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# ALUMINUM ELECTROLYTIC CAPACITORS

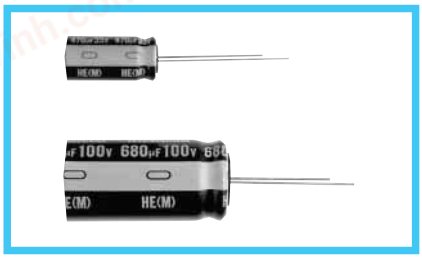
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**HE** series — Miniature Sized, Low Impedance, High Reliability

Smaller | Low Impedance | Long Life | Anti-Solvent Feature

● Low impedance and high reliability withstanding 4000hours to 10000hours.

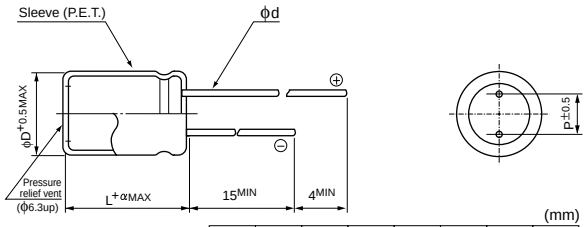
HD → Long Life → HE



## ■Specifications

| Item | Performance Characteristics | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Category Temperature Range | −40 ~ +105˚C | | | | | | | | | |
| Rated Voltage Range | 6.3 ~ 100V | | | | | | | | | |
| Rated Capacitance Range | 6.8 ~ 18000μF | | | | | | | | | |
| Capacitance Tolerance | ±20% at 120Hz, 20˚C | | | | | | | | | |
| Leakage Current | After 2 minutes' application of rated voltage, leakage current is not more than 0.01CV or 3 (μA), whichever is greater. | | | | | | | | | |
| tan δ | Rated voltage (V) | 6.3 | 10 | 16 | 25 | 35 | 50 | 63 | 100 | 120Hz 20˚C |
| | tan δ (MAX.) | 0.22 | 0.19 | 0.16 | 0.14 | 0.12 | 0.10 | 0.09 | 0.08 | |
| | For capacitance of more than 1000μF, add 0.02 for every increase of 1000μF. | | | | | | | | | |
| Stability at Low Temperature | Rated voltage (V) | 6.3 | 10 | 16 | 25 | 35 | 50 | 63 | 100 | 120Hz |
| | Impedance ratio ZT / Z20 (MAX.) Z−25˚C / Z+20˚C | 4 | 3 | 2 | 2 | 2 | 2 | 2 | 2 | |
| | Impedance ratio ZT / Z20 (MAX.) Z−40˚C / Z+20˚C | 8 | 6 | 4 | 3 | 3 | 3 | 3 | 3 | |
| Endurance | After an application of D.C. bias voltage plus the rated ripple current for stated in the below at 105˚C the peak voltage shall not exceed the rated D.C. voltage, capacitors shall meet the following requirements. | | | | | | | | | |
| | Case size | | φD ≦ 6.3 | φD = 8 , 10 | φD ≧ 12.5 | | | | | |
| | Rated voltage (V) | 6.3 ~ 10WV | 4000hours | 6000hours | 8000hours | | | | | |
| | | 16 ~ 100WV | 5000hours | 7000hours | 10000hours | | | | | |
| | Capacitance change | Within ±25% of initial value | | | | | | | | |
| | tan δ | 200% or less of initial specified value | | | | | | | | |
| | Leakage current | Initial specified value or less | | | | | | | | |
| Marking | Printed with white color letter on black sleeve. | | | | | | | | | |

## ■Radial Lead Type




(mm)

| α | |
|---|---|
| | (L < 20) 1.5 |
| | (L ≧ 20) 2.0 |

| φD | 5 | 6.3 | 8 | 10 | 12.5 | 16 | 18 |
|---|---|---|---|---|---|---|---|
| P | 2.0 | 2.5 | 3.5 | 5.0 | 5.0 | 7.5 | 7.5 |
| φd | 0.5 | 0.5 | 0.6 | 0.6 | 0.6※ | 0.8 | 0.8 |

