

## 切削参数参考表 Recommended Milling Conditions

| CBN 铣刀<br>Cubic Boron Nitride | PCD·Monocrystalline<br>PCD·单晶 | 直径 Dia.<br>Thread Size | 螺距 Pitch           | NS推荐底孔直径<br>Recommended pilot hole Dia. | NS推荐加工螺旋R <sup>1</sup><br>Recommended process Helical | 不锈钢<br>Stainless Steels<br>SUS304 |   | 铝合金<br>Aluminum Alloy<br>A5052 |              | 纯钛<br>Unalloyed Titanium<br>Ti |              | 碳素钢<br>Carbon Steels<br>S50C |              |     |
|-------------------------------|-------------------------------|------------------------|--------------------|---|---|-----------------------------------|---|--------------------------------|--------------|--------------------------------|--------------|------------------------------|--------------|-----|
|                               |                               |                        |                    |   |   | 主轴转速<br>Spindle Speed             | 进给速度<br>Feed  | 主轴转速<br>Spindle Speed          | 进给速度<br>Feed | 主轴转速<br>Spindle Speed          | 进给速度<br>Feed | 主轴转速<br>Spindle Speed        | 进给速度<br>Feed |     |
|                               |                               |                        |                    |   |   | mm                                | mm  | min <sup>-1</sup>              | mm/min       | min <sup>-1</sup>              | mm/min       | min <sup>-1</sup>            | mm/min       |     |
| 钻石铣刀<br>Diamond               | 平底铣刀<br>Square                | S0.1                   | 0.066              | 0.025                                   | 0.075   | RO.017 <sup>*2</sup>              | 20,000  | 5                              | 20,000       | 5                              | 20,000       | 5                            | 20,000       | 5   |
|                               |                               | S0.2                   | 0.14               | 0.05                                    | 0.15  | RO.035 <sup>*2</sup>              | 20,000  | 5                              | 20,000       | 5                              | 20,000       | 5                            | 20,000       | 5   |
|                               |                               | S0.3                   | 0.2                | 0.08                                    | 0.23  | RO.061 <sup>*2</sup>              | 20,000  | 5                              | 20,000       | 5                              | 20,000       | 5                            | 20,000       | 5   |
|                               |                               | S0.4                   | 0.28               | 0.1                                     | 0.32  | RO.070                            | 18,000  | 5                              | 18,000       | 5                              | 18,000       | 5                            | 18,000       | 5   |
|                               |                               | S0.5                   | 0.35               | 0.125                                   | 0.4   | RO.088                            | 15,000  | 10                             | 15,000       | 10                             | 15,000       | 10                           | 15,000       | 10  |
|                               | 长颈平底<br>Long Neck-Square      | S0.6                   | 0.43               | 0.15                                    | 0.48  | RO.110                            | 12,000  | 10                             | 12,000       | 10                             | 12,000       | 10                           | 12,000       | 10  |
|                               |                               | S0.8                   | 0.58               | 0.2                                     | 0.64  | RO.130                            | 10,000  | 20                             | 10,000       | 20                             | 10,000       | 20                           | 10,000       | 20  |
|                               |                               | S1.0                   | 0.73               | 0.25                                    | 0.8   | RO.155                            | 7,000   | 50                             | 7,000        | 50                             | 7,000        | 50                           | 7,000        | 50  |
|                               |                               | S1.2                   | 0.93               | 0.25                                    | 1   | RO.155                            | 6,000   | 80                             | 6,000        | 80                             | 6,000        | 80                           | 6,000        | 80  |
|                               |                               | S1.4                   | 1.08               | 0.3                                     | 1.15  | RO.190                            | 5,000   | 100                            | 5,000        | 100                            | 5,000        | 100                          | 5,000        | 100 |
| 球头铣刀<br>Ball                  | 无涂层<br>Non-Coating            | 涂层<br>Coating          | 涂层<br>Coating      | 无涂层<br>Non-Coating                      | 无涂层<br>Non-Coating                                    | 备注<br>Notes                       | * 1. 请根据主轴回转时的振动或使用机床的情况，必要时将半径向的切深量分成数次进行加工。<br>* 2. 使用S0.1、S0.2、S0.3规格时，请务必把半径向的切削分成数次进行加工。<br>※ 如有可能，请依据实际刃径测量值调整加工螺旋R的最终设定值。<br>※ 请注意底孔直径会因所用钻头的不同以及主轴回转时的振动情况而改变。<br>※ 加工螺旋R实际会变为使用本刀具进行螺旋角加工时动作的圆弧R。<br>※ 如加工形状发生锥度状况时，请再次原位零切深加工。<br>※ 请尽量缩短刀具伸出量。<br>※ 拆装刀具或者测量刀具长度时请务必小心。<br>※ 请使用适合加工材料的冷却方式。<br>※ 请注意排屑状况。   |                                |              |                                |              |                              |              |     |
