



Размер R 0,1-3

C-CERB



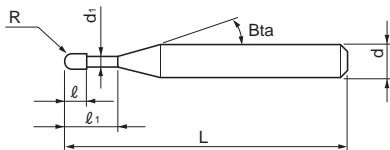
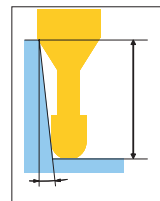
Обрабатываемый материал (наиболее подходящий, подходящий)

| Углеродистые стали | Легированные стали | Упрочненные стали | Закаленные стали | | | Чугун | Алюминиевые сплавы | Графит | Медь | Пластик | Рекомендуемое охлаждение — Подходящее охлаждение Водная эмульсия и Масло — Воздушное |
|--------------------|--------------------|-------------------|------------------|----------|----------|-------|--------------------|--------|------|---------|---|
| | | | (~55HRC) | (~60HRC) | (~65HRC) | | | | | | |
| S45C S55C | SK-S SCM SUS | NAK HPM | | | | | | | | | |

Общее количество моделей 180

Ед.изм. (мм)

| Модель | Рабочий радиус R | Длина рабочей части l_1 | Длина режущей части l | Диаметр шейки d_1 | Угол конуса β | Общая длина L | Диаметр хвостовика d | Цена |
|------------------|---------------------|------------------------------|----------------------------|------------------------|------------------------|------------------|-------------------------|------|
| | | | | | | | | |
| C-CERB 2002-0.3 | R 0.1 | 0.3 | 0.16 | 0.17 | 16 ° | 45 | 4 | |
| C-CERB 2002-0.5 | | 0.5 | | | | 45 | 4 | |
| C-CERB 2002-0.75 | | 0.75 | | | | 45 | 4 | |
| C-CERB 2002-1 | | 1 | | | | 45 | 4 | |
| C-CERB 2002-1.25 | | 1.25 | | | | 45 | 4 | |
| C-CERB 2002-1.5 | | 1.5 | | | | 45 | 4 | |
| C-CERB 2002-1.75 | | 1.75 | | | | 45 | 4 | |
| C-CERB 2002-2 | | 2 | | | | 45 | 4 | |
| C-CERB 2002-2.5 | | 2.5 | | | | 45 | 4 | |
| C-CERB 2002-3 | | 3 | | | | 45 | 4 | |
| C-CERB 2003-0.5 | R 0.15 | 0.5 | 0.24 | 0.27 | 16 ° | 45 | 4 | |
| C-CERB 2003-0.75 | | 0.75 | | | | 45 | 4 | |
| C-CERB 2003-1 | | 1 | | | | 45 | 4 | |
| C-CERB 2003-1.25 | | 1.25 | | | | 45 | 4 | |
| C-CERB 2003-1.5 | | 1.5 | | | | 45 | 4 | |
| C-CERB 2003-1.75 | | 1.75 | | | | 45 | 4 | |
| C-CERB 2003-2 | | 2 | | | | 45 | 4 | |
| C-CERB 2003-2.25 | | 2.25 | | | | 45 | 4 | |
| C-CERB 2003-2.5 | | 2.5 | | | | 45 | 4 | |
| C-CERB 2003-2.75 | | 2.75 | | | | 45 | 4 | |
| C-CERB 2003-3 | | 3 | | | | 45 | 4 | |
| C-CERB 2003-3.5 | | 3.5 | | | | 45 | 4 | |
| C-CERB 2003-4 | | 4 | | | | 45 | 4 | |
| C-CERB 2003-4.5 | | 4.5 | | | | 45 | 4 | |
| C-CERB 2004-0.5 | R 0.2 | 0.5 | 0.32 | 0.37 | 16 ° | 45 | 4 | |
| C-CERB 2004-0.75 | | 0.75 | | | | 45 | 4 | |
| C-CERB 2004-1 | | 1 | | | | 45 | 4 | |
| C-CERB 2004-1.5 | | 1.5 | | | | 45 | 4 | |



| Модель | Рабочий радиус R | Длина раб. части l_1 | Длина раб. части при различных углах наклона | | | | |
|------------------|------------------|------------------------|--|------|--------|------|------|
| | | | 30' | 1° | 1° 30' | 2° | 3° |
| C-CERB 2002-0.3 | R0.1 | 0.3 | 0.61 | 0.70 | 0.79 | 0.87 | 1.03 |
| C-CERB 2002-0.5 | | 0.5 | 0.83 | 0.94 | 1.04 | 1.13 | 1.31 |
| C-CERB 2002-0.75 | | 0.75 | 1.11 | 1.23 | 1.34 | 1.45 | 1.65 |
| C-CERB 2002-1 | | 1 | 1.38 | 1.52 | 1.65 | 1.76 | 1.98 |
| C-CERB 2002-1.25 | | 1.25 | 1.65 | 1.81 | 1.95 | 2.07 | 2.30 |
| C-CERB 2002-1.5 | | 1.5 | 1.93 | 2.10 | 2.24 | 2.37 | 2.62 |
| C-CERB 2002-1.75 | | 1.75 | 2.20 | 2.38 | 2.53 | 2.67 | 2.93 |
| C-CERB 2002-2 | | 2 | 2.47 | 2.66 | 2.82 | 2.97 | 3.24 |
| C-CERB 2002-2.5 | | 2.5 | 3.00 | 3.22 | 3.40 | 3.56 | 3.85 |
| C-CERB 2002-3 | | 3 | 3.54 | 3.77 | 3.97 | 4.14 | 4.46 |
| C-CERB 2003-0.5 | R0.15 | 0.5 | 0.82 | 0.90 | 1.00 | 1.09 | 1.29 |
| C-CERB 2003-0.75 | | 0.75 | 1.10 | 1.19 | 1.30 | 1.41 | 1.63 |
| C-CERB 2003-1 | | 1 | 1.37 | 1.48 | 1.61 | 1.72 | 1.96 |
| C-CERB 2003-1.25 | | 1.25 | 1.64 | 1.77 | 1.91 | 2.03 | 2.28 |
| C-CERB 2003-1.5 | | 1.5 | 1.92 | 2.06 | 2.20 | 2.33 | 2.60 |
| C-CERB 2003-1.75 | | 1.75 | 2.19 | 2.34 | 2.49 | 2.63 | 2.91 |
| C-CERB 2003-2 | | 2 | 2.46 | 2.62 | 2.78 | 2.93 | 3.22 |
| C-CERB 2003-2.25 | | 2.25 | 2.73 | 2.90 | 3.07 | 3.23 | 3.53 |
| C-CERB 2003-2.5 | | 2.5 | 2.99 | 3.18 | 3.36 | 3.52 | 3.83 |
| C-CERB 2003-2.75 | | 2.75 | 3.26 | 3.46 | 3.64 | 3.81 | 4.14 |
| C-CERB 2003-3 | | 3 | 3.53 | 3.73 | 3.93 | 4.10 | 4.44 |
| C-CERB 2003-3.5 | | 3.5 | 4.06 | 4.29 | 4.49 | 4.67 | 5.06 |
| C-CERB 2003-4 | | 4 | 4.59 | 4.83 | 5.05 | 5.24 | 5.67 |
| C-CERB 2003-4.5 | | 4.5 | 5.12 | 5.38 | 5.61 | 5.81 | 6.28 |
| C-CERB 2004-0.5 | R0.2 | 0.5 | 0.83 | 0.93 | 1.03 | 1.12 | 1.28 |
| C-CERB 2004-0.75 | | 0.75 | 1.11 | 1.22 | 1.33 | 1.44 | 1.62 |
| C-CERB 2004-1 | | 1 | 1.38 | 1.51 | 1.64 | 1.75 | 1.95 |
| C-CERB 2004-1.5 | | 1.5 | 1.93 | 2.09 | 2.23 | 2.36 | 2.59 |



| Модель | Рабочий радиус R | Длина рабочей части l_1 | Длина режущей части l | Диаметр шейки d_1 | Угол конуса β | Общая длина L | Диаметр хвостовика d | Цена |
|-----------------|---------------------|------------------------------|----------------------------|------------------------|------------------------|------------------|-------------------------|------|
| C-CERB 2004-2 | R 0.2 | 2 | 0.32 | 0.37 | 16 ° | 45 | 4 | |
| C-CERB 2004-2.5 | | 2.5 | | | | 45 | 4 | |
| C-CERB 2004-3 | | 3 | | | | 45 | 4 | |
| C-CERB 2004-3.5 | | 3.5 | | | | 45 | 4 | |
| C-CERB 2004-4 | | 4 | | | | 45 | 4 | |
| C-CERB 2004-4.5 | | 4.5 | | | | 45 | 4 | |
| C-CERB 2004-5 | | 5 | | | | 45 | 4 | |
| C-CERB 2004-5.5 | | 5.5 | | | | 45 | 4 | |
| C-CERB 2004-6 | | 6 | | | | 45 | 4 | |
| C-CERB 2005-1 | R 0.25 | 1 | 0.4 | 0.47 | 16 ° | 45 | 4 | |
| C-CERB 2005-1.5 | | 1.5 | | | | 45 | 4 | |
| C-CERB 2005-2 | | 2 | | | | 45 | 4 | |
| C-CERB 2005-2.5 | | 2.5 | | | | 45 | 4 | |
| C-CERB 2005-3 | | 3 | | | | 45 | 4 | |
| C-CERB 2005-3.5 | | 3.5 | | | | 45 | 4 | |
| C-CERB 2005-4 | | 4 | | | | 45 | 4 | |
| C-CERB 2005-4.5 | | 4.5 | | | | 45 | 4 | |
| C-CERB 2005-5 | | 5 | | | | 45 | 4 | |
| C-CERB 2005-5.5 | | 5.5 | | | | 45 | 4 | |
| C-CERB 2005-6 | | 6 | | | | 45 | 4 | |
| C-CERB 2005-7 | | 7 | | | | 45 | 4 | |
| C-CERB 2005-8 | | 8 | | | | 45 | 4 | |
| C-CERB 2005-9 | | 9 | | | | 45 | 4 | |
| C-CERB 2005-10 | 10 | 50 | 4 | | | | | |
| C-CERB 2006-1 | R 0.3 | 1 | 0.48 | 0.57 | 16 ° | 45 | 4 | |
| C-CERB 2006-1.5 | | 1.5 | | | | 45 | 4 | |
| C-CERB 2006-2 | | 2 | | | | 45 | 4 | |
| C-CERB 2006-2.5 | | 2.5 | | | | 45 | 4 | |
| C-CERB 2006-3 | | 3 | | | | 45 | 4 | |
| C-CERB 2006-3.5 | | 3.5 | | | | 45 | 4 | |
| C-CERB 2006-4 | | 4 | | | | 45 | 4 | |
| C-CERB 2006-4.5 | | 4.5 | | | | 45 | 4 | |
| C-CERB 2006-5 | | 5 | | | | 45 | 4 | |
| C-CERB 2006-5.5 | | 5.5 | | | | 45 | 4 | |
| C-CERB 2006-6 | | 6 | | | | 45 | 4 | |
| C-CERB 2006-6.5 | | 6.5 | | | | 45 | 4 | |
| C-CERB 2006-7 | | 7 | | | | 45 | 4 | |
| C-CERB 2006-7.5 | | 7.5 | | | | 45 | 4 | |
| C-CERB 2006-8 | | 8 | | | | 45 | 4 | |
| C-CERB 2006-8.5 | | 8.5 | | | | 45 | 4 | |
| C-CERB 2006-9 | | 9 | | | | 45 | 4 | |
| C-CERB 2006-9.5 | 9.5 | 45 | 4 | | | | | |

