

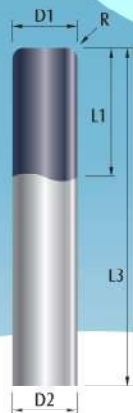
## 超微粒圓鼻角立銑刀 End Mills

經濟型系列  
Economy Series

### Corner Radius



|  |                             |
|--|-----------------------------|
|  | 乾式切削<br>Dry Machining       |
|  | 油霧切削<br>MQL (Mist)          |
|  | 水溶性切削<br>Emulsion Machining |
|  | 油性切削<br>Oil Machining       |
|  | 精銑<br>Finishing             |
|  | 中銑<br>Semi-finishing        |
|  | 粗銑<br>Roughing              |



### 產品規格 / SPECIFICATIONS

| 型號<br>Type No. | D1<br>直徑<br>Diameter | R<br>R角<br>Corner R | L1<br>刃長<br>Flute Length | L3<br>全長<br>O.A.L. | D2<br>柄徑<br>Shank Dia. |
|----------------|----------------------|---------------------|--------------------------|--------------------|------------------------|
| DRD0305        | 3.0                  | 0.5                 | 8                        | 50                 | 3                      |
| DRD0405        | 4.0                  | 0.5                 | 10                       | 50                 | 4                      |
| DRD0505        | 5.0                  | 0.5                 | 13                       | 50                 | 6                      |
| DRD0510        | 5.0                  | 1.0                 | 13                       | 50                 | 6                      |
| DRD0605        | 6.0                  | 0.5                 | 16                       | 50                 | 6                      |
| DRD0610        | 6.0                  | 1.0                 | 16                       | 50                 | 6                      |
| DRD0805        | 8.0                  | 0.5                 | 20                       | 60                 | 8                      |
| DRD0810        | 8.0                  | 1.0                 | 20                       | 60                 | 8                      |
| DRD1010        | 10.0                 | 1.0                 | 25                       | 75                 | 10                     |
| DRD1020        | 10.0                 | 2.0                 | 25                       | 75                 | 10                     |
| DRD1030        | 10.0                 | 3.0                 | 25                       | 75                 | 10                     |
| DRD1210        | 12.0                 | 1.0                 | 30                       | 75                 | 12                     |
| DRD1220        | 12.0                 | 2.0                 | 30                       | 75                 | 12                     |
| DRD1230        | 12.0                 | 3.0                 | 30                       | 75                 | 12                     |

unit : mm

| 直徑<br>D1 | R徑公差值<br>R Tolerance                               | 直徑公差值<br>D1 Tolerance                               | 柄徑<br>D2 | 柄徑公差值<br>D2 Tolerance                               |
|----------|----------------------------------------------------|-----------------------------------------------------|----------|-----------------------------------------------------|
| 3.0      | $\begin{smallmatrix} -0.02 \\ 0 \end{smallmatrix}$ | $\begin{smallmatrix} 0 \\ -0.02 \end{smallmatrix}$  | Ø3       | $\begin{smallmatrix} 0 \\ -0.006 \end{smallmatrix}$ |
| 4.0      | $\begin{smallmatrix} -0.02 \\ 0 \end{smallmatrix}$ | $\begin{smallmatrix} 0 \\ -0.02 \end{smallmatrix}$  | Ø4       | $\begin{smallmatrix} 0 \\ -0.008 \end{smallmatrix}$ |
| 5.0      | $\begin{smallmatrix} -0.02 \\ 0 \end{smallmatrix}$ | $\begin{smallmatrix} 0 \\ -0.02 \end{smallmatrix}$  | Ø6       | $\begin{smallmatrix} 0 \\ -0.008 \end{smallmatrix}$ |
| 6.0      | $\begin{smallmatrix} -0.02 \\ 0 \end{smallmatrix}$ | $\begin{smallmatrix} 0 \\ -0.025 \end{smallmatrix}$ | Ø8       | $\begin{smallmatrix} 0 \\ -0.009 \end{smallmatrix}$ |
| 8.0      | $\begin{smallmatrix} -0.02 \\ 0 \end{smallmatrix}$ | $\begin{smallmatrix} 0 \\ -0.03 \end{smallmatrix}$  | Ø10      | $\begin{smallmatrix} 0 \\ -0.009 \end{smallmatrix}$ |
| 10.0     | $\begin{smallmatrix} -0.02 \\ 0 \end{smallmatrix}$ | $\begin{smallmatrix} 0 \\ -0.035 \end{smallmatrix}$ | Ø12      | $\begin{smallmatrix} 0 \\ -0.011 \end{smallmatrix}$ |
| 12.0     | $\begin{smallmatrix} -0.02 \\ 0 \end{smallmatrix}$ | $\begin{smallmatrix} 0 \\ -0.035 \end{smallmatrix}$ |          |                                                     |

