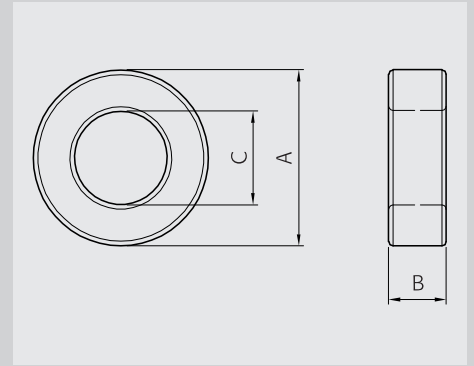
**2) Coating**

- Toroid cores can be coated with epoxy or parylene.

- Isolation voltage : epoxy - DC 1000 V min., parylene - DC 750 V min.

| Part No.          | Electrical Characteristics |       |       |       |        |        |       |       |        |        |        |
|-------------------|----------------------------|-------|-------|-------|--------|--------|-------|-------|--------|--------|--------|
|                   | AL value                   |       |       |       |        |        |       |       |        |        |        |
|                   | PL-7                       | PL-9  | PL-11 | SM-8T | SM-23T | SM-43T | SM-50 | SM-60 | SM-70S | SM-100 | SM-120 |
| OR16×6.3-9.6H     | 1500                       | 1900  | 1600  | 500   | 1500   | 2800   | 3200  | 3900  | 4800   | 6400   | 7700   |
| OR16×7-10H        | 1600                       | 2000  | 1600  | 500   | 1500   | 2800   | 3300  | 4000  | 5600   | 6600   | 7900   |
| OR16×8-12HT       | 1100                       | 1400  | 1100  | 400   | 1000   | 1900   | 2300  | 2700  | 3400   | 4500   | 5400   |
| OR16×8-8H         | 2700                       | 3300  | 2800  | 900   | 2600   | 4800   | 5600  | 6700  | 8300   | 11100  | 13300  |
| OR16×11-8H        | 3700                       | 4600  | 3800  | 1200  | 3500   | 6600   | 7700  | 9200  | 11500  | 15300  | 18400  |
| OR19×5-10H        | 1600                       | 2000  | 1700  | 500   | 1500   | 2800   | 3300  | 4000  | 5000   | 6600   | 7900   |
| OR19×6-13H        | 1100                       | 1400  | 1100  | 400   | 1000   | 2000   | 2300  | 2700  | 3400   | 4600   | 5500   |
| OR19×9.5-13H      | 1700                       | 2200  | 1800  | 600   | 1700   | 3100   | 3600  | 4300  | 5400   | 7200   | 8600   |
| OR19×10-10H       | 3300                       | 4100  | 3400  | 1100  | 3100   | 5900   | 6800  | 8200  | 10200  | 13700  | 16400  |
| OR19×11-13H       | 2000                       | 2500  | 2100  | 700   | 1900   | 3600   | 4200  | 5000  | 6200   | 8300   | 10000  |
| OR19×16-5H        | 10000                      | 13000 | 10900 | 3500  | 10000  | 18700  | 21700 | 26000 | 32600  | 43400  | 52100  |
| OR19×19-5H        | 12000                      | 15500 | 12900 | 4100  | 11900  | 22200  | 25800 | 30900 | 38700  | 51500  | 61800  |
| OR20×7-10H        | 2300                       | 2900  | 2400  | 800   | 2200   | 4200   | 4900  | 5800  | 7300   | 9700   | 11600  |
| OR20×8-10H        | 2700                       | 3300  | 2800  | 900   | 2600   | 4800   | 5600  | 6700  | 8300   | 11100  | 13300  |
| OR20×10-10H       | 3300                       | 4200  | 3500  | 1100  | 3200   | 5900   | 6900  | 8300  | 10400  | 13800  | 16600  |
| OR22.1×6.35-13.7H | 1500                       | 1800  | 1500  | 500   | 1400   | 2600   | 3000  | 3600  | 4600   | 6100   | 7300   |
| OR22.1×8-13.7H    | 1800                       | 2300  | 1900  | 600   | 1800   | 3300   | 3800  | 4600  | 5700   | 7700   | 9200   |
| OR22.1×11-13.7H   | 2500                       | 3200  | 2600  | 800   | 2400   | 4500   | 5300  | 6300  | 7900   | 10600  | 12700  |
| OR22.1×12.7-13.7H | 2900                       | 3700  | 3100  | 1000  | 2800   | 5200   | 6100  | 7300  | 9200   | 12200  | 14600  |
| OR22×8-14H        | 1700                       | 2200  | 1800  | 600   | 1700   | 3100   | 3600  | 4300  | 5400   | 7200   | 8600   |
| OR22×13-14H       | 2800                       | 3500  | 2900  | 900   | 2700   | 5000   | 5900  | 7000  | 8800   | 11700  | 14000  |
| OR25×3-15H        | 720                        | 900   | 750   | 240   | 690    | 1300   | 1500  | 1800  | 2250   | 3000   | 3600   |
| OR25×4-15H        | 1000                       | 1200  | 1000  | 320   | 920    | 1720   | 2000  | 2400  | 3000   | 4000   | 4800   |
| OR25×5-15H        | 1200                       | 1500  | 1300  | 400   | 1200   | 2200   | 2500  | 3000  | 3750   | 5000   | 6000   |
| OR25×6-15H        | 1500                       | 1800  | 1500  | 500   | 1400   | 2600   | 3000  | 3600  | 4500   | 6000   | 7200   |
| OR25×10-15H       | 2500                       | 3100  | 2600  | 800   | 2400   | 4400   | 5100  | 6100  | 7700   | 10200  | 12200  |
| OR25×12-15H       | 2900                       | 3700  | 3100  | 1000  | 2800   | 5200   | 6100  | 7300  | 9200   | 12200  | 14600  |
| OR25×12.5-15H     | 3100                       | 3800  | 3200  | 1000  | 3000   | 5500   | 6400  | 7700  | 9600   | 12800  | 15400  |