| Модель | Рабочий радиус R | Длина раб. части l_1 | Длина раб. части при различных углах наклона | | | | |
|-----------------|------------------|------------------------|--|-------|--------|-------|-------|
| | | | 30' | 1° | 1° 30' | 2° | 3° |
| C-CERB 2004-2 | R0.2 | 2 | 2.47 | 2.65 | 2.81 | 2.96 | 3.21 |
| C-CERB 2004-2.5 | | 2.5 | 3.00 | 3.21 | 3.39 | 3.55 | 3.82 |
| C-CERB 2004-3 | | 3 | 3.54 | 3.76 | 3.96 | 4.13 | 4.43 |
| C-CERB 2004-3.5 | | 3.5 | 4.07 | 4.32 | 4.52 | 4.70 | 5.05 |
| C-CERB 2004-4 | | 4 | 4.60 | 4.86 | 5.08 | 5.27 | 5.66 |
| C-CERB 2004-4.5 | | 4.5 | 5.13 | 5.41 | 5.64 | 5.84 | 6.27 |
| C-CERB 2004-5 | | 5 | 5.66 | 5.95 | 6.19 | 6.41 | 6.66 |
| C-CERB 2004-5.5 | | 5.5 | 6.19 | 6.49 | 6.74 | 6.98 | 7.27 |
| C-CERB 2004-6 | | 6 | 6.72 | 7.03 | 7.29 | 7.55 | 8.10 |
| C-CERB 2005-1 | | R0.25 | 1 | 1.36 | 1.49 | 1.62 | 1.73 |
| C-CERB 2005-1.5 | 1.5 | | 1.91 | 2.07 | 2.21 | 2.34 | 2.56 |
| C-CERB 2005-2 | 2 | | 2.45 | 2.63 | 2.79 | 2.94 | 3.18 |
| C-CERB 2005-2.5 | 2.5 | | 2.98 | 3.19 | 3.37 | 3.53 | 3.79 |
| C-CERB 2005-3 | 3 | | 3.52 | 3.74 | 3.94 | 4.11 | 4.40 |
| C-CERB 2005-3.5 | 3.5 | | 4.05 | 4.30 | 4.50 | 4.68 | 5.02 |
| C-CERB 2005-4 | 4 | | 4.58 | 4.84 | 5.06 | 5.25 | 5.63 |
| C-CERB 2005-4.5 | 4.5 | | 5.11 | 5.39 | 5.62 | 5.82 | 6.24 |
| C-CERB 2005-5 | 5 | | 5.64 | 5.93 | 6.17 | 6.39 | 6.63 |
| C-CERB 2005-5.5 | 5.5 | | 6.17 | 6.47 | 6.72 | 6.96 | 7.24 |
| C-CERB 2005-6 | 6 | 6.70 | 7.01 | 7.27 | 7.53 | 8.07 | |
| C-CERB 2005-7 | 7 | 7.75 | 8.09 | 8.37 | 8.67 | 9.30 | |
| C-CERB 2005-8 | 8 | 8.80 | 9.16 | 9.47 | 9.81 | 10.52 | |
| C-CERB 2005-9 | 9 | 9.84 | 10.23 | 10.58 | 10.95 | 11.75 | |
| C-CERB 2005-10 | 10 | 10.89 | 11.29 | 11.68 | 12.09 | 12.97 | |
| C-CERB 2006-1 | R0.3 | 1 | 1.37 | 1.50 | 1.63 | 1.71 | 1.90 |
| C-CERB 2006-1.5 | | 1.5 | 1.92 | 2.08 | 2.22 | 2.32 | 2.54 |
| C-CERB 2006-2 | | 2 | 2.46 | 2.64 | 2.80 | 2.92 | 3.16 |
| C-CERB 2006-2.5 | | 2.5 | 2.99 | 3.20 | 3.38 | 3.51 | 3.77 |
| C-CERB 2006-3 | | 3 | 3.53 | 3.75 | 3.95 | 4.09 | 4.38 |
| C-CERB 2006-3.5 | | 3.5 | 4.06 | 4.31 | 4.51 | 4.66 | 5.00 |
| C-CERB 2006-4 | | 4 | 4.59 | 4.85 | 5.07 | 5.23 | 5.61 |
| C-CERB 2006-4.5 | | 4.5 | 5.12 | 5.40 | 5.63 | 5.80 | 6.22 |
| C-CERB 2006-5 | | 5 | 5.65 | 5.94 | 6.18 | 6.37 | 6.61 |
| C-CERB 2006-5.5 | | 5.5 | 6.18 | 6.48 | 6.73 | 6.94 | 7.22 |
| C-CERB 2006-6 | | 6 | 6.71 | 7.02 | 7.28 | 7.51 | 8.05 |
| C-CERB 2006-6.5 | | 6.5 | 7.23 | 7.56 | 7.83 | 8.08 | 8.67 |
| C-CERB 2006-7 | | 7 | 7.76 | 8.10 | 8.38 | 8.65 | 9.28 |
| C-CERB 2006-7.5 | | 7.5 | 8.28 | 8.64 | 8.93 | 9.22 | 9.89 |
| C-CERB 2006-8 | | 8 | 8.81 | 9.17 | 9.48 | 9.79 | 10.50 |
| C-CERB 2006-8.5 | 8.5 | 9.33 | 9.70 | 10.03 | 10.36 | 11.11 | |
| C-CERB 2006-9 | 9 | 9.85 | 10.24 | 10.59 | 10.93 | 11.73 | |
| C-CERB 2006-9.5 | 9.5 | 10.38 | 10.77 | 11.14 | 11.50 | 12.34 | |

| Модель | Рабочий радиус R | Длина рабочей части l_1 | Длина режущей части l | Диаметр шейки d_1 | Угол конуса $\beta_{та}$ | Общая длина L | Диаметр хвостовика d | Цена |
|-----------------|---------------------|------------------------------|----------------------------|------------------------|-----------------------------|------------------|-------------------------|------|
| C-CERB 2006-10 | R0.3 | 10 | 0.48 | 0.57 | 16 ° | 50 | 4 | |
| C-CERB 2006-11 | | 11 | | | | 50 | 4 | |
| C-CERB 2006-12 | | 12 | | | | 50 | 4 | |
| C-CERB 2008-2 | R0.4 | 2 | 0.64 | 0.77 | 16 ° | 45 | 4 | |
| C-CERB 2008-3 | | 3 | | | | 45 | 4 | |
| C-CERB 2008-4 | | 4 | | | | 45 | 4 | |
| C-CERB 2008-5 | | 5 | | | | 45 | 4 | |
| C-CERB 2008-6 | | 6 | | | | 45 | 4 | |
| C-CERB 2008-7 | | 7 | | | | 45 | 4 | |
| C-CERB 2008-8 | | 8 | | | | 45 | 4 | |
| C-CERB 2008-9 | | 9 | | | | 45 | 4 | |
| C-CERB 2008-10 | | 10 | | | | 50 | 4 | |
| C-CERB 2010-2.5 | | R0.5 | | | | 2.5 | 0.8 | 0.96 |
| C-CERB 2010-3 | 3 | | 45 | 4 | | | | |
| C-CERB 2010-4 | 4 | | 45 | 4 | | | | |
| C-CERB 2010-5 | 5 | | 45 | 4 | | | | |
| C-CERB 2010-6 | 6 | | 45 | 4 | | | | |
| C-CERB 2010-7 | 7 | | 45 | 4 | | | | |
| C-CERB 2010-8 | 8 | | 45 | 4 | | | | |
| C-CERB 2010-9 | 9 | | 45 | 4 | | | | |
| C-CERB 2010-10 | 10 | | 45 | 4 | | | | |
| C-CERB 2010-12 | 12 | | 45 | 4 | | | | |
| C-CERB 2010-14 | 14 | | 50 | 4 | | | | |
| C-CERB 2010-16 | 16 | | 50 | 4 | | | | |
| C-CERB 2010-18 | 18 | | 55 | 4 | | | | |
| C-CERB 2010-20 | 20 | | 55 | 4 | | | | |
| C-CERB 2012-6 | R0.6 | 6 | 0.96 | 1.16 | 11 ° | 45 | 4 | |
| C-CERB 2012-8 | | 8 | | | | 45 | 4 | |
| C-CERB 2012-10 | | 10 | | | | 45 | 4 | |
| C-CERB 2012-12 | | 12 | | | | 45 | 4 | |
| C-CERB 2012-14 | | 14 | | | | 50 | 4 | |
| C-CERB 2012-16 | | 16 | | | | 50 | 4 | |
| C-CERB 2012-18 | | 18 | | | | 55 | 4 | |
| C-CERB 2012-20 | | 20 | | | | 60 | 4 | |
| C-CERB 2014-8 | R0.7 | 8 | 1.12 | 1.34 | 11 ° | 45 | 4 | |
| C-CERB 2014-12 | | 12 | | | | 45 | 4 | |
| C-CERB 2014-16 | | 16 | | | | 50 | 4 | |
| C-CERB 2015-3 | R0.75 | 3 | 1.2 | 1.44 | 11 ° | 45 | 4 | |
| C-CERB 2015-4 | | 4 | | | | 45 | 4 | |
| C-CERB 2015-6 | | 6 | | | | 45 | 4 | |
| C-CERB 2015-8 | | 8 | | | | 45 | 4 | |
| C-CERB 2015-10 | | 10 | | | | 45 | 4 | |

