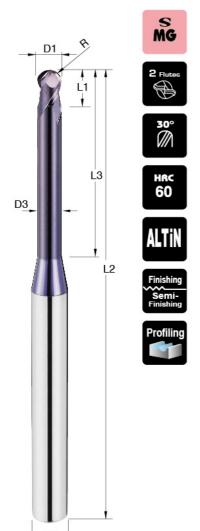
## **SBF**



D1=2R

## Long Neck / Ball Nose / for (1) (2) (8)





unit: mm

| Longite          | cit / Daii | 1403071  | o. w         |                  |                     | unit: mn     |
|------------------|------------|----------|--------------|------------------|---------------------|--------------|
| Order No.        | Radius R   | Neck Dia | Flute Length | Effective Length | O.A.L.<br><b>L2</b> | Shank Dia D2 |
| SBF <b>00504</b> | R0.25      | 0.46     | 0.5          | 4                | 50                  | 4            |
| SBF <b>00506</b> | R0.25      | 0.46     | 0.5          | 6                | 50                  | 4            |
| SBF <b>00604</b> | R0.3       | 0.56     | 0.6          | 4                | 50                  | 4            |
| SBF 00606        | R0.3       | 0.56     | 0.6          | 6                | 50                  | 4            |
| SBF 00806        | R0.4       | 0.76     | 0.8          | 6                | 50                  | 4            |
| SBF 00808        | R0.4       | 0.76     | 8.0          | 8                | 50                  | 4            |
| SBF <b>01006</b> | R0.5       | 0.95     | 1.5          | 6                | 50                  | 4            |
| SBF 01008        | R0.5       | 0.95     | 1.5          | 8                | 50                  | 4            |
| SBF 01010        | R0.5       | 0.95     | 1.5          | 10               | 50                  | 4            |
| SBF <b>01012</b> | R0.5       | 0.95     | 1.5          | 12               | 50                  | 4            |
| SBF <b>01208</b> | R0.6       | 1.15     | 2            | 8                | 50                  | 4            |
| SBF <b>01212</b> | R0.6       | 1.15     | 2            | 12               | 50                  | 4            |
| SBF 01508        | R0.75      | 1.45     | 2            | 8                | 50                  | 4            |
| SBF <b>01512</b> | R0.75      | 1.45     | 2            | 12               | 50                  | 4            |
| SBF <b>01516</b> | R0.75      | 1.45     | 2            | 16               | 50                  | 4            |
| SBF <b>01520</b> | R0.75      | 1.45     | 2            | 20               | 50                  | 4            |
| SBF 01608        | R0.8       | 1.54     | 2.5          | 8                | 50                  | 4            |
| SBF 01612        | R0.8       | 1.54     | 2.5          | 12               | 50                  | 4            |
| SBF <b>01616</b> | R0.8       | 1.54     | 2.5          | 16               | 50                  | 4            |
| SBF 02008        | R1.0       | 1.92     | 3            | 8                | 50                  | 4            |
| SBF 02012        | R1.0       | 1.92     | 3            | 12               | 50                  | 4            |
| SBF 02016        | R1.0       | 1.92     | 3            | 16               | 50                  | 4            |
| SBF 02020        | R1.0       | 1.92     | 3            | 20               | 50                  | 4            |
| SBF 03008        | R1.5       | 2.90     | 4            | 8                | 50                  | 6            |
| SBF 03010        | R1.5       | 2.90     | 4            | 10               | 50                  | 6            |
| SBF 03016        | R1.5       | 2.90     | 4            | 16               | 50                  | 6            |
| SBF 03020        | R1.5       | 2.90     | 4            | 20               | 75                  | 6            |
| SBF 03025        | R1.5       | 2.90     | 4            | 25               | 75                  | 6            |
| SBF 04010        | R2.0       | 3.88     | 5            | 10               | 75                  | 6            |
| SBF 04015        | R2.0       | 3.88     | 5            | 15               | 75                  | 6            |
| SBF <b>04020</b> | R2.0       | 3.88     | 5            | 20               | 75                  | 6            |
| SBF <b>04025</b> | R2.0       | 3.88     | 5            | 25               | 75                  | 6            |
| SBF <b>04030</b> | R2.0       | 3.88     | 5            | 30               | 75                  | 6            |