※In case L > 25 for the φ12.5 dia. unit, lead dia. φd = 0.8mm

## Type numbering system (Example : 10V 1000μF)

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| U | H | E | 1 | A | 1 | 0 | 2 | M | P | D | |

- 12: Size code
- 10 11: Configuration ※
- 9: Capacitance tolerance (±20%)
- 6 7 8: Rated Capacitance (1000μF)
- 4 5: Rated voltage (10V)
- 1 2 3: Series name
- Type

※ Configuration

| φ D | Pb-free leadwire Pb-free PET sleeve | Sn-Pb finished leadwire PVC sleeve (containing Pb) |
|---|---|---|
| 5 | DD | DH |
| 6.3 | ED | EH |
| 8 · 10 | PD | PH |
| 12.5 ~ 18 | HD | HH |

※ Please contact to us if other configurations are required.

## ●Frequency coefficient of rated ripple current

| Cap. (μF) \ Frequency | 50Hz | 120Hz | 300Hz | 1kHz | 10kHz~ |
|---|---|---|---|---|---|
| 6.8 ~ 33 | 0.45 | 0.55 | 0.70 | 0.90 | 1.00 |
| 39 ~ 330 | 0.60 | 0.70 | 0.85 | 0.95 | 1.00 |
| 390 ~ 1000 | 0.65 | 0.75 | 0.90 | 0.98 | 1.00 |
| 1200 ~ 18000 | 0.75 | 0.80 | 0.95 | 1.00 | 1.00 |

Please refer to page 19, 20, 21 about the formed or taped product spec.
Please refer to page 3 for the minimum order quantity.

● Dimension table in next page.

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# ALUMINUM ELECTROLYTIC CAPACITORS