| Модель | Рабочий радиус R | Длина раб. части ℓ_1 | Длина раб. части при различных углах наклона | | | | |
|-----------------|------------------|---------------------------|--|-------|--------|-------|-------|
| | | | 30' | 1° | 1° 30' | 2° | 3° |
| C-CERB 2006-10 | R0.3 | 10 | 10.90 | 11.30 | 11.69 | 12.07 | 12.95 |
| C-CERB 2006-11 | | 11 | 11.94 | 12.37 | 12.79 | 13.20 | 14.17 |
| C-CERB 2006-12 | | 12 | 12.98 | 13.43 | 13.89 | 14.34 | 15.40 |
| C-CERB 2008-2 | R0.4 | 2 | 2.43 | 2.61 | 2.77 | 2.88 | 3.15 |
| C-CERB 2008-3 | | 3 | 3.50 | 3.72 | 3.92 | 4.05 | 4.37 |
| C-CERB 2008-4 | | 4 | 4.56 | 4.82 | 5.04 | 5.19 | 5.60 |
| C-CERB 2008-5 | | 5 | 5.62 | 5.91 | 6.15 | 6.33 | 6.60 |
| C-CERB 2008-6 | | 6 | 6.68 | 6.99 | 7.25 | 7.47 | 8.04 |
| C-CERB 2008-7 | | 7 | 7.73 | 8.07 | 8.35 | 8.61 | 9.27 |
| C-CERB 2008-8 | | 8 | 8.78 | 9.14 | 9.45 | 9.75 | 10.49 |
| C-CERB 2008-9 | | 9 | 9.82 | 10.21 | 10.56 | 10.89 | 11.72 |
| C-CERB 2008-10 | | 10 | 10.87 | 11.27 | 11.66 | 12.03 | 12.94 |
| C-CERB 2010-2.5 | | R0.5 | 2.5 | 2.96 | 3.16 | 3.33 | 3.49 |
| C-CERB 2010-3 | 3 | | 3.49 | 3.71 | 3.90 | 4.07 | 4.35 |
| C-CERB 2010-4 | 4 | | 4.56 | 4.81 | 5.02 | 5.22 | 5.57 |
| C-CERB 2010-5 | 5 | | 5.61 | 5.90 | 6.13 | 6.35 | 6.79 |
| C-CERB 2010-6 | 6 | | 6.67 | 6.98 | 7.24 | 7.49 | 8.02 |
| C-CERB 2010-7 | 7 | | 7.72 | 8.05 | 8.34 | 8.63 | 9.24 |
| C-CERB 2010-8 | 8 | | 8.76 | 9.12 | 9.44 | 9.77 | 10.46 |
| C-CERB 2010-9 | 9 | | 9.81 | 10.19 | 10.54 | 10.91 | 11.69 |
| C-CERB 2010-10 | 10 | | 10.85 | 11.25 | 11.64 | 12.05 | 12.91 |
| C-CERB 2010-12 | 12 | | 12.93 | 13.38 | 13.84 | 14.33 | 15.36 |
| C-CERB 2010-14 | 14 | | 15.01 | 15.51 | 16.04 | 16.60 | 17.81 |
| C-CERB 2010-16 | 16 | | 17.08 | 17.64 | 18.24 | 18.88 | 20.25 |
| C-CERB 2010-18 | 18 | | 19.14 | 19.77 | 20.44 | 21.16 | 22.70 |
| C-CERB 2010-20 | 20 | | 21.21 | 21.90 | 22.64 | 23.43 | 25.15 |
| C-CERB 2012-6 | R0.6 | | 6 | 6.22 | 6.50 | 6.81 | 7.16 |
| C-CERB 2012-8 | | 8 | 8.31 | 8.70 | 9.12 | 9.60 | 10.72 |
| C-CERB 2012-10 | | 10 | 10.41 | 10.90 | 11.44 | 12.03 | 13.46 |
| C-CERB 2012-12 | | 12 | 12.50 | 13.09 | 13.75 | 14.47 | 16.20 |
| C-CERB 2012-14 | | 14 | 14.60 | 15.29 | 16.06 | 16.91 | 18.93 |
| C-CERB 2012-16 | | 16 | 16.69 | 17.49 | 18.37 | 19.35 | 21.67 |
| C-CERB 2012-18 | | 18 | 18.79 | 19.69 | 20.68 | 21.79 | 24.41 |
| C-CERB 2012-20 | | 20 | 20.88 | 21.88 | 22.99 | 24.22 | 27.15 |
| C-CERB 2014-8 | R0.7 | 8 | 8.36 | 8.75 | 9.17 | 9.64 | 10.75 |
| C-CERB 2014-12 | | 12 | 12.55 | 13.14 | 13.79 | 14.51 | 16.23 |
| C-CERB 2014-16 | | 16 | 16.74 | 17.54 | 18.41 | 19.39 | 21.71 |
| C-CERB 2015-3 | R0.75 | 3 | 3.13 | 3.25 | 3.38 | 3.53 | 3.89 |
| C-CERB 2015-4 | | 4 | 4.17 | 4.35 | 4.54 | 4.75 | 5.26 |
| C-CERB 2015-6 | | 6 | 6.27 | 6.54 | 6.85 | 7.19 | 8.00 |
| C-CERB 2015-8 | | 8 | 8.36 | 8.74 | 9.16 | 9.63 | 10.74 |
| C-CERB 2015-10 | | 10 | 10.46 | 10.94 | 11.47 | 12.07 | 13.48 |

| Модель | Рабочий радиус R | Длина рабочей части l_1 | Длина режущей части l | Диаметр шейки d_1 | Угол конуса β | Общая длина L | Диаметр хвостовика d | Цена |
|------------------|---------------------|------------------------------|----------------------------|------------------------|------------------------|------------------|-------------------------|------|
| C-CERB 2015-12 | R0.75 | 12 | 1.2 | 1.44 | 11° | 45 | 4 | |
| C-CERB 2015-14 | | 14 | | | | 50 | 4 | |
| C-CERB 2015-16 | | 16 | | | | 50 | 4 | |
| C-CERB 2015-18 | | 18 | | | | 55 | 4 | |
| C-CERB 2015-20 | | 20 | | | | 55 | 4 | |
| C-CERB 2015-22 | | 22 | | | | 55 | 4 | |
| C-CERB 2016-8 | R0.8 | 8 | 1.28 | 1.54 | 11° | 45 | 4 | |
| C-CERB 2016-12 | | 12 | | | | 45 | 4 | |
| C-CERB 2016-16 | | 16 | | | | 50 | 4 | |
| C-CERB 2016-20 | | 20 | | | | 55 | 4 | |
| C-CERB 2018-8 | R0.9 | 8 | 1.44 | 1.74 | 11° | 45 | 4 | |
| C-CERB 2018-12 | | 12 | | | | 45 | 4 | |
| C-CERB 2018-16 | | 16 | | | | 50 | 4 | |
| C-CERB 2018-20 | | 20 | | | | 55 | 4 | |
| C-CERB 2020-3 | R1 | 3 | 1.6 | 1.94 | 11° | 45 | 4 | |
| C-CERB 2020-4 | | 4 | | | | 45 | 4 | |
| C-CERB 2020-6 | | 6 | | | | 45 | 4 | |
| C-CERB 2020-8 | | 8 | | | | 45 | 4 | |
| C-CERB 2020-10 | | 10 | | | | 45 | 4 | |
| C-CERB 2020-12 | | 12 | | | | 45 | 4 | |
| C-CERB 2020-14 | | 14 | | | | 50 | 4 | |
| C-CERB 2020-16 | | 16 | | | | 50 | 4 | |
| C-CERB 2020-18 | | 18 | | | | 55 | 4 | |
| C-CERB 2020-20 | | 20 | | | | 55 | 4 | |
| C-CERB 2020-22 | | 22 | | | | 60 | 4 | |
| C-CERB 2020-25 | | 25 | | | | 65 | 4 | |
| C-CERB 2020-30 | | 30 | | | | 70 | 4 | |
| C-CERB 2020-35 | | 35 | | | | 80 | 4 | |
| C-CERB 2020-40 | | 40 | | | | 80 | 4 | |
| C-CERB 2025-10 | | R1.25 | | | | 10 | 2 | 2.41 |
| C-CERB 2025-15 | 15 | | 50 | 4 | | | | |
| C-CERB 2025-20 | 20 | | 55 | 4 | | | | |
| C-CERB 2025-25 | 25 | | 65 | 4 | | | | |
| C-CERB 2025-30 | 30 | | 70 | 4 | | | | |
| C-CERB 2030-6-S3 | R1.5 | 6 | 2.4 | 2.91 | — | 60 | 3 | |
| C-CERB 2030-6-S4 | | 6 | | | 60 | 4 | | |
| C-CERB 2030-6-S6 | | 6 | | | 60 | 6 | | |
| C-CERB 2030-8 | | 8 | | | 60 | 6 | | |
| C-CERB 2030-10 | | 10 | | | 60 | 6 | | |
| C-CERB 2030-12 | | 12 | | | 60 | 6 | | |
| C-CERB 2030-14 | | 14 | | | 60 | 6 | | |
| C-CERB 2030-16 | | 16 | | | 60 | 6 | | |