# OR CORES



| Part No.          | Dimensions in mm                          |             |   |
|-------------------|---|-------------|---|
|                   | A   | B           | C   |
| OR25×13-15H       | 25.00 ±0.30                               | 13.00 ±0.30 | 15.00 ±0.30                               |
| OR25×15-15H       | 25.00 ±0.30                               | 15.00 ±0.30 | 15.00 ±0.30                               |
| OR26×15-16H       | 26.00 ±0.40                               | 15.00 ±0.30 | 16.00 ±0.30                               |
| OR28×13-16H       | 28.00 ±0.40                               | 13.00 ±0.30 | 16.00 ±0.40                               |
| OR28×16-16H       | 28.00 ±0.40                               | 16.00 ±0.30 | 16.00 ±0.40                               |
| OR29×7.5-19H      | 29.00 ±0.75                               | 7.50 ±0.55  | 19.00 ±0.75                               |
| OR29×12.5-19HU    | 29.00 ±0.75                               | 12.50 ±0.60 | 19.00 ±0.75                               |
| OR29×15-19H       | 29.00 ±0.50                               | 15.00 ±0.55 | 19.00 ±0.75                               |
| OR29×15-19HU      | 29.00 ±0.50                               | 15.00 ±0.55 | 19.00 ±0.75                               |
| OR29×16-19H       | 29.00 ±0.75                               | 16.00 ±0.55 | 19.00 ±0.75                               |
| OR31×13-19H       | 31.00 <sup>+0.50</sup> / <sub>-0.70</sub> | 13.00 ±0.40 | 19.00 ±0.50                               |
| OR31x15-20H       | 31.00 <sup>+0.30</sup> / <sub>-0.00</sub> | 14.80 ±0.20 | 20.00 <sup>+0.40</sup> / <sub>-0.20</sub> |
| OR31×17-19H       | 31.00 <sup>+0.50</sup> / <sub>-0.70</sub> | 17.00 ±0.40 | 19.00 ±0.50                               |
| OR31.8×11.5-19H   | 31.75 ±0.60                               | 11.50 ±0.40 | 19.00 ±0.50                               |
| OR36×10-23H       | 36.00 ±0.50                               | 10.00 ±0.30 | 23.00 ±0.50                               |
| OR36×10-23HU      | 36.00 ±0.50                               | 10.00 ±0.30 | 23.00 ±0.50                               |
| OR36×15-23H       | 36.00 ±0.50                               | 15.00 ±0.30 | 23.00 ±0.50                               |
| OR36×15-23HU      | 36.00 ±0.50                               | 15.00 ±0.30 | 23.00 ±0.50                               |
| OR38×13-19H       | 38.10 ±0.60                               | 12.70 ±0.30 | 19.05 ±0.60                               |
| OR38x16-19H       | 38.10 ±0.60                               | 15.90 ±0.30 | 19.00 ±0.60                               |
| OR40×16-24H       | 40.00 ±0.60                               | 16.00 ±0.30 | 24.00 ±0.40                               |
| OR41.8x12.5-26.2H | 41.80 ±0.80                               | 12.50 ±0.50 | 26.20 ±0.60                               |
| OR41.8x17.5-26.2H | 41.80 ±0.80                               | 17.50 ±0.50 | 26.20 ±0.60                               |
| OR44.5×15-30H     | 44.45 ±0.50                               | 15.00 ±0.30 | 30.00 ±0.40                               |
| OR44.6×16-20H     | 44.60 ±0.50                               | 15.90 ±0.30 | 20.00 ±0.40                               |
| OR48×15-30H       | 48.00 ±0.80                               | 15.00 ±0.50 | 30.00 ±0.80                               |
| OR48×16-30H       | 48.00 ±0.80                               | 16.00 ±0.50 | 30.00 ±0.80                               |
| OR49×10-34HU      | 49.10 ±0.70                               | 10.00 ±0.35 | 33.80 ±0.75                               |