## Recommended cutting condition for SBF

5000 - 8000

| MATERIAL  |                     | Alloy Steels . Tool Steels . Hardened Steels S45C , SCM , S50C , SKS , SCr , SNCM , SKD11 , SKD61 , NAP |             |                      |  |  |
|-----------|---------------------|---|-------------|----------------------|--|--|
| Radius(R) | EFFECTIVE<br>LENGTH | SPEED (min-1)   | FEED mm/min | DEPTH OF CUT ap (mm) |  |  |
| R0.25     | 4                   | 30000 - 40000   | 200 - 650   | 0.015                |  |  |
|           | 6                   | 30000 - 40000   | 200 - 650   | 0.013                |  |  |
| R0.3      | 4                   | 27000 - 40000   | 180 - 650   | 0.025                |  |  |
|           | 6                   | 27000 - 40000   | 180 - 650   | 0.015                |  |  |
| R0.4      | 6                   | 25000 - 40000   | 400 - 750   | 0.025                |  |  |
|           | 8                   | 25000 - 40000   | 400 - 750   | 0.025                |  |  |
| R0.5      | 6                   | 20000 - 32000   | 300 - 750   | 0.04                 |  |  |
|           | 8                   | 20000 - 32000   | 300 - 750   | 0.03                 |  |  |
|           | 10                  | 20000 - 32000   | 300 - 750   | 0.025                |  |  |
|           | 12                  | 20000 - 32000   | 300 - 750   | 0.015                |  |  |
| R0.6      | 8                   | 22000 - 25000   | 500 - 600   | 0.05                 |  |  |
|           | 12                  | 22000 - 25000   | 500 - 600   | 0.03                 |  |  |
| R0.75     | 8                   | 18000 - 20000   | 350 - 550   | 0.07                 |  |  |
|           | 12                  | 18000 - 20000   | 350 - 550   | 0.04                 |  |  |
|           | 16                  | 18000 - 20000   | 350 - 550   | 0.03                 |  |  |
|           | 20                  | 18000 - 20000   | 350 - 550   | 0.02                 |  |  |
| R0.8      | 8                   | 13000 - 18000   | 350 - 800   | 0.08                 |  |  |
|           | 12                  | 13000 - 18000   | 350 - 800   | 0.06                 |  |  |
|           | 16                  | 13000 - 18000   | 350 - 800   | 0.05                 |  |  |
| R1.0      | 8                   | 12000 - 17000   | 500 - 900   | 0.1                  |  |  |
|           | 12                  | 12000 - 17000   | 500 - 900   | 0.1                  |  |  |
|           | 16                  | 12000 - 17000   | 500 - 900   | 0.07                 |  |  |
|           | 20                  | 12000 - 17000   | 500 - 900   | 0.04                 |  |  |
| R1.5      | 8                   | 8000 - 11000  | 500 - 700   | 0.17                 |  |  |
|           | 10                  | 8000 - 11000  | 500 - 700   | 0.15                 |  |  |
|           | 16                  | 8000 - 11000  | 500 - 700   | 0.14                 |  |  |
|           | 20                  | 8000 - 11000  | 500 - 700   | 0.12                 |  |  |
|           | 25                  | 8000 - 11000  | 500 - 700   | 0.1                  |  |  |
| R2.0      | 10                  | 5000 - 8000   | 400 - 600   | 0.18                 |  |  |
|           | 15                  | 5000 - 8000   | 400 - 600   | 0.17                 |  |  |
|           | 20                  | 5000 - 8000   | 400 - 600   | 0.16                 |  |  |
|           | 25                  | 5000 - 8000   | 400 - 600   | 0.15                 |  |  |
|           | 20                  | 5000 - 8000   | 400 - 000   | 0.13                 |  |  |

400 - 600

## Depth of cut

R<1 ae<0.1R R>1 ae<0.2R

R=Radius

**SBF** 

0.14