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## HE series

### Standard ratings

| Cap.(μF) | Code | 6.3 (0J) Case size φD × L (mm) | 6.3 (0J) Impedance (Ω MAX.) 20°C / 100kHz | 6.3 (0J) Impedance (Ω MAX.) –10°C / 100kHz | 6.3 (0J) Rated ripple (mA rms) 105°C / 100kHz | 10 (1A) Case size φD × L (mm) | 10 (1A) Impedance (Ω MAX.) 20°C / 100kHz | 10 (1A) Impedance (Ω MAX.) –10°C / 100kHz | 10 (1A) Rated ripple (mA rms) 105°C / 100kHz |
|---|---|---|---|---|---|---|---|---|---|
| **100** | 101 | | | | | 5 × 11 | 0.58 | 2.3 | 210 |
| **150** | 151 | 5 × 11 | 0.58 | 2.3 | 210 | | | | |
| **220** | 221 | | | | | 6.3 × 11 | 0.22 | 0.87 | 340 |
| **330** | 331 | 6.3 × 11 | 0.22 | 0.87 | 340 | | | | |
| **470** | 471 | | | | | 8 × 11.5 | 0.13 | 0.52 | 640 |
| **680** | 681 | 8 × 11.5 | 0.13 | 0.52 | 640 | 8 × 15 | 0.087 | 0.35 | 840 |
| | | | | | | ▲ 10 × 12.5 | 0.080 | 0.32 | 865 |
| **820** | 821 | 10 × 12.5 | 0.080 | 0.32 | 865 | | | | |
| **1000** | 102 | 8 × 15 | 0.087 | 0.35 | 840 | 8 × 20 | 0.069 | 0.27 | 1050 |
| | | | | | | ▲ 10 × 16 | 0.060 | 0.24 | 1210 |
| **1200** | 122 | 8 × 20 | 0.069 | 0.27 | 1050 | 10 × 20 | 0.046 | 0.18 | 1400 |
| | | ▲10 × 16 | 0.060 | 0.24 | 1210 | | | | |
| **1500** | 152 | 10 × 20 | 0.046 | 0.18 | 1400 | 10 × 25 | 0.042 | 0.17 | 1650 |
| | | | | | | ▲ 12.5 × 15 | 0.049 | 0.16 | 1450 |
| **1800** | 182 | 12.5 × 15 | 0.049 | 0.16 | 1450 | | | | |
| **2200** | 222 | 10 × 25 | 0.042 | 0.17 | 1650 | 10 × 31.5 | 0.031 | 0.12 | 1910 |
| | | | | | | ▲ 12.5 × 20 | 0.035 | 0.12 | 1900 |
| | | | | | | ● 16 × 15 | 0.042 | 0.12 | 1940 |
| **2700** | 272 | ▲10 × 31.5 | 0.031 | 0.12 | 1910 | 18 × 15 | 0.043 | 0.11 | 2210 |