|                               |                               |                        |                    |   |   |                                   | * 1. Radial depth of cut may be divided into multiple cutting approaches by condition of spindle runout and machine.<br>* 2. Radial depth of cut must be divided into multiple cutting approaches for the sizes, S0.1, S0.2, and S0.3.<br>※ Adjust process helical final value based on measured actual Dia. of the tool if possible.<br>※ Care differences of actual pilot hole Dia. caused by runout of a pilot drill and rotation.<br>※ Process Helical is a circular radius value of actual tool movement when helical process by MMTS.<br>※ Add zero-cut process in case completed thread left deflection angle.<br>※ Tool overhang to be as short as possible.<br>※ Extra care of handling when tool setting and measuring.<br>※ Choose appropriate coolant for each working material.<br>※ Care with cutting chip removal. |                                |              |                                |              |                              |              |     |
|                               |                               |                        |                    |   |   |                                   |   |                                |              |                                |              |                              |              |     |
|                               |                               |                        |                    |   |   |                                   |   |                                |              |                                |              |                              |              |     |
|                               |                               |                        |                    |   |   |                                   |   |                                |              |                                |              |                              |              |     |
|                               | 圆鼻铣刀<br>Radius                | 无涂层<br>Non-Coating     | 涂层<br>Coating      | 无涂层<br>Non-Coating                      | 无涂层<br>Non-Coating                                    |                                   |   |                                |              |                                |              |                              |              |     |
|                               |                               |                        |                    |   |   |                                   |   |                                |              |                                |              |                              |              |     |
|                               |                               |                        |                    |   |   |                                   |   |                                |              |                                |              |                              |              |     |
|                               |                               |                        |                    |   |   |                                   |   |                                |              |                                |              |                              |              |     |
|                               |                               |                        |                    |   |   |                                   |   |                                |              |                                |              |                              |              |     |
| 锥形铣刀<br>Taper                 | 锥形球头<br>Taper Ball            | 涂层<br>Coating          | 涂层<br>Coating      | 无涂层<br>Non-Coating                      | 无涂层<br>Non-Coating                                    |                                   |   |                                |              |                                |              |                              |              |     |
|                               |                               |                        |                    |   |   |                                   |   |                                |              |                                |              |                              |              |     |
|                               | 锥形圆弧<br>Taper Radius          | 无涂层<br>Non-Coating     | 无涂层<br>Non-Coating | 无涂层<br>Non-Coating                      | 无涂层<br>Non-Coating                                    |                                   |   |                                |              |                                |              |                              |              |     |
|                               |                               |                        |                    |   |   |                                   |   |                                |              |                                |              |                              |              |     |
| 钻头<br>Drilling                | 螺纹铣刀<br>Thread milling        | 倒角刀<br>Chamfering      |                    |   |   |                                   |   |                                |              |                                |              |                              |              |     |
|                               |                               |                        |                    |   |   |                                   |   |                                |              |                                |              |                              |              |     |