| Core Set Parameters   |        |                      |                      |                      |      |
|-----------------------|--------|----------------------|----------------------|----------------------|------|
| C1(mm <sup>-1</sup> ) | Le(mm) | Ae(mm <sup>2</sup> ) | Ve(mm <sup>3</sup> ) | Aw(mm <sup>2</sup> ) | W(g) |
| 0.950                 | 60.2   | 63.6                 | 3828                 | 176.6                | 20   |
| 0.820                 | 60.2   | 73.4                 | 4417                 | 176.6                | 23   |
| 0.860                 | 63.5   | 73.5                 | 4666                 | 201.0                | 24   |
| 0.860                 | 65.6   | 76.0                 | 4988                 | 201.0                | 26   |
| 0.700                 | 65.6   | 93.5                 | 6139                 | 201.0                | 32   |
| 1.980                 | 73.2   | 37.0                 | 2704                 | 283.4                | 14   |
| 1.190                 | 73.2   | 61.6                 | 4507                 | 283.4                | 22   |
| 0.990                 | 73.2   | 73.9                 | 5409                 | 283.4                | 28   |
| 0.990                 | 73.2   | 73.9                 | 5409                 | 283.4                | 28   |
| 0.930                 | 73.2   | 78.8                 | 5769                 | 283.4                | 30   |
| 0.990                 | 75.5   | 76.5                 | 5772                 | 283.4                | 29   |
| 0.955                 | 77.6   | 81.2                 | 6300                 | 314                  | 326  |
| 0.760                 | 75.5   | 100.0                | 7550                 | 283.4                | 39   |
| 1.060                 | 76.3   | 71.7                 | 5474                 | 283.4                | 28   |
| 1.400                 | 89.7   | 63.9                 | 5731                 | 415.3                | 29   |
| 1.400                 | 89.7   | 63.9                 | 5731                 | 415.3                | 30   |
| 0.930                 | 89.7   | 95.9                 | 8596                 | 415.3                | 43   |
| 0.940                 | 89.6   | 95.8                 | 8583                 | 415.3                | 43   |
| 0.720                 | 82.9   | 115.7                | 9585                 | 284.9                | 53   |
| 0.714                 | 82.9   | 116                  | 9630                 | 284                  | 65   |
| 0.769                 | 96.3   | 125.3                | 12066                | 452                  | 59   |
| 1.076                 | 103.0  | 95.7                 | 9860                 | 539                  | 55   |
| 0.769                 | 103.0  | 134.0                | 13800                | 539                  | 69   |
| 1.112                 | 114.0  | 102.6                | 11691                | 707                  | 56   |
| 0.493                 | 91.4   | 185.4                | 16946                | 314                  | 91   |
| 0.890                 | 118.1  | 132.5                | 15657                | 706.5                | 78   |
| 0.840                 | 118.1  | 141.4                | 16700                | 706.5                | 79   |
| 1.680                 | 127.2  | 75.6                 | 9616                 | 896.8                | 44   |