| Модель | Рабочий радиус R | Длина раб. части l_1 | Длина раб. части при различных углах наклона | | | | |
|------------------|---------------------|------------------------------|--|-------|--------|-------|-------|
| | | | 30' | 1° | 1° 30' | 2° | 3° |
| C-CERB 2015-12 | R0.75 | 12 | 12.55 | 13.14 | 13.78 | 14.50 | 16.21 |
| C-CERB 2015-14 | | 14 | 14.64 | 15.33 | 16.10 | 16.94 | 18.95 |
| C-CERB 2015-16 | | 16 | 16.74 | 17.53 | 18.41 | 19.38 | 21.69 |
| C-CERB 2015-18 | | 18 | 18.83 | 19.73 | 20.72 | 21.82 | 24.43 |
| C-CERB 2015-20 | | 20 | 20.93 | 21.93 | 23.03 | 24.26 | — |
| C-CERB 2015-22 | | 22 | 23.02 | 24.12 | 25.34 | 26.69 | — |
| C-CERB 2016-8 | R0.8 | 8 | 8.33 | 8.71 | 9.12 | 9.59 | 10.68 |
| C-CERB 2016-12 | | 12 | 12.52 | 13.10 | 13.75 | 14.46 | 16.16 |
| C-CERB 2016-16 | | 16 | 16.71 | 17.50 | 18.37 | 19.34 | 21.64 |
| C-CERB 2016-20 | | 20 | 20.90 | 21.89 | 22.99 | 24.21 | — |
| C-CERB 2018-8 | R0.9 | 8 | 8.33 | 8.70 | 9.11 | 9.56 | 10.65 |
| C-CERB 2018-12 | | 12 | 12.52 | 13.09 | 13.73 | 14.44 | 16.13 |
| C-CERB 2018-16 | | 16 | 16.70 | 17.49 | 18.35 | 19.32 | 21.60 |
| C-CERB 2018-20 | | 20 | 20.89 | 21.88 | 22.98 | 24.19 | — |
| C-CERB 2020-3 | R1 | 3 | 3.09 | 3.20 | 3.32 | 3.45 | 3.77 |
| C-CERB 2020-4 | | 4 | 4.14 | 4.29 | 4.47 | 4.67 | 5.14 |
| C-CERB 2020-6 | | 6 | 6.23 | 6.49 | 6.78 | 7.11 | 7.88 |
| C-CERB 2020-8 | | 8 | 8.32 | 8.69 | 9.09 | 9.54 | 10.61 |
| C-CERB 2020-10 | | 10 | 10.42 | 10.89 | 11.40 | 11.98 | 13.35 |
| C-CERB 2020-12 | | 12 | 12.51 | 13.08 | 13.72 | 14.42 | 16.09 |
| C-CERB 2020-14 | | 14 | 14.61 | 15.28 | 16.03 | 16.86 | 18.83 |
| C-CERB 2020-16 | | 16 | 16.70 | 17.48 | 18.34 | 19.30 | — |
| C-CERB 2020-18 | | 18 | 18.79 | 19.68 | 20.65 | 21.73 | — |
| C-CERB 2020-20 | | 20 | 20.89 | 21.87 | 22.96 | 24.17 | — |
| C-CERB 2020-22 | | 22 | 22.98 | 24.07 | 25.27 | 26.61 | — |
| C-CERB 2020-25 | | 25 | 26.12 | 27.37 | 28.74 | — | — |
| C-CERB 2020-30 | | 30 | 31.36 | 32.86 | 34.52 | — | — |
| C-CERB 2020-35 | | 35 | 36.59 | 38.35 | — | — | — |
| C-CERB 2020-40 | | 40 | 41.83 | 43.85 | — | — | — |
| C-CERB 2025-10 | | R1.25 | 10 | 10.49 | 10.95 | 11.46 | 12.02 |
| C-CERB 2025-15 | 15 | | 15.72 | 16.44 | 17.23 | 18.12 | — |
| C-CERB 2025-20 | 20 | | 20.96 | 21.93 | 23.01 | — | — |
| C-CERB 2025-25 | 25 | | 26.19 | 27.43 | 28.79 | — | — |
| C-CERB 2025-30 | 30 | | 31.43 | 32.92 | — | — | — |
| C-CERB 2030-6-S3 | R1.5 | 6 | — | — | — | — | — |
| C-CERB 2030-6-S4 | | 6 | 6.28 | 6.52 | 6.79 | 7.08 | 7.79 |
| C-CERB 2030-6-S6 | | 6 | 6.28 | 6.52 | 6.79 | 7.08 | 7.79 |
| C-CERB 2030-8 | | 8 | 8.37 | 8.72 | 9.10 | 9.52 | 10.53 |
| C-CERB 2030-10 | | 10 | 10.47 | 10.91 | 11.41 | 11.96 | 13.27 |
| C-CERB 2030-12 | | 12 | 12.56 | 13.11 | 13.72 | 14.40 | 16.01 |
| C-CERB 2030-14 | | 14 | 14.65 | 15.31 | 16.03 | 16.84 | 18.75 |
| C-CERB 2030-16 | | 16 | 16.75 | 17.50 | 18.34 | 19.27 | 21.49 |

| Модель | Рабочий радиус R | Длина рабочей части ℓ_1 | Длина режущей части ℓ | Диаметр шейки d_1 | Угол конуса Bта | Общая длина L | Диаметр хвостовика d | Цена | | | |
|------------------|---------------------|---------------------------------|-------------------------------|------------------------|--------------------|------------------|-------------------------|------|----|---|--|
| C-CERB 2030-20 | R 1.5 | 20 | 2.4 | 2.91 | 11 ° | 70 | 6 | | | | |
| C-CERB 2030-25 | | 25 | | | | 70 | 6 | | | | |
| C-CERB 2030-30 | | 30 | | | | 70 | 6 | | | | |
| C-CERB 2030-35 | | 35 | | | | 80 | 6 | | | | |
| C-CERB 2030-40 | | 40 | | | | 80 | 6 | | | | |
| C-CERB 2040-8-S4 | R 2 | 8 | 3.2 | 3.91 | — | 70 | 4 | | | | |
| C-CERB 2040-8-S6 | | 8 | | | 70 | 6 | | | | | |
| C-CERB 2040-10 | | 10 | | | 70 | 6 | | | | | |
| C-CERB 2040-12 | | 12 | | | 70 | 6 | | | | | |
| C-CERB 2040-14 | | 14 | | | 70 | 6 | | | | | |
| C-CERB 2040-16 | | 16 | | | 70 | 6 | | | | | |
| C-CERB 2040-20 | | 20 | | | 70 | 6 | | | | | |
| C-CERB 2040-25 | | 25 | | | 70 | 6 | | | | | |
| C-CERB 2040-30 | | 30 | | | 70 | 6 | | | | | |
| C-CERB 2040-35 | | 35 | | | 80 | 6 | | | | | |
| C-CERB 2040-40 | | 40 | | | 90 | 6 | | | | | |
| C-CERB 2040-45 | | 45 | | | 90 | 6 | | | | | |
| C-CERB 2040-50 | | 50 | | | 100 | 6 | | | | | |
| C-CERB 2050-10 | | R 2.5 | | | 10 | 4 | 4.91 | 11 ° | 70 | 6 | |
| C-CERB 2050-20 | | | | | 20 | | | | 70 | 6 | |
| C-CERB 2050-25 | 25 | | 70 | 6 | | | | | | | |
| C-CERB 2050-30 | 30 | | 80 | 6 | | | | | | | |
| C-CERB 2050-35 | 35 | | 80 | 6 | | | | | | | |
| C-CERB 2060-10 | R 3 | 10 | 4.8 | 5.91 | — | 80 | 6 | | | | |
| C-CERB 2060-30 | | 30 | | | | 80 | 6 | | | | |
| C-CERB 2060-50 | | 50 | | | | 120 | 6 | | | | |

| Модель | Рабочий радиус R | Длина раб. части l_1 | Длина раб. части при различных углах наклона | | | | | |
|------------------|------------------|------------------------|--|-------|--------|-------|-------|---|
| | | | 30' | 1° | 1° 30' | 2° | 3° | |
| C-CERB 2030-20 | R 1.5 | 20 | 20.94 | 21.90 | 22.96 | 24.15 | 26.96 | |
| C-CERB 2030-25 | | 25 | 26.17 | 27.39 | 28.74 | 30.24 | — | |
| C-CERB 2030-30 | | 30 | 31.41 | 32.89 | 34.52 | 36.34 | — | |
| C-CERB 2030-35 | | 35 | 36.64 | 38.38 | 40.30 | 42.43 | — | |
| C-CERB 2030-40 | | 40 | 41.88 | 43.87 | 46.08 | — | — | |
| C-CERB 2040-8-S4 | R 2 | 8 | — | — | — | — | — | |
| C-CERB 2040-8-S6 | | 8 | 8.35 | 8.67 | 9.02 | 9.42 | 10.36 | |
| C-CERB 2040-10 | | 10 | 10.44 | 10.86 | 11.33 | 11.85 | 13.10 | |
| C-CERB 2040-12 | | 12 | 12.54 | 13.06 | 13.64 | 14.29 | 15.83 | |
| C-CERB 2040-14 | | 14 | 14.63 | 15.26 | 15.95 | 16.73 | 18.57 | |
| C-CERB 2040-16 | | 16 | 16.72 | 17.46 | 18.27 | 19.17 | — | |
| C-CERB 2040-20 | | 20 | 20.91 | 21.85 | 22.89 | 24.04 | — | |
| C-CERB 2040-25 | | 25 | 26.15 | 27.34 | 28.67 | 30.14 | — | |
| C-CERB 2040-30 | | 30 | 31.38 | 32.84 | 34.45 | — | — | |
| C-CERB 2040-35 | | 35 | 36.62 | 38.33 | 40.22 | — | — | |
| C-CERB 2040-40 | | 40 | 41.85 | 43.82 | — | — | — | |
| C-CERB 2040-45 | | 45 | 47.09 | 49.32 | — | — | — | |
| C-CERB 2040-50 | | 50 | 52.32 | 54.81 | — | — | — | |
| C-CERB 2050-10 | | R 2.5 | 10 | 10.41 | 10.81 | 11.25 | 11.74 | — |
| C-CERB 2050-20 | | | 20 | 20.88 | 21.80 | — | — | — |
| C-CERB 2050-25 | 25 | | 26.12 | 27.29 | — | — | — | |
| C-CERB 2050-30 | 30 | | 31.35 | — | — | — | — | |
| C-CERB 2050-35 | 35 | | 36.59 | — | — | — | — | |
| C-CERB 2060-10 | R 3 | 10 | — | — | — | — | — | |
| C-CERB 2060-30 | | 30 | — | — | — | — | — | |
| C-CERB 2060-50 | | 50 | — | — | — | — | — | |