| | | 16 × 15 | 0.042 | 0.12 | 1940 | | | | |
| **3300** | 332 | 12.5 × 20 | 0.035 | 0.12 | 1900 | 12.5 × 25 | 0.027 | 0.089 | 2230 |
| **3900** | 392 | 12.5 × 25 | 0.027 | 0.089 | 2230 | 12.5 × 31.5 | 0.024 | 0.078 | 2650 |
| | | ▲18 × 15 | 0.043 | 0.11 | 2210 | ▲ 16 × 20 | 0.027 | 0.078 | 2530 |
| **4700** | 472 | 12.5 × 31.5 | 0.024 | 0.078 | 2650 | 12.5 × 35.5 | 0.020 | 0.065 | 2880 |
| **5600** | 562 | 12.5 × 35.5 | 0.020 | 0.065 | 2880 | 12.5 × 40 | 0.017 | 0.056 | 3350 |
| | | ▲16 × 20 | 0.027 | 0.078 | 2530 | ▲ 16 × 25 | 0.021 | 0.060 | 2930 |
| | | | | | | ● 18 × 20 | 0.026 | 0.067 | 2860 |
| **6800** | 682 | 12.5 × 40 | 0.017 | 0.056 | 3350 | 16 × 31.5 | 0.017 | 0.050 | 3450 |
| | | ▲16 × 25 | 0.021 | 0.060 | 2930 | | | | |
| | | ●18 × 20 | 0.026 | 0.067 | 2860 | ▲ 18 × 25 | 0.019 | 0.049 | 3140 |
| **8200** | 822 | 16 × 31.5 | 0.017 | 0.050 | 3450 | 16 × 35.5 | 0.015 | 0.044 | 3610 |
| | | | | | | ▲ 18 × 31.5 | 0.015 | 0.040 | 4170 |
| **10000** | 103 | 16 × 35.5 | 0.015 | 0.044 | 3610 | 16 × 40 | 0.013 | 0.038 | 4080 |
| | | ▲18 × 25 | 0.019 | 0.049 | 3140 | ▲ 18 × 35.5 | 0.014 | 0.038 | 4220 |
| **12000** | 123 | 16 × 40 | 0.013 | 0.038 | 4080 | 18 × 40 | 0.012 | 0.032 | 4280 |
| | | ▲18 × 31.5 | 0.015 | 0.040 | 4170 | | | | |
| **15000** | 153 | 18 × 35.5 | 0.014 | 0.038 | 4220 | | | | |
| **18000** | 183 | 18 × 40 | 0.012 | 0.032 | 4280 | | | | |

▲: In this case, 6 will be put 12th digit type numbering system.
●: In this case, 3 will be put 12th digit type numbering system.

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# ALUMINUM ELECTROLYTIC CAPACITORS