**Note : 1) AL value**- Unit : nH/N<sup>2</sup>

- Measuring conditions : 1kHz, 0.1V, 10Ts, 23°C

- Tolerance : ±25% (SM-100, SM-120 : ±30%)

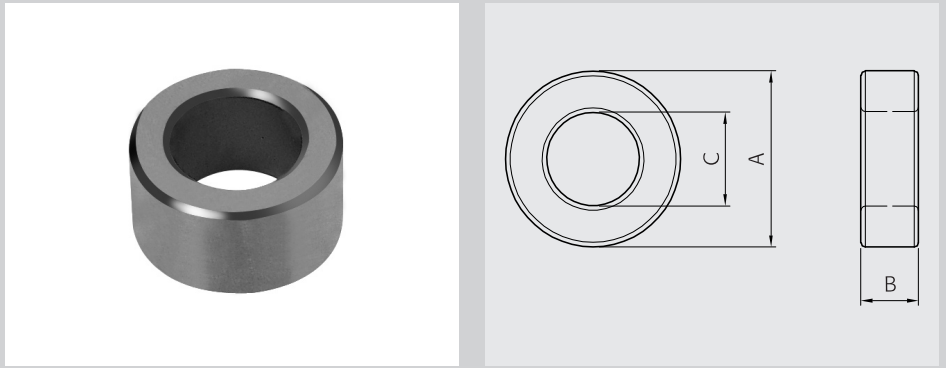
**2) Coating**

- Toroid cores can be coated with epoxy or parylene.

- Isolation voltage : epoxy - DC 1000 V min., parylene - DC 750 V min.