Режимы фрезерования для C-CERB

| Материал | | Углеродистые стали S45C · S50C (~ 225HB) | | | | Легированные стали SK · SCM · SUS (225 ~ 325HB) | | | | Упрочненные, Закаленные стали NAK · SKD (30 ~ 45HRC) | | | | Закаленные стали SKD11 · 61 · SKT (45 ~ 50HRC) | | | |
|----------|--------|--|---------------|----------------------|---------------|---|----------------------|---------------|---------------|---|---------------|---------------|----------------------|--|------|--|--|
| | | Vc = 50 ~ 65m/min | | | | Vc = 40 ~ 55m/min | | | | Vc = 30 ~ 50m/min | | | | Vc = 30 ~ 40m/min | | | |
| | | a_p | | | | | | | | | | | | | | | |
| | | (mm) | (mm) | (min ⁻¹) | (mm/min) | (mm) | (min ⁻¹) | (mm/min) | (mm) | (min ⁻¹) | (mm/min) | (mm) | (min ⁻¹) | (mm/min) | (mm) | | |
| 2002 | R0.1 | 0.3 | 54,000 | 430 | 0.007 ~ 0.012 | 54,000 | 380 | 0.006 ~ 0.011 | 54,000 | 340 | 0.006 ~ 0.01 | 54,000 | 300 | 0.004 ~ 0.008 | | | |
| | | 0.5 | 54,000 | 430 | 0.007 ~ 0.012 | 54,000 | 380 | 0.006 ~ 0.011 | 54,000 | 340 | 0.006 ~ 0.01 | 54,000 | 300 | 0.004 ~ 0.008 | | | |
| | | 0.75 | 54,000 | 380 | 0.006 ~ 0.01 | 54,000 | 350 | 0.005 ~ 0.009 | 54,000 | 310 | 0.004 ~ 0.008 | 54,000 | 270 | 0.003 ~ 0.006 | | | |
| | | 1 | 54,000 | 380 | 0.006 ~ 0.01 | 54,000 | 350 | 0.005 ~ 0.009 | 54,000 | 310 | 0.004 ~ 0.008 | 54,000 | 270 | 0.003 ~ 0.006 | | | |
| | | 1.25 | 47,000 | 280 | 0.004 ~ 0.007 | 47,000 | 250 | 0.003 ~ 0.006 | 47,000 | 220 | 0.003 ~ 0.005 | 47,000 | 200 | 0.002 ~ 0.004 | | | |
| | | 1.5 | 47,000 | 280 | 0.004 ~ 0.007 | 47,000 | 250 | 0.003 ~ 0.006 | 47,000 | 220 | 0.003 ~ 0.005 | 47,000 | 200 | 0.002 ~ 0.004 | | | |
| | | 1.75 | 42,000 | 250 | 0.002 ~ 0.004 | 42,000 | 220 | 0.001 ~ 0.003 | 42,000 | 200 | 0.001 ~ 0.003 | 42,000 | 170 | 0.001 ~ 0.002 | | | |
| | | 2 | 42,000 | 250 | 0.002 ~ 0.004 | 42,000 | 220 | 0.001 ~ 0.003 | 42,000 | 200 | 0.001 ~ 0.003 | 42,000 | 170 | 0.001 ~ 0.002 | | | |
| | | 2.5 | 31,000 | 170 | 0.001 ~ 0.002 | 31,000 | 150 | 0 ~ 0.001 | 31,000 | 130 | 0 ~ 0.001 | 31,000 | 120 | 0 ~ 0.001 | | | |
| 3 | 31,000 | 170 | 0 ~ 0.001 | 31,000 | 150 | 0 ~ 0.001 | 31,000 | 130 | 0 ~ 0.001 | 31,000 | 120 | 0 ~ 0.001 | | | | | |
| 2003 | R0.15 | 0.5 | 54,000 | 720 | 0.012 ~ 0.02 | 54,000 | 580 | 0.01 ~ 0.018 | 54,000 | 570 | 0.009 ~ 0.016 | 46,000 | 430 | 0.007 ~ 0.013 | | | |
| | | 0.75 | 54,000 | 720 | 0.012 ~ 0.02 | 54,000 | 580 | 0.01 ~ 0.018 | 54,000 | 570 | 0.009 ~ 0.016 | 46,000 | 430 | 0.007 ~ 0.013 | | | |
| | | 1 | 54,000 | 640 | 0.009 ~ 0.016 | 54,000 | 580 | 0.008 ~ 0.014 | 54,000 | 510 | 0.007 ~ 0.012 | 46,000 | 390 | 0.006 ~ 0.01 | | | |
| | | 1.25 | 54,000 | 640 | 0.009 ~ 0.016 | 54,000 | 580 | 0.008 ~ 0.014 | 54,000 | 510 | 0.007 ~ 0.012 | 46,000 | 390 | 0.006 ~ 0.01 | | | |
| | | 1.5 | 54,000 | 640 | 0.009 ~ 0.016 | 54,000 | 580 | 0.008 ~ 0.014 | 54,000 | 510 | 0.007 ~ 0.012 | 46,000 | 390 | 0.006 ~ 0.01 | | | |
| | | 1.75 | 49,000 | 530 | 0.006 ~ 0.01 | 44,000 | 420 | 0.005 ~ 0.009 | 43,000 | 370 | 0.004 ~ 0.008 | 37,000 | 270 | 0.004 ~ 0.007 | | | |
| | | 2 | 49,000 | 530 | 0.006 ~ 0.01 | 44,000 | 420 | 0.005 ~ 0.009 | 43,000 | 370 | 0.004 ~ 0.008 | 37,000 | 270 | 0.004 ~ 0.007 | | | |
| | | 2.25 | 49,000 | 530 | 0.006 ~ 0.01 | 44,000 | 420 | 0.005 ~ 0.009 | 43,000 | 370 | 0.004 ~ 0.008 | 37,000 | 270 | 0.004 ~ 0.007 | | | |
| | | 2.5 | 43,000 | 460 | 0.003 ~ 0.006 | 39,000 | 370 | 0.003 ~ 0.005 | 38,000 | 320 | 0.003 ~ 0.005 | 32,000 | 240 | 0.002 ~ 0.004 | | | |
| | | 2.75 | 43,000 | 460 | 0.003 ~ 0.006 | 39,000 | 370 | 0.003 ~ 0.005 | 38,000 | 320 | 0.003 ~ 0.005 | 32,000 | 240 | 0.002 ~ 0.004 | | | |
| | | 3 | 43,000 | 460 | 0.003 ~ 0.006 | 39,000 | 370 | 0.003 ~ 0.005 | 38,000 | 320 | 0.003 ~ 0.005 | 32,000 | 240 | 0.002 ~ 0.004 | | | |
| | | 3.5 | 37,000 | 340 | 0.001 ~ 0.003 | 32,000 | 220 | 0.001 ~ 0.003 | 28,000 | 210 | 0.001 ~ 0.003 | 24,000 | 160 | 0.001 ~ 0.002 | | | |
| | | 4 | 37,000 | 300 | 0.001 ~ 0.003 | 32,000 | 220 | 0.001 ~ 0.002 | 28,000 | 180 | 0.001 ~ 0.002 | 24,000 | 140 | 0.001 ~ 0.002 | | | |
| 4.5 | 37,000 | 300 | 0.001 ~ 0.003 | 32,000 | 220 | 0.001 ~ 0.002 | 28,000 | 180 | 0.001 ~ 0.002 | 24,000 | 140 | 0.001 ~ 0.002 | | | | | |
| 2004 | R0.2 | 0.5 | 54,000 | 870 | 0.016 ~ 0.028 | 54,000 | 790 | 0.015 ~ 0.025 | 54,000 | 700 | 0.013 ~ 0.022 | 42,000 | 480 | 0.01 ~ 0.018 | | | |
| | | 0.75 | 54,000 | 870 | 0.016 ~ 0.028 | 54,000 | 790 | 0.015 ~ 0.025 | 54,000 | 700 | 0.013 ~ 0.022 | 42,000 | 480 | 0.01 ~ 0.018 | | | |
| | | 1 | 54,000 | 870 | 0.016 ~ 0.028 | 54,000 | 790 | 0.015 ~ 0.025 | 54,000 | 700 | 0.013 ~ 0.022 | 42,000 | 480 | 0.01 ~ 0.018 | | | |
| | | 1.5 | 54,000 | 790 | 0.013 ~ 0.022 | 54,000 | 710 | 0.012 ~ 0.02 | 54,000 | 630 | 0.01 ~ 0.017 | 42,000 | 430 | 0.008 ~ 0.014 | | | |
| | | 2 | 54,000 | 790 | 0.013 ~ 0.022 | 54,000 | 710 | 0.012 ~ 0.02 | 54,000 | 630 | 0.01 ~ 0.017 | 42,000 | 430 | 0.008 ~ 0.014 | | | |
| | | 2.5 | 50,000 | 660 | 0.009 ~ 0.016 | 43,000 | 510 | 0.008 ~ 0.014 | 41,000 | 420 | 0.007 ~ 0.012 | 31,000 | 280 | 0.006 ~ 0.01 | | | |
| | | 3 | 50,000 | 660 | 0.009 ~ 0.016 | 43,000 | 510 | 0.008 ~ 0.014 | 41,000 | 420 | 0.007 ~ 0.012 | 31,000 | 280 | 0.006 ~ 0.01 | | | |
| | | 3.5 | 50,000 | 640 | 0.005 ~ 0.009 | 42,000 | 490 | 0.004 ~ 0.008 | 38,000 | 400 | 0.004 ~ 0.007 | 30,000 | 270 | 0.003 ~ 0.006 | | | |