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## HE series

### Standard ratings

| Cap.(μF) | Code | 16 (1C) Case size φD × L (mm) | 16 (1C) Impedance (Ω MAX.) 20°C / 100kHz | 16 (1C) Impedance (Ω MAX.) –10°C / 100kHz | 16 (1C) Rated ripple (mA rms) 105°C / 100kHz | 25 (1E) Case size φD × L (mm) | 25 (1E) Impedance (Ω MAX.) 20°C / 100kHz | 25 (1E) Impedance (Ω MAX.) –10°C / 100kHz | 25 (1E) Rated ripple (mA rms) 105°C / 100kHz |
|---|---|---|---|---|---|---|---|---|---|
| **47** | 470 | | | | | 5 × 11 | 0.58 | 2.3 | 210 |
| **56** | 560 | 5 × 11 | 0.58 | 2.3 | 210 | | | | |
| **100** | 101 | | | | | 6.3 × 11 | 0.22 | 0.87 | 340 |
| **120** | 121 | 6.3 × 11 | 0.22 | 0.87 | 340 | | | | |
| **220** | 221 | | | | | 8 × 11.5 | 0.13 | 0.52 | 640 |
| **330** | 331 | 8 × 11.5 | 0.13 | 0.52 | 640 | 8 × 15 | 0.087 | 0.35 | 840 |
| | | | | | | ▲ 10 × 12.5 | 0.080 | 0.32 | 865 |
| **470** | 471 | 8 × 15 | 0.087 | 0.35 | 840 | 8 × 20 | 0.069 | 0.27 | 1050 |
| | | ▲ 10 × 12.5 | 0.080 | 0.32 | 865 | ▲ 10 × 16 | 0.06 | 0.24 | 1210 |
| **680** | 681 | 8 × 20 | 0.069 | 0.27 | 1050 | 10 × 20 | 0.046 | 0.18 | 1400 |
| | | ▲ 10 × 16 | 0.060 | 0.24 | 1210 | ▲ 12.5 × 15 | 0.049 | 0.16 | 1450 |
| **820** | 821 | | | | | 10 × 25 | 0.042 | 0.17 | 1650 |
| **1000** | 102 | 10 × 20 | 0.046 | 0.18 | 1400 | 10 × 31.5 | 0.031 | 0.12 | 1910 |
| | | ▲ 12.5 × 15 | 0.049 | 0.16 | 1450 | ▲ 12.5 × 20 | 0.035 | 0.12 | 1900 |
| | | | | | | ● 16 × 15 | 0.042 | 0.12 | 1940 |
| **1200** | 122 | 10 × 25 | 0.042 | 0.17 | 1650 | 18 × 15 | 0.043 | 0.11 | 2210 |
| **1500** | 152 | 10 × 31.5 | 0.031 | 0.12 | 1910 | 12.5 × 25 | 0.027 | 0.089 | 2230 |
| | | ▲ 12.5 × 20 | 0.035 | 0.12 | 1900 | | | | |
| | | ● 16 × 15 | 0.042 | 0.12 | 1940 | | | | |
| **1800** | 182 | | | | | 12.5 × 31.5 | 0.024 | 0.078 | 2650 |
| | | | | | | ▲ 16 × 20 | 0.027 | 0.078 | 2530 |
| **2200** | 222 | 12.5 × 25 | 0.027 | 0.089 | 2230 | 12.5 × 35.5 | 0.020 | 0.065 | 2880 |
| | | ▲ 18 × 15 | 0.043 | 0.11 | 2210 | ▲ 18 × 20 | 0.026 | 0.067 | 2860 |
| **2700** | 272 | 12.5 × 31.5 | 0.024 | 0.078 | 2650 | 12.5 × 40 | 0.017 | 0.056 | 3350 |
| | | ▲ 16 × 20 | 0.027 | 0.078 | 2530 | ▲ 16 × 25 | 0.021 | 0.060 | 2930 |
| **3300** | 332 | 12.5 × 35.5 | 0.020 | 0.065 | 2880 | 16 × 31.5 | 0.017 | 0.050 | 3450 |
| | | | | | | ▲ 18 × 25 | 0.019 | 0.049 | 3140 |
| **3900** | 392 | 12.5 × 40 | 0.017 | 0.056 | 3350 | 16 × 35.5 | 0.015 | 0.044 | 3610 |
| | | ▲ 16 × 25 | 0.021 | 0.060 | 2930 | | | | |
| | | ● 16 × 20 | 0.026 | 0.067 | 2860 | ▲ 18 × 31.5 | 0.015 | 0.040 | 4170 |
| **4700** | 472 | 16 × 31.5 | 0.017 | 0.050 | 3450 | 16 × 40 | 0.013 | 0.038 | 4080 |
| | | ▲ 18 × 25 | 0.019 | 0.049 | 3140 | ▲ 18 × 35.5 | 0.014 | 0.038 | 4220 |
| **5600** | 562 | 16 × 35.5 | 0.015 | 0.044 | 3610 | 18 × 40 | 0.012 | 0.032 | 4280 |
| | | ▲ 18 × 31.5 | 0.015 | 0.040 | 4170 | | | | |
| **6800** | 682 | 16 × 40 | 0.013 | 0.038 | 4080 | | | | |
| **8200** | 822 | 18 × 35.5 | 0.014 | 0.038 | 4220 | | | | |
| **10000** | 103 | 18 × 40 | 0.012 | 0.032 | 4280 | | | | |