| Part No.          | Electrical Characteristics |      |       |       |        |        |       |       |        |        |        |
|-------------------|----------------------------|------|-------|-------|--------|--------|-------|-------|--------|--------|--------|
|                   | AL value                   |      |       |       |        |        |       |       |        |        |        |
|                   | PL-7                       | PL-9 | PL-11 | SM-8T | SM-23T | SM-43T | SM-50 | SM-60 | SM-70S | SM-100 | SM-120 |
| OR25×13-15H       | 3200                       | 4000 | 3300  | 1100  | 3000   | 5700   | 6600  | 7900  | 9900   | 13200  | 15800  |
| OR25×15-15H       | 3700                       | 4600 | 3800  | 1200  | 3500   | 6600   | 7700  | 9200  | 11500  | 15300  | 18400  |
| OR26×15-16H       | 3500                       | 4400 | 3700  | 1200  | 3400   | 6300   | 7300  | 8800  | 11000  | 14600  | 17500  |
| OR28×13-16H       | 3500                       | 4400 | 3700  | 1200  | 3400   | 6300   | 7300  | 8800  | 11000  | 14600  | 17500  |
| OR28×16-16H       | 4300                       | 5400 | 4500  | 1400  | 4100   | 7700   | 9000  | 10800 | 13500  | 18000  | 21600  |
| OR29×7.5-19H      | 1500                       | 1900 | 1600  | 500   | 1500   | 2700   | 3200  | 3800  | 4800   | 6300   | 7600   |
| OR29×12.5-19HU    | 2500                       | 3200 | 2600  | 800   | 2400   | 4500   | 5300  | 6300  | 7900   | 10600  | 12700  |
| OR29×15-19H       | 3000                       | 3800 | 3200  | 1000  | 2900   | 5500   | 6300  | 7600  | 9500   | 12700  | 15200  |
| OR29×15-19HU      | 3000                       | 3800 | 3200  | 1000  | 2900   | 5500   | 6300  | 7600  | 9500   | 12700  | 15200  |
| OR29×16-19H       | 3200                       | 4100 | 3400  | 1100  | 3100   | 5800   | 6800  | 8100  | 10100  | 13500  | 16200  |
| OR31×13-19H       | 3000                       | 3800 | 3200  | 1000  | 2900   | 5500   | 6300  | 7600  | 9500   | 12700  |        |
| OR31x15-20H       | 3100                       | 3900 | 3200  | 1000  | 3000   | 5600   | 6500  | 7800  | 11000  | 13000  |        |
| OR31×17-19H       | 4000                       | 5000 | 4100  | 1300  | 3800   | 7100   | 8300  | 9900  | 12400  | 16500  |        |
| OR31.8×11.5-19H   | 2800                       | 3600 | 3000  | 900   | 2700   | 5100   | 5900  | 7100  | 8900   | 11900  |        |
| OR36×10-23H       | 2200                       | 2700 | 2200  | 700   | 2100   | 3900   | 4500  | 5400  | 6700   | 9000   |        |
| OR36×10-23HU      | 2200                       | 2700 | 2200  | 700   | 2100   | 3900   | 4500  | 5400  | 6700   | 9000   |        |
| OR36×15-23H       | 3200                       | 4100 | 3400  | 1100  | 3100   | 5800   | 6800  | 8100  | 10100  | 13500  |        |
| OR36×15-23HU      | 3200                       | 4000 | 3300  | 1100  | 3100   | 5800   | 6700  | 8000  | 10000  | 13400  |        |
| OR38×13-19H       | 4200                       | 5200 | 4400  | 1400  | 4000   | 7500   | 8300  | 9450  | 12000  | 17000  |        |
| OR38x16-19H       | 4900                       | 6100 | 5100  | 1600  | 4700   | 8800   | 10200 | 12200 | 15300  | 20400  |        |
| OR40×16-24H       | 3920                       | 4900 | 4100  | 1300  | 3800   | 7000   | 8200  | 9800  | 12300  | 16400  |        |
| OR41.8x12.5-26.2H | 2800                       | 3500 | 2900  | 900   | 2700   | 5000   | 5800  | 7000  | 8800   | 11700  |        |
| OR41.8x17.5-26.2H | 3900                       | 4900 | 4100  | 1300  | 3800   | 7000   | 8200  | 9800  | 12300  | 16400  |        |
| OR44.5×15-30H     | 2700                       | 3400 | 2800  | 900   | 2600   | 4900   | 5700  | 6800  | 8500   | 11300  |        |
| OR44.6×16-20H     | 6120                       | 7600 | 6400  | 2000  | 5900   | 11000  | 12700 | 15300 | 19100  | 25500  |        |
| OR48×15-30H       | 3400                       | 4200 | 3500  | 1100  | 3200   | 6100   | 7100  | 8500  | 10600  | 14100  |        |
| OR48×16-30H       | 3600                       | 4500 | 3700  | 1200  | 3400   | 6400   | 7500  | 9000  | 11200  | 15000  |        |
| OR49×10-34HU      | 1800                       | 2200 | 1900  | 600   | 1700   | 3200   | 3700  | 4500  | 5600   | 7500   |        |