| Материал | | | Углеродистые стали S45C · S50C (~ 225HB) | | | | Легированные стали SK · SCM · SUS (225 ~ 325HB) | | | | Упрочненные, Закаленные стали NAK · SKD (30 ~ 45HRC) | | | | Закаленные стали SKD11 · 61 · SKT (45 ~ 50HRC) | | | |
|----------|--------|------|--|----------|---------------|----------------------|---|---------------|----------------------|----------|---|----------------------|----------|---------------|--|----------|------|--|
| | | | Vc = 50 ~ 65m/min | | | | Vc = 40 ~ 55m/min | | | | Vc = 30 ~ 50m/min | | | | Vc = 30 ~ 40m/min | | | |
| | | | a_p | | | | a_p | | | | a_p | | | | a_p | | | |
| | (mm) | (mm) | (min ⁻¹) | (mm/min) | (mm) | (min ⁻¹) | (mm/min) | (mm) | (min ⁻¹) | (mm/min) | (mm) | (min ⁻¹) | (mm/min) | (mm) | (min ⁻¹) | (mm/min) | (mm) | |
| 2004 | R0.2 | 4 | 50,000 | 640 | 0.005 ~ 0.009 | 42,000 | 490 | 0.004 ~ 0.008 | 38,000 | 400 | 0.004 ~ 0.007 | 30,000 | 270 | 0.003 ~ 0.006 | | | | |
| | | 4.5 | 37,000 | 570 | 0.003 ~ 0.006 | 31,000 | 320 | 0.003 ~ 0.006 | 29,000 | 260 | 0.003 ~ 0.005 | 26,000 | 210 | 0.002 ~ 0.004 | | | | |
| | | 5 | 37,000 | 570 | 0.003 ~ 0.006 | 31,000 | 320 | 0.003 ~ 0.006 | 29,000 | 260 | 0.003 ~ 0.005 | 26,000 | 210 | 0.002 ~ 0.004 | | | | |
| | | 5.5 | 37,000 | 360 | 0.003 ~ 0.005 | 31,000 | 250 | 0.003 ~ 0.005 | 29,000 | 230 | 0.002 ~ 0.004 | 26,000 | 180 | 0.001 ~ 0.003 | | | | |
| | | 6 | 37,000 | 360 | 0.003 ~ 0.005 | 31,000 | 250 | 0.003 ~ 0.005 | 29,000 | 230 | 0.002 ~ 0.004 | 26,000 | 180 | 0.001 ~ 0.003 | | | | |
| 2005 | R0.25 | 1 | 56,000 | 1,250 | 0.021 ~ 0.035 | 49,000 | 990 | 0.018 ~ 0.031 | 45,000 | 800 | 0.016 ~ 0.028 | 34,000 | 530 | 0.013 ~ 0.022 | | | | |
| | | 1.5 | 56,000 | 1,250 | 0.021 ~ 0.035 | 49,000 | 990 | 0.018 ~ 0.031 | 45,000 | 800 | 0.016 ~ 0.028 | 34,000 | 530 | 0.013 ~ 0.022 | | | | |
| | | 2 | 56,000 | 1,130 | 0.016 ~ 0.028 | 49,000 | 890 | 0.015 ~ 0.025 | 45,000 | 720 | 0.013 ~ 0.022 | 34,000 | 480 | 0.01 ~ 0.018 | | | | |
| | | 2.5 | 56,000 | 1,130 | 0.016 ~ 0.028 | 49,000 | 890 | 0.015 ~ 0.025 | 45,000 | 720 | 0.013 ~ 0.022 | 34,000 | 480 | 0.01 ~ 0.018 | | | | |
| | | 3 | 52,000 | 910 | 0.012 ~ 0.02 | 43,000 | 680 | 0.01 ~ 0.018 | 40,000 | 570 | 0.009 ~ 0.016 | 29,000 | 360 | 0.007 ~ 0.013 | | | | |
| | | 3.5 | 52,000 | 910 | 0.012 ~ 0.02 | 43,000 | 680 | 0.01 ~ 0.018 | 40,000 | 570 | 0.009 ~ 0.016 | 29,000 | 360 | 0.007 ~ 0.013 | | | | |
| | | 4 | 52,000 | 910 | 0.012 ~ 0.02 | 43,000 | 680 | 0.01 ~ 0.018 | 40,000 | 570 | 0.009 ~ 0.016 | 29,000 | 360 | 0.007 ~ 0.013 | | | | |
| | | 4.5 | 45,000 | 800 | 0.007 ~ 0.012 | 40,000 | 630 | 0.006 ~ 0.01 | 31,000 | 430 | 0.005 ~ 0.009 | 28,000 | 350 | 0.004 ~ 0.007 | | | | |
| | | 5 | 45,000 | 800 | 0.007 ~ 0.012 | 40,000 | 630 | 0.006 ~ 0.01 | 31,000 | 430 | 0.005 ~ 0.009 | 28,000 | 350 | 0.004 ~ 0.007 | | | | |
| | | 5.5 | 34,000 | 550 | 0.006 ~ 0.01 | 29,000 | 430 | 0.005 ~ 0.009 | 26,000 | 340 | 0.004 ~ 0.008 | 25,000 | 280 | 0.003 ~ 0.006 | | | | |
| | | 6 | 34,000 | 550 | 0.006 ~ 0.01 | 29,000 | 430 | 0.005 ~ 0.009 | 26,000 | 340 | 0.004 ~ 0.008 | 25,000 | 280 | 0.003 ~ 0.006 | | | | |
| | | 7 | 34,000 | 530 | 0.004 ~ 0.007 | 29,000 | 410 | 0.003 ~ 0.006 | 26,000 | 330 | 0.003 ~ 0.006 | 25,000 | 270 | 0.002 ~ 0.004 | | | | |
| | | 8 | 34,000 | 530 | 0.004 ~ 0.007 | 29,000 | 410 | 0.003 ~ 0.006 | 26,000 | 330 | 0.003 ~ 0.006 | 25,000 | 270 | 0.002 ~ 0.004 | | | | |
| 9 | 34,000 | 410 | 0.002 ~ 0.004 | 29,000 | 320 | 0.001 ~ 0.003 | 26,000 | 250 | 0.001 ~ 0.003 | 25,000 | 210 | 0.001 ~ 0.002 | | | | | | |
| 10 | 34,000 | 410 | 0.002 ~ 0.004 | 29,000 | 320 | 0.001 ~ 0.003 | 26,000 | 250 | 0.001 ~ 0.003 | 25,000 | 210 | 0.001 ~ 0.002 | | | | | | |
| 2006 | R0.3 | 1 | 58,000 | 1,510 | 0.025 ~ 0.042 | 46,000 | 1,080 | 0.022 ~ 0.037 | 39,000 | 810 | 0.019 ~ 0.033 | 28,000 | 520 | 0.016 ~ 0.027 | | | | |
| | | 1.5 | 58,000 | 1,510 | 0.025 ~ 0.042 | 46,000 | 1,080 | 0.022 ~ 0.037 | 39,000 | 810 | 0.019 ~ 0.033 | 28,000 | 520 | 0.016 ~ 0.027 | | | | |
| | | 2 | 58,000 | 1,400 | 0.019 ~ 0.033 | 46,000 | 990 | 0.018 ~ 0.03 | 39,000 | 750 | 0.015 ~ 0.026 | 28,000 | 480 | 0.012 ~ 0.021 | | | | |
| | | 2.5 | 58,000 | 1,400 | 0.019 ~ 0.033 | 46,000 | 990 | 0.018 ~ 0.03 | 39,000 | 750 | 0.015 ~ 0.026 | 28,000 | 480 | 0.012 ~ 0.021 | | | | |
| | | 3 | 58,000 | 1,400 | 0.019 ~ 0.033 | 46,000 | 990 | 0.018 ~ 0.03 | 39,000 | 750 | 0.015 ~ 0.026 | 28,000 | 480 | 0.012 ~ 0.021 | | | | |
| | | 3.5 | 51,000 | 1,020 | 0.014 ~ 0.024 | 40,000 | 720 | 0.012 ~ 0.021 | 33,000 | 540 | 0.011 ~ 0.019 | 24,000 | 340 | 0.009 ~ 0.015 | | | | |
| | | 4 | 51,000 | 1,020 | 0.014 ~ 0.024 | 40,000 | 720 | 0.012 ~ 0.021 | 33,000 | 540 | 0.011 ~ 0.019 | 24,000 | 340 | 0.009 ~ 0.015 | | | | |
| | | 4.5 | 51,000 | 1,020 | 0.014 ~ 0.024 | 40,000 | 720 | 0.012 ~ 0.021 | 33,000 | 540 | 0.011 ~ 0.019 | 24,000 | 340 | 0.009 ~ 0.015 | | | | |
| | | 5 | 43,000 | 870 | 0.009 ~ 0.015 | 33,000 | 600 | 0.007 ~ 0.013 | 26,000 | 410 | 0.007 ~ 0.012 | 24,000 | 330 | 0.005 ~ 0.009 | | | | |
| | | 5.5 | 43,000 | 870 | 0.009 ~ 0.015 | 33,000 | 600 | 0.007 ~ 0.013 | 26,000 | 410 | 0.007 ~ 0.012 | 24,000 | 330 | 0.005 ~ 0.009 | | | | |
| | | 6 | 43,000 | 870 | 0.009 ~ 0.015 | 33,000 | 600 | 0.007 ~ 0.013 | 26,000 | 410 | 0.007 ~ 0.012 | 24,000 | 330 | 0.005 ~ 0.009 | | | | |
| | | 6.5 | 28,000 | 510 | 0.007 ~ 0.012 | 24,000 | 400 | 0.006 ~ 0.01 | 22,000 | 320 | 0.005 ~ 0.009 | 21,000 | 260 | 0.004 ~ 0.007 | | | | |
| | | 7 | 28,000 | 510 | 0.007 ~ 0.012 | 24,000 | 400 | 0.006 ~ 0.01 | 22,000 | 320 | 0.005 ~ 0.009 | 21,000 | 260 | 0.004 ~ 0.007 | | | | |
| 7.5 | 28,000 | 510 | 0.007 ~ 0.012 | 24,000 | 400 | 0.006 ~ 0.01 | 22,000 | 320 | 0.005 ~ 0.009 | 21,000 | 260 | 0.004 ~ 0.007 | | | | | | |