unit : mm

# DRD

## 切削條件表 MILLING CONDITIONS

| 被切削材 Work Material |                                  | 碳素鋼 / 鑄鐵: Carbon Steels / Cast Iron<br>S50C / Fc250 / SS440: 1.1210 / 0.6025 / 1.0036: 1050 / N0.35 / A570 Gr.45 (~HRC22) |                                       |                          |                              |                              |                      |
|--------------------|----------------------------------|---------------------------------------------------------------------------------------------------------------------------|---------------------------------------|--------------------------|------------------------------|------------------------------|----------------------|
| 冷卻方式 Coolant Type  |                                  | 乾式切削 Dry coolant                                                                                                          |                                       |                          |                              |                              |                      |
| 型號<br>Type NO.     | 刀具伸長量<br>Extension<br>Length(mm) | 切削速度<br>Cutting<br>Speed(m/min)                                                                                           | 迴轉速度<br>Speed<br>(min <sup>-1</sup> ) | 進給速度<br>Feed<br>(mm/min) | 加工深度<br>(Aa)<br>Depth of Cut | 加工寬度<br>(Ap)<br>Width of Cut | 加工方式<br>Milling Type |
| DRD0305            | 12                               | 85                                                                                                                        | 9000~10000                            | 900~1100                 | 0.1~0.15                     | 1~3                          | 溝銑 (Slotting)        |
| DRD0305            | 12                               | 85                                                                                                                        | 9000~10000                            | 800~1000                 | 0.05~0.08                    | 1~3                          | 溝銑 (Slotting)        |
| DRD0305            | 12                               | 80                                                                                                                        | 8500~9000                             | 1100~1300                | 3~6                          | 0.1~0.15                     | 側銑 (Side milling)    |
| DRD0305            | 12                               | 80                                                                                                                        | 8500~9000                             | 800~1000                 | 3~6                          | 0.06~0.08                    | 側銑 (Side milling)    |
| DRD0305            | 12                               | 85                                                                                                                        | 9000~10000                            | 1100~1400                | 0.1~0.15                     | 0.1~0.15                     | 3D 銑 (3D milling)    |
| DRD0305            | 12                               | 85                                                                                                                        | 9000~10000                            | 1100~1400                | 0.05~0.08                    | 0.05~0.08                    | 3D 銑 (3D milling)    |
| DRD0405            | 14                               | 100                                                                                                                       | 8000~8400                             | 1000~1200                | 0.12~0.17                    | 2~4                          | 溝銑 (Slotting)        |
| DRD0405            | 14                               | 100                                                                                                                       | 8000~8400                             | 1000~1200                | 0.05~0.1                     | 2~4                          | 溝銑 (Slotting)        |
| DRD0405            | 14                               | 85                                                                                                                        | 6800~7200                             | 1000~1200                | 4~8                          | 0.12~0.17                    | 側銑 (Side milling)    |
| DRD0405            | 14                               | 85                                                                                                                        | 6500~7500                             | 800~1000                 | 4~8                          | 0.05~0.1                     | 側銑 (Side milling)    |
| DRD0405            | 14                               | 110                                                                                                                       | 8700~9200                             | 1000~1200                | 0.12~0.17                    | 0.12~0.17                    | 3D 銑 (3D milling)    |
| DRD0405            | 14                               | 110                                                                                                                       | 8700~9200                             | 1200~1600                | 0.05~0.1                     | 0.05~0.1                     | 3D 銑 (3D milling)    |
| DRD0505            | 17                               | 90                                                                                                                        | 5800~6400                             | 1200~1400                | 0.12~0.17                    | 3~5                          | 溝銑 (Slotting)        |
| DRD0505            | 17                               | 130                                                                                                                       | 8000~8500                             | 1000~1400                | 0.05~0.1                     | 3~5                          | 溝銑 (Slotting)        |
| DRD0505            | 17                               | 95                                                                                                                        | 6000~7000                             | 1000~1200                | 5~10                         | 0.12~0.17                    | 側銑 (Side milling)    |
| DRD0505            | 17                               | 95                                                                                                                        | 6000~7000                             | 800~1000                 | 5~10                         | 0.05~0.1                     | 側銑 (Side milling)    |
| DRD0505            | 17                               | 135                                                                                                                       | 8500~9000                             | 1400~1800                | 0.12~0.17                    | 0.12~0.17                    | 3D 銑 (3D milling)    |
| DRD0505            | 17                               | 135                                                                                                                       | 8500~9000                             | 1300~1600                | 0.05~0.1                     | 0.05~0.1                     | 3D 銑 (3D milling)    |
| DRD0510            | 17                               | 90                                                                                                                        | 5800~6400                             | 1200~1400                | 0.12~0.17                    | 2~5                          | 溝銑 (Slotting)        |
| DRD0510            | 17                               | 130                                                                                                                       | 8000~8500                             | 1000~1400                | 0.05~0.1                     | 2~5                          | 溝銑 (Slotting)        |
| DRD0510            | 17                               | 95                                                                                                                        | 6000~7000                             | 1000~1200                | 5~10                         | 0.12~0.17                    | 側銑 (Side milling)    |
| DRD0510            | 17                               | 95                                                                                                                        | 6000~7000                             | 800~1000                 | 5~10                         | 0.05~0.1                     | 側銑 (Side milling)    |
| DRD0510            | 17                               | 135                                                                                                                       | 8500~9000                             | 1400~1800                | 0.12~0.17                    | 0.12~0.17                    | 3D 銑 (3D milling)    |
| DRD0510            | 17                               | 135                                                                                                                       | 8500~9000                             | 1300~1600                | 0.05~0.1                     | 0.05~0.1                     | 3D 銑 (3D milling)    |
| DRD0605            | 20                               | 90                                                                                                                        | 4800~5400                             | 1200~1400                | 0.15~0.2                     | 4~6                          | 溝銑 (Slotting)        |
| DRD0605            | 20                               | 130                                                                                                                       | 6800~7200                             | 1400~1600                | 0.05~0.1                     | 4~6                          | 溝銑 (Slotting)        |
| DRD0605            | 20                               | 95                                                                                                                        | 5000~6000                             | 1000~1200                | 6~12                         | 0.15~0.2                     | 側銑 (