# OR CORES



| Part No.           | Dimensions in mm |             |             |
|--------------------|------------------|-------------|-------------|
|                    | A                | B           | C           |
| OR49×16-34H        | 49.10 ±0.70      | 15.90 ±0.35 | 33.80 ±0.75 |
| OR49×16-34HU       | 49.10 ±0.70      | 15.90 ±0.35 | 33.80 ±0.75 |
| OR49×19-32H        | 49.10 ±0.60      | 19.00 ±0.50 | 31.80 ±0.60 |
| OR49×19-32HU       | 49.10 ±0.60      | 19.00 ±0.50 | 31.80 ±0.60 |
| OR49×19-34H        | 49.10 ±0.70      | 19.00 ±0.35 | 33.80 ±0.75 |
| OR49×19-34HU       | 49.10 ±0.70      | 19.00 ±0.35 | 33.80 ±0.75 |
| OR51.5×13.5-31.5HU | 51.50 ±0.60      | 13.50 ±0.40 | 31.50 ±0.50 |
| OR51.5×24.5-31.5HU | 51.50 ±0.50      | 24.50 ±0.50 | 31.50 ±0.50 |
| OR60×13-40H        | 60.00 ±0.80      | 13.00 ±0.50 | 40.00 ±0.70 |
| OR60×18-40H        | 60.00 ±0.80      | 18.00 ±0.50 | 40.00 ±0.70 |
| OR60×19.5-40H      | 60.00 ±0.80      | 19.50 ±0.50 | 40.00 ±0.70 |
| OR60×25-40H        | 60.00 ±0.80      | 25.00 ±0.50 | 40.00 ±0.70 |
| OR63×25-38H        | 63.00 ±1.34      | 25.00 ±0.50 | 38.00 ±0.70 |
| OR63×25-38HU       | 63.00 ±1.34      | 25.00 ±0.50 | 38.00 ±0.75 |
| OR74×13-39H        | 73.66 ±1.47      | 12.70 ±0.60 | 38.86 ±1.32 |
| OR74×20-39H        | 73.66 ±1.47      | 20.00 ±0.60 | 38.86 ±1.32 |
| OR78×20-51H        | 78.00 ±1.00      | 20.00 ±1.00 | 50.50 ±1.00 |
| OR78×22-51H        | 78.00 ±1.00      | 22.00 ±1.00 | 50.50 ±1.00 |
| OR78×24-51H        | 78.00 ±1.00      | 24.00 ±1.00 | 51.00 ±1.00 |
| OR100×30-60H       | 100.00 ±2.00     | 30.00 ±0.50 | 60.00 ±2.00 |

| Core Set Parameters   |        |                      |                      |                      |      |
|-----------------------|--------|----------------------|----------------------|----------------------|------|
| C1(mm <sup>-1</sup> ) | Le(mm) | Ae(mm <sup>2</sup> ) | Ve(mm <sup>3</sup> ) | Aw(mm <sup>2</sup> ) | W(g) |
| 1.060                 | 127.2  | 120.2                | 15298                | 896.8                | 75   |
| 1.060                 | 127.2  | 120.2                | 15298                | 896.8                | 73   |
| 0.761                 | 123.2  | 161.8                | 19900                | 794                  | 100  |
| 0.761                 | 123.2  | 161.8                | 19700                | 794                  | 99   |
| 0.885                 | 127.2  | 143.7                | 18200                | 897                  | 90   |
| 0.885                 | 127.2  | 143.7                | 18279                | 897                  | 87   |
| 0.988                 | 125.3  | 126.8                | 15888                | 779                  | 79   |
| 0.522                 | 125.3  | 240                  | 30070                | 779                  | 143  |
| 1.193                 | 153.0  | 128.2                | 19615                | 1257                 | 96   |
| 0.860                 | 152.9  | 177.6                | 27140                | 1256.0               | 135  |
| 0.790                 | 152.9  | 192.4                | 29402                | 1256.0               | 152  |
| 0.620                 | 152.9  | 246.6                | 37695                | 1256.0               | 187  |
| 0.490                 | 152.0  | 306.0                | 46512                | 1133.5               | 240  |
| 0.507                 | 152.0  | 300.0                | 45600                | 1134                 | 238  |
| 0.770                 | 165.3  | 213.6                | 35298                | 1185.4               | 186  |
| 0.491                 | 165.3  | 336.6                | 55640                | 1186                 | 290  |
| 0.720                 | 195.6  | 270.7                | 52958                | 2001.9               | 275  |
| 0.660                 | 195.6  | 297.8                | 58254                | 2001.9               | 293  |
| 0.603                 | 196.0  | 325.0                | 63700                | 2043                 | 335  |
| 0.418                 | 251.0  | 600.0                | 150600               | 2827                 | 725  |



**Note : 1) AL value**- Unit : nH/N<sup>2</sup>

- Measuring conditions : 1kHz, 0.1V, 10Ts, 23°C

- Tolerance : ±25% (SM-100, SM-120 : ±30% )

**2) Coating**

- Toroid cores can be coated with epoxy or parylene.