| Материал | | | Углеродистые стали S45C · S50C (~ 225HB) | | | | Легированные стали SK · SCM · SUS (225 ~ 325HB) | | | | Упрочненные, Закаленные стали NAK · SKD (30 ~ 45HRC) | | | Закаленные стали SKD11 · 61 · SKT (45 ~ 50HRC) | | |
|----------|--------|------|--|--------|-----------------------|------------|---|-----------------------|------------|---------------|---|------------|-------------|--|------------|--------------|
| | | | Vc = 50 ~ 65m/min | | | | Vc = 40 ~ 55m/min | | | | Vc = 30 ~ 50m/min | | | Vc = 30 ~ 40m/min | | |
| | | | a_p | | | | a_p | | | | a_p | | | a_p | | |
| | | | (mm) | (mm) | (min ⁻¹) | (mm/min) | (mm) | (min ⁻¹) | (mm/min) | (mm) | (min ⁻¹) | (mm/min) | (mm) | (min ⁻¹) | (mm/min) | (mm) |
| 2006 | R0.3 | 8 | 28,000 | 510 | 0.005 ~ 0.009 | 24,000 | 400 | 0.004 ~ 0.008 | 22,000 | 320 | 0.004 ~ 0.007 | 21,000 | 260 | 0.003 ~ 0.005 | | |
| | | 8.5 | 28,000 | 510 | 0.005 ~ 0.009 | 24,000 | 400 | 0.004 ~ 0.008 | 22,000 | 320 | 0.004 ~ 0.007 | 21,000 | 260 | 0.003 ~ 0.005 | | |
| | | 9 | 28,000 | 510 | 0.005 ~ 0.009 | 24,000 | 400 | 0.004 ~ 0.008 | 22,000 | 320 | 0.004 ~ 0.007 | 21,000 | 260 | 0.003 ~ 0.005 | | |
| | | 9.5 | 28,000 | 510 | 0.005 ~ 0.009 | 24,000 | 400 | 0.004 ~ 0.008 | 22,000 | 320 | 0.004 ~ 0.007 | 21,000 | 260 | 0.003 ~ 0.005 | | |
| | | 10 | 28,000 | 440 | 0.003 ~ 0.005 | 24,000 | 350 | 0.002 ~ 0.004 | 22,000 | 270 | 0.002 ~ 0.004 | 21,000 | 230 | 0.001 ~ 0.003 | | |
| | | 11 | 28,000 | 440 | 0.003 ~ 0.005 | 24,000 | 350 | 0.002 ~ 0.004 | 22,000 | 270 | 0.002 ~ 0.004 | 21,000 | 230 | 0.001 ~ 0.003 | | |
| 2008 | R0.4 | 2 | 52,000 | 1,870 | 0.033 ~ 0.056 | 38,000 | 1,230 | 0.03 ~ 0.05 | 30,000 | 870 | 0.026 ~ 0.044 | 21,000 | 540 | 0.021 ~ 0.036 | | |
| | | 3 | 52,000 | 1,690 | 0.026 ~ 0.044 | 38,000 | 1,110 | 0.024 ~ 0.04 | 30,000 | 780 | 0.021 ~ 0.035 | 21,000 | 480 | 0.017 ~ 0.029 | | |
| | | 4 | 52,000 | 1,690 | 0.026 ~ 0.044 | 38,000 | 1,110 | 0.024 ~ 0.04 | 30,000 | 780 | 0.021 ~ 0.035 | 21,000 | 480 | 0.017 ~ 0.029 | | |
| | | 5 | 44,000 | 1,280 | 0.019 ~ 0.032 | 33,000 | 860 | 0.016 ~ 0.028 | 25,000 | 580 | 0.015 ~ 0.025 | 18,000 | 360 | 0.012 ~ 0.02 | | |
| | | 6 | 44,000 | 1,280 | 0.019 ~ 0.032 | 33,000 | 860 | 0.016 ~ 0.028 | 25,000 | 580 | 0.015 ~ 0.025 | 18,000 | 360 | 0.012 ~ 0.02 | | |
| | | 7 | 32,000 | 940 | 0.012 ~ 0.02 | 25,000 | 640 | 0.01 ~ 0.018 | 19,000 | 440 | 0.009 ~ 0.016 | 18,000 | 360 | 0.007 ~ 0.013 | | |
| | | 8 | 32,000 | 940 | 0.012 ~ 0.02 | 25,000 | 640 | 0.01 ~ 0.018 | 19,000 | 440 | 0.009 ~ 0.016 | 18,000 | 360 | 0.007 ~ 0.013 | | |
| | | 9 | 21,000 | 540 | 0.009 ~ 0.016 | 18,000 | 420 | 0.008 ~ 0.014 | 16,000 | 330 | 0.007 ~ 0.012 | 15,000 | 270 | 0.006 ~ 0.01 | | |
| | | 10 | 21,000 | 540 | 0.009 ~ 0.016 | 18,000 | 420 | 0.008 ~ 0.014 | 16,000 | 330 | 0.007 ~ 0.012 | 15,000 | 270 | 0.006 ~ 0.01 | | |
| | | 2010 | R0.5 | 2.5 | 41,000 | 1,660 | 0.037 ~ 0.063 | 30,000 | 1,100 | 0.033 ~ 0.056 | 24,000 | 770 | 0.03 ~ 0.05 | 17,000 | 480 | 0.024 ~ 0.04 |
| 3 | 41,000 | | | 1,660 | 0.037 ~ 0.063 | 30,000 | 1,100 | 0.033 ~ 0.056 | 24,000 | 770 | 0.03 ~ 0.05 | 17,000 | 480 | 0.024 ~ 0.04 | | |
| 4 | 41,000 | | | 1,660 | 0.03 ~ 0.05 | 30,000 | 1,100 | 0.027 ~ 0.045 | 24,000 | 770 | 0.024 ~ 0.04 | 17,000 | 480 | 0.019 ~ 0.032 | | |
| 5 | 41,000 | | | 1,660 | 0.03 ~ 0.05 | 30,000 | 1,100 | 0.027 ~ 0.045 | 24,000 | 770 | 0.024 ~ 0.04 | 17,000 | 480 | 0.019 ~ 0.032 | | |
| 6 | 35,000 | | | 1,250 | 0.021 ~ 0.036 | 26,000 | 840 | 0.019 ~ 0.032 | 20,000 | 570 | 0.016 ~ 0.028 | 14,000 | 360 | 0.013 ~ 0.023 | | |
| 7 | 35,000 | | | 1,250 | 0.021 ~ 0.036 | 26,000 | 840 | 0.019 ~ 0.032 | 20,000 | 570 | 0.016 ~ 0.028 | 14,000 | 360 | 0.013 ~ 0.023 | | |
| 8 | 35,000 | | | 1,250 | 0.021 ~ 0.036 | 26,000 | 840 | 0.019 ~ 0.032 | 20,000 | 570 | 0.016 ~ 0.028 | 14,000 | 360 | 0.013 ~ 0.023 | | |
| 9 | 26,000 | | | 920 | 0.013 ~ 0.022 | 20,000 | 630 | 0.012 ~ 0.02 | 15,000 | 430 | 0.01 ~ 0.018 | 14,000 | 340 | 0.008 ~ 0.014 | | |
| 10 | 26,000 | | | 920 | 0.013 ~ 0.022 | 20,000 | 630 | 0.012 ~ 0.02 | 15,000 | 430 | 0.01 ~ 0.018 | 14,000 | 340 | 0.008 ~ 0.014 | | |
| 12 | 17,000 | | | 550 | 0.01 ~ 0.018 | 14,000 | 430 | 0.009 ~ 0.016 | 13,000 | 340 | 0.008 ~ 0.014 | 12,000 | 280 | 0.006 ~ 0.011 | | |
| 14 | 17,000 | | | 530 | 0.007 ~ 0.013 | 14,000 | 410 | 0.007 ~ 0.012 | 13,000 | 330 | 0.006 ~ 0.01 | 12,000 | 270 | 0.004 ~ 0.008 | | |
| 16 | 17,000 | | | 530 | 0.007 ~ 0.013 | 14,000 | 410 | 0.007 ~ 0.012 | 13,000 | 330 | 0.006 ~ 0.01 | 12,000 | 270 | 0.004 ~ 0.008 | | |
| 18 | 17,000 | | | 450 | 0.005 ~ 0.009 | 14,000 | 350 | 0.004 ~ 0.008 | 13,000 | 280 | 0.004 ~ 0.007 | 12,000 | 230 | 0.003 ~ 0.005 | | |
| 20 | 17,000 | | | 450 | 0.005 ~ 0.009 | 14,000 | 350 | 0.004 ~ 0.008 | 13,000 | 280 | 0.004 ~ 0.007 | 12,000 | 230 | 0.003 ~ 0.005 | | |
| 2012 | R0.6 | 6 | 34,000 | 1,660 | 0.036 ~ 0.06 | 25,000 | 1,100 | 0.032 ~ 0.054 | 20,000 | 770 | 0.028 ~ 0.048 | 14,000 | 480 | 0.023 ~ 0.039 | | |
| | | 8 | 29,000 | 1,240 | 0.025 ~ 0.043 | 22,000 | 840 | 0.022 ~ 0.038 | 16,000 | 570 | 0.02 ~ 0.034 | 12,000 | 350 | 0.016 ~ 0.028 | | |
| | | 10 | 21,000 | 900 | 0.016 ~ 0.027 | 16,000 | 620 | 0.014 ~ 0.024 | 13,000 | 430 | 0.012 ~ 0.021 | 12,000 | 340 | 0.01 ~ 0.017 | | |
| | | 12 | 21,000 | 900 | 0.016 ~ 0.027 | 16,000 | 620 | 0.014 ~ 0.024 | 13,000 | 430 | 0.012 ~ 0.021 | 12,000 | 340 | 0.01 ~ 0.017 | | |