▲: In this case, 6 will be put 12th digit type numbering system.
●: In this case, 3 will be put 12th digit type numbering system.

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# ALUMINUM ELECTROLYTIC CAPACITORS

nichicon

## HE series

### Standard ratings

| Cap.(μF) | Code | 35 (1V) Case size φD × L (mm) | 35 (1V) Impedance (Ω MAX.) 20°C / 100kHz | 35 (1V) Impedance (Ω MAX.) –10°C / 100kHz | 35 (1V) Rated ripple (mA rms) 105°C / 100kHz | 50 (1H) Case size φD × L (mm) | 50 (1H) Impedance (Ω MAX.) 20°C / 100kHz | 50 (1H) Impedance (Ω MAX.) –10°C / 100kHz | 50 (1H) Rated ripple (mA rms) 105°C / 100kHz |
|---|---|---|---|---|---|---|---|---|---|
| **22** | 220 | | | | | 5 × 11 | 0.70 | 2.8 | 180 |
| **33** | 330 | 5 × 11 | 0.58 | 2.3 | 210 | | | | |
| **47** | 470 | | | | | | | | |
| **56** | 560 | 6.3 × 11 | 0.22 | 0.87 | 340 | 6.3 × 11 | 0.30 | 1.2 | 295 |
| **100** | 101 | | | | | 8 × 11.5 | 0.17 | 0.68 | 555 |
| **120** | 121 | | | | | 8 × 15 | 0.12 | 0.48 | 730 |
| **150** | 151 | 8 × 11.5 | 0.13 | 0.52 | 640 | 10 × 12.5 | 0.12 | 0.48 | 760 |
| **180** | 181 | | | | | 8 × 20 | 0.091 | 0.36 | 910 |
| **220** | 221 | 8 × 15 | 0.087 | 0.35 | 840 | 10 × 16 | 0.084 | 0.34 | 1050 |
| | | ▲10 × 12.5 | 0.080 | 0.32 | 865 | | | | |
| **270** | 271 | 8 × 20 | 0.069 | 0.27 | 1050 | 10 × 20 | 0.060 | 0.24 | 1220 |
| | | | | | | ▲12.5 × 15 | 0.061 | 0.20 | 1260 |
| **330** | 331 | 10 × 16 | 0.060 | 0.24 | 1210 | 10 × 25 | 0.055 | 0.22 | 1440 |
| **470** | 471 | 10 × 20 | 0.046 | 0.18 | 1400 | 10 × 31.5 | 0.043 | 0.17 | 1690 |
| | | ▲12.5 × 15 | 0.049 | 0.16 | 1450 | ▲12.5 × 20 | 0.045 | 0.15 | 1660 |
| | | | | | | ● 16 × 15 | 0.055 | 0.17 | 1690 |
| **560** | 561 | 10 × 25 | 0.042 | 0.17 | 1650 | 12.5 × 25 | 0.034 | 0.11 | 1950 |
| | | | | | | ▲ 18 × 15 | 0.054 | 0.15 | 1930 |
| **680** | 681 | 10 × 31.5 | 0.031 | 0.12 | 1910 | 12.5 × 31.5 | 0.030 | 0.10 | 2310 |
| | | ▲12.5 × 20 | 0.035 | 0.12 | 1900 | | | | |
| | | ● 16 × 15 | 0.042 | 0.12 | 1940 | | | | |
| **820** | 821 | | | | | 12.5 × 35.5 | 0.025 | 0.083 | 2510 |
| | | | | | | ▲16 × 20 | 0.034 | 0.10 | 2210 |
| **1000** | 102 | 12.5 × 25 | 0.027 | 0.089 | 2230 | 12.5 × 40 | 0.021 | 0.069 | 2920 |
| | | ▲18 × 15 | 0.043 | 0.11 | 2210 | ▲16 × 25 | 0.025 | 0.075 | 2555 |
| | | | | | | ●18 × 20 | 0.036 | 0.097 | 2490 |
| **1200** | 122 | 12.5 × 31.5 | 0.024 | 0.078 | 2650 | 16 × 31.5 | 0.022 | 0.066 | 3010 |
| | | ▲16 × 20 | 0.027 | 0.078 | 2530 | ▲18 × 25 | 0.026 | 0.070 | 2740 |
| **1500** | 152 | 12.5 × 35.5 | 0.020 | 0.065 | 2880 | 16 × 35.5 | 0.019 | 0.057 | 3150 |
| **1800** | 182 | 12.5 × 40 | 0.017 | 0.056 | 3350 | 16 × 40 | 0.016 | 0.048 | 3710 |
| | | ▲16 × 25 | 0.021 | 0.060 | 2930 | | | | |
| | | ●18 × 20 | 0.026 | 0.067 | 2860 | ▲18 × 31.5 | 0.021 | 0.057 | 3635 |
| **2200** | 222 | 16 × 31.5 | 0.017 | 0.050 | 3450 | ▲18 × 35.5 | 0.017 | 0.046 | 3680 |
| | | ▲18 × 25 | 0.019 | 0.049 | 3140 | | | | |
| **2700** | 272 | 16 × 35.5 | 0.015 | 0.044 | 3610 | 18 × 40 | 0.014 | 0.038 | 3800 |
| | | ▲18 × 31.5 | 0.015 | 0.040 | 4170 | | | | |
| **3300** | 332 | 16 × 40 | 0.013 | 0.038 | 4080 | | | | |
| | | ▲18 × 35.5 | 0.014 | 0.038 | 4220 | | | | |
| **3900** | 392 | 18 × 40 | 0.012 | 0.032 | 4280 | | | | |

▲: In this case, 6 will be put 12th digit type numbering system.
●: In this case, 3 will be put 12th digit type numbering system.

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# ALUMINUM ELECTROLYTIC CAPACITORS

nichicon

## HE series

### ■Standard ratings

| Cap.(μF) / V (Code) / Item / Code | 63 (1J) | | | | 100 (2A) | | | |
|---|---|---|---|---|---|---|---|---|
| | Case size φD × L (mm) | Impedance (Ω MAX.) 20˚C / 100kHz | Impedance (Ω MAX.) –10˚C / 100kHz | Rated ripple (mA rms) 105˚C / 100kHz | Case size φD × L (mm) | Impedance (Ω MAX.) 20˚C / 100kHz | Impedance (Ω MAX.) –10˚C / 100kHz | Rated ripple (mA rms) 105˚C / 100kHz |
| **6.8** 6R8 | | | | | 5 × 11 | 2.3 | 9.3 | 62 |
| **15** 150 | 5 × 11 | 2.3 | 9.3 | 62 | 6.3 × 11 | 1.2 | 5.0 | 126 |
| **27** 270 | | | | | 8 × 11.5 | 0.63 | 2.8 | 260 |
| **33** 330 | 6.3 × 11 | 1.2 | 5.0 | 126 | | | | |
| **39** 390 | | | | | 8 × 15 | 0.45 | 2.1 | 335 |
| **47** 470 | | | | | 10 × 12.5 | 0.43 | 1.8 | 325 |
| **56** 560 | 8 × 11.5 | 0.63 | 2.8 | 260 | 8 × 20 | 0.33 | 1.6 | 408 |
| **68** 680 | | | | | 10 × 16 | 0.31 | 1.5 | 400 |
| **82** 820 | 8 × 15 | 0.45 | 2.1 | 335 | 10 × 20 | 0.21 | 0.94 | 518 |
| | ▲10 × 12.5 | 0.43 | 1.8 | 325 | ▲12.5 × 15 | 0.23 | 1.1 | 527 |
| **100** 101 | | | | | 10 × 25 | 0.20 | 0.84 | 595 |
| **120** 121 | 8 × 20 | 0.33 | 1.6 | 408 | 10 × 31.5 | 0.15 | 0.71 | 740 |
| | ▲10 × 16 | 0.31 | 1.5 | 400 | ▲12.5 × 20 | 0.16 | 0.64 | 765 |
| **150** 151 | | | | | 16 × 15 | 0.14 | 0.66 | 895 |
| **180** 181 | 10 × 20 | 0.21 | 0.94 | 518 | 12.5 × 25 | 0.12 | 0.45 | 875 |
| | ▲12.5 × 15 | 0.23 | 1.1 | 527 | ▲18 × 15 | 0.12 | 0.50 | 1030 |
| **220** 221 | 10 × 25 | 0.20 | 0.84 | 595 | 12.5 × 31.5 | 0.10 | 0.42 | 1010 |
| | | | | | ▲16 × 20 | 0.091 | 0.38 | 1130 |
| **270** 271 | 10 × 31.5 | 0.15 | 0.71 | 740 | 12.5 × 35.5 | 0.083 | 0.35 | 1140 |
| | ▲12.5 × 20 | 0.16 | 0.64 | 765 | | | | |
| | ● 16 × 15 | 0.14 | 0.66 | 895 | ▲16 × 25 | 0.073 | 0.27 | 1350 |
| **330** 331 | 12.5 × 25 | 0.12 | 0.45 | 875 | 12.5× 40 | 0.071 | 0.30 | 1280 |
| | | | | | ▲18 × 20 | 0.080 | 0.30 | 1300 |
| **390** 391 | 18 × 15 | 0.12 | 0.50 | 1030 | 16 × 31.5 | 0.054 | 0.20 | 1650 |
| | | | | | ▲18 × 25 | 0.057 | 0.21 | 1560 |
| **470** 471 | 12.5 × 31.5 | 0.10 | 0.42 | 1010 | 16 × 35.5 | 0.045 | 0.17 | 1900 |
| | ▲16 × 20 | 0.091 | 0.38 | 1130 | ▲18 × 31.5 | 0.047 | 0.17 | 1720 |
| **560** 561 | 12.5 × 35.5 | 0.083 | 0.35 | 1140 | 16 × 40 | 0.040 | 0.15 | 2130 |
| | ▲16 × 25 | 0.073 | 0.27 | 1350 | | | | |
| **680** 681 | 12.5 × 40 | 0.071 | 0.30 | 1280 | 18 × 35.5 | 0.040 | 0.15 | 1890 |
| | ▲18 × 20 | 0.080 | 0.30 | 1300 | | | | |
| **820** 821 | 16 × 31.5 | 0.054 | 0.20 | 1650 | 18 × 40 | 0.036 | 0.13 | 2470 |
| | ▲18 × 25 | 0.057 | 0.21 | 1560 | | | | |
| **1000** 102 | 16 × 35.5 | 0.045 | 0.17 | 1900 | | | | |
| | ▲18 × 31.5 | 0.047 | 0.17 | 1720 | | | | |
| **1200** 122 | 16 × 40 | 0.040 | 0.15 | 2130 | | | | |
| | ▲18 × 35.5 | 0.040 | 0.15 | 1890 | | | | |
| **1500** 152 | 18 × 40 | 0.036 | 0.13 | 2470 | | | | |

▲: In this case, 6 will be put 12th digit type numbering system.
●: In this case, 3 will be put 12th digit type numbering system.