- Isolation voltage : epoxy - DC 1000 V min., parylene - DC 750 V min.

| Part No.           | Electrical Characteristics |      |       |       |        |        |       |       |        |        |        |
|--------------------|----------------------------|------|-------|-------|--------|--------|-------|-------|--------|--------|--------|
|                    | AL value                   |      |       |       |        |        |       |       |        |        |        |
|                    | PL-7                       | PL-9 | PL-11 | SM-8T | SM-23T | SM-43T | SM-50 | SM-60 | SM-70S | SM-100 | SM-120 |
| OR49×16-34H        | 2800                       | 3600 | 3000  | 900   | 2700   | 5100   | 5900  | 7100  | 8900   | 11900  |        |
| OR49×16-34HU       | 2800                       | 3600 | 3000  | 900   | 2700   | 5100   | 5900  | 7100  | 8900   | 11900  |        |
| OR49×19-32H        | 4000                       | 5000 | 4100  | 1300  | 3800   | 7100   | 8300  | 9900  | 12400  | 16500  |        |
| OR49×19-32HU       | 3960                       | 5000 | 4100  | 1300  | 3800   | 7100   | 8300  | 9900  | 12400  | 16500  |        |
| OR49×19-34H        | 3400                       | 4300 | 3600  | 1100  | 3100   | 6100   | 7100  | 8500  | 10700  | 14200  |        |
| OR49×19-34HU       | 3200                       | 4250 | 3330  | 1100  | 3100   | 6100   | 7100  | 8500  | 10700  | 14200  |        |
| OR51.5×13.5-31.5HU | 3050                       | 3800 | 3170  | 1000  | 2900   | 5500   | 6400  | 7600  | 9500   | 12700  |        |
| OR51.5×24.5-31.5HU | 6000                       | 7500 | 6200  | 2000  | 5700   | 10700  | 12500 | 15000 | 18700  | 25000  |        |
| OR60×13-40H        | 2530                       | 3200 | 2600  | 800   | 2400   | 4500   | 5300  | 6300  | 7900   | 10500  |        |
| OR60×18-40H        | 3500                       | 4400 | 3700  | 1200  | 3400   | 6300   | 7300  | 8800  | 11000  | 14600  |        |
| OR60×19.5-40H      | 3800                       | 4800 | 4000  | 1300  | 3700   | 6800   | 8000  | 9500  | 11900  | 15900  |        |
| OR60×25-40H        | 4900                       | 6100 | 5100  | 1600  | 4700   | 8700   | 10100 | 12200 | 15200  | 20300  |        |
| OR63×25-38H        | 6200                       | 7700 | 6400  | 2100  | 5900   | 11000  | 13000 | 15400 | 19500  | 25700  |        |
| OR63×25-38HU       | 5500                       | 7500 | 5700  | 2050  | 5400   | 10000  | 12800 | 15400 | 19200  | 24000  |        |
| OR74×13-39H        | 3900                       | 4900 | 4100  | 1300  | 3800   | 7000   | 8200  | 9800  | 12200  | 16300  |        |
| OR74×20-39H        | 6140                       | 7700 | 6400  | 2000  | 5900   | 11000  | 12800 | 15400 | 19200  | 25600  |        |
| OR78×20-51H        | 4200                       | 5200 | 4400  | 1400  | 4000   | 7500   | 8700  | 10500 | 13100  | 17500  |        |
| OR78×22-51H        | 4600                       | 5700 | 4800  | 1500  | 4400   | 8200   | 9500  | 11400 | 14300  | 19000  |        |
| OR78×24-51H        | 4700                       | 5900 | 4800  | 1700  | 4800   | 9000   | 10400 | 12500 | 15600  | 20500  |        |
| OR100×30-60H       | 6600                       | 8300 | 6900  | 2400  | 6900   | 12900  | 14000 | 17000 | 21000  | 28000  |        |