| Материал | | | Углеродистые стали S45C · S50C (~ 225HB) | | | Легированные стали SK · SCM · SUS (225 ~ 325HB) | | | Упрочненные, Закаленные стали NAK · SKD (30 ~ 45HRC) | | | Закаленные стали SKD11 · 61 · SKT (45 ~ 50HRC) | | |
|----------|-------------------------|-------------------------------|--|----------------------|--|---|----------------------|--|---|----------------------|--|--|----------------------|--|
| | | | Vc = 50 ~ 65m/min | | | Vc = 40 ~ 55m/min | | | Vc = 30 ~ 50m/min | | | Vc = 30 ~ 40m/min | | |
| Модель | Рабоч. радиус (mm) | Длина рабочей части (mm) | Обор. (min ⁻¹) | Подача (mm/min) | a _р Осевая глубина (mm) | Обор. (min ⁻¹) | Подача (mm/min) | a _р Осевая глубина (mm) | Обор. (min ⁻¹) | Подача (mm/min) | a _р Осевая глубина (mm) | Обор. (min ⁻¹) | Подача (mm/min) | a _р Осевая глубина (mm) |
| 2012 | R0.6 | 14 | 14,000 | 480 | 0.013 ~ 0.022 | 12,000 | 380 | 0.011 ~ 0.019 | 11,000 | 300 | 0.01 ~ 0.017 | 10,000 | 250 | 0.008 ~ 0.014 |
| | | 16 | 14,000 | 480 | 0.008 ~ 0.014 | 12,000 | 380 | 0.007 ~ 0.012 | 11,000 | 300 | 0.006 ~ 0.011 | 10,000 | 250 | 0.005 ~ 0.009 |
| | | 18 | 14,000 | 480 | 0.008 ~ 0.014 | 12,000 | 380 | 0.007 ~ 0.012 | 11,000 | 300 | 0.006 ~ 0.011 | 10,000 | 250 | 0.005 ~ 0.009 |
| | | 20 | 14,000 | 450 | 0.005 ~ 0.009 | 12,000 | 350 | 0.004 ~ 0.008 | 11,000 | 280 | 0.004 ~ 0.007 | 10,000 | 230 | 0.003 ~ 0.005 |
| 2014 | R0.7 | 8 | 25,000 | 1,220 | 0.03 ~ 0.05 | 19,000 | 820 | 0.027 ~ 0.045 | 14,000 | 550 | 0.024 ~ 0.04 | 10,000 | 350 | 0.019 ~ 0.032 |
| | | 12 | 18,000 | 900 | 0.019 ~ 0.032 | 14,000 | 620 | 0.016 ~ 0.028 | 11,000 | 430 | 0.015 ~ 0.025 | 10,000 | 340 | 0.012 ~ 0.02 |
| | | 16 | 12,000 | 510 | 0.015 ~ 0.025 | 10,000 | 400 | 0.013 ~ 0.023 | 9,500 | 320 | 0.012 ~ 0.02 | 9,000 | 260 | 0.009 ~ 0.016 |
| 2015 | R0.75 | 3 | 27,000 | 1,830 | 0.052 ~ 0.087 | 20,000 | 1,210 | 0.046 ~ 0.078 | 16,000 | 850 | 0.042 ~ 0.07 | 11,000 | 530 | 0.033 ~ 0.056 |
| | | 4 | 27,000 | 1,830 | 0.052 ~ 0.087 | 20,000 | 1,210 | 0.046 ~ 0.078 | 16,000 | 850 | 0.042 ~ 0.07 | 11,000 | 530 | 0.033 ~ 0.056 |
| | | 6 | 27,000 | 1,650 | 0.045 ~ 0.075 | 20,000 | 1,090 | 0.04 ~ 0.067 | 16,000 | 760 | 0.036 ~ 0.06 | 11,000 | 470 | 0.028 ~ 0.048 |
| | | 8 | 23,000 | 1,250 | 0.032 ~ 0.054 | 17,000 | 840 | 0.028 ~ 0.048 | 13,000 | 570 | 0.025 ~ 0.043 | 9,700 | 360 | 0.021 ~ 0.035 |
| | | 10 | 23,000 | 1,250 | 0.032 ~ 0.054 | 17,000 | 840 | 0.028 ~ 0.048 | 13,000 | 570 | 0.025 ~ 0.043 | 9,700 | 360 | 0.021 ~ 0.035 |
| | | 12 | 23,000 | 1,250 | 0.032 ~ 0.054 | 17,000 | 840 | 0.028 ~ 0.048 | 13,000 | 570 | 0.025 ~ 0.043 | 9,700 | 360 | 0.021 ~ 0.035 |
| | | 14 | 17,000 | 910 | 0.02 ~ 0.034 | 13,000 | 630 | 0.018 ~ 0.03 | 10,000 | 430 | 0.016 ~ 0.027 | 9,500 | 350 | 0.013 ~ 0.022 |
| | | 16 | 11,000 | 510 | 0.016 ~ 0.027 | 9,900 | 400 | 0.014 ~ 0.024 | 9,000 | 320 | 0.012 ~ 0.021 | 8,400 | 260 | 0.01 ~ 0.017 |
| | | 18 | 11,000 | 510 | 0.016 ~ 0.027 | 9,900 | 400 | 0.014 ~ 0.024 | 9,000 | 320 | 0.012 ~ 0.021 | 8,400 | 260 | 0.01 ~ 0.017 |
| | | 20 | 11,000 | 510 | 0.009 ~ 0.015 | 9,900 | 400 | 0.007 ~ 0.013 | 9,000 | 320 | 0.007 ~ 0.012 | 8,400 | 260 | 0.005 ~ 0.009 |
| 2016 | R0.8 | 8 | 26,000 | 1,640 | 0.048 ~ 0.08 | 19,000 | 1,080 | 0.043 ~ 0.072 | 15,000 | 760 | 0.038 ~ 0.064 | 10,000 | 470 | 0.031 ~ 0.052 |
| | | 12 | 22,000 | 1,240 | 0.034 ~ 0.057 | 16,000 | 840 | 0.03 ~ 0.051 | 12,000 | 570 | 0.027 ~ 0.046 | 9,100 | 350 | 0.022 ~ 0.037 |
| | | 16 | 16,000 | 910 | 0.021 ~ 0.036 | 12,000 | 630 | 0.019 ~ 0.032 | 9,700 | 430 | 0.016 ~ 0.028 | 9,000 | 350 | 0.013 ~ 0.023 |
| | | 20 | 10,000 | 520 | 0.016 ~ 0.028 | 9,300 | 410 | 0.015 ~ 0.025 | 8,300 | 320 | 0.013 ~ 0.023 | 7,900 | 270 | 0.01 ~ 0.018 |
| 2018 | R0.9 | 8 | 23,000 | 1,620 | 0.05 ~ 0.084 | 16,000 | 1,070 | 0.045 ~ 0.076 | 13,000 | 750 | 0.04 ~ 0.067 | 9,500 | 460 | 0.033 ~ 0.055 |
| | | 12 | 19,000 | 1,230 | 0.036 ~ 0.061 | 14,000 | 830 | 0.033 ~ 0.055 | 11,000 | 560 | 0.028 ~ 0.048 | 8,100 | 350 | 0.023 ~ 0.039 |
| | | 16 | 14,000 | 900 | 0.022 ~ 0.037 | 11,000 | 620 | 0.02 ~ 0.034 | 8,600 | 430 | 0.018 ~ 0.03 | 7,900 | 340 | 0.014 ~ 0.024 |
| | | 20 | 9,500 | 520 | 0.018 ~ 0.03 | 8,300 | 400 | 0.016 ~ 0.027 | 7,400 | 320 | 0.014 ~ 0.024 | 7,000 | 270 | 0.011 ~ 0.019 |
| 2020 | R1 | 3 | 20,000 | 1,780 | 0.067 ~ 0.112 | 15,000 | 1,170 | 0.06 ~ 0.1 | 12,000 | 830 | 0.053 ~ 0.089 | 8,500 | 510 | 0.043 ~ 0.072 |
| | | 4 | 20,000 | 1,780 | 0.067 ~ 0.112 | 15,000 | 1,170 | 0.06 ~ 0.1 | 12,000 | 830 | 0.053 ~ 0.089 | 8,500 | 510 | 0.043 ~ 0.072 |
| | | 6 | 20,000 | 1,780 | 0.067 ~ 0.112 | 15,000 | 1,170 | 0.06 ~ 0.1 | 12,000 | 830 | 0.053 ~ 0.089 | 8,500 | 510 | 0.043 ~ 0.072 |
| | | 8 | 20,000 | 1,600 | 0.053 ~ 0.089 | 15,000 | 1,060 | 0.048 ~ 0.08 | 12,000 | 740 | 0.042 ~ 0.071 | 8,500 | 460 | 0.034 ~ 0.058 |
| | | 10 | 20,000 | 1,600 | 0.053 ~ 0.089 | 15,000 | 1,060 | 0.048 ~ 0.08 | 12,000 | 740 | 0.042 ~ 0.071 | 8,500 | 460 | 0.034 ~ 0.058 |
| | | 12 | 17,000 | 1,220 | 0.038 ~ 0.064 | 13,000 | 820 | 0.034 ~ 0.057 | 10,000 | 550 | 0.03 ~ 0.051 | 7,300 | 350 | 0.024 ~ 0.041 |
| | | 14 | 17,000 | 1,220 | 0.038 ~ 0.064 | 13,000 | 820 | 0.034 ~ 0.057 | 10,000 | 550 | 0.03 ~ 0.051 | 7,300 | 350 | 0.024 ~ 0.041 |
| | | 16 | 17,000 | 1,220 | 0.038 ~ 0.064 | 13,000 | 820 | 0.034 ~ 0.057 | 10,000 | 550 | 0.03 ~ 0.051 | 7,300 | 350 | 0.024 ~ 0.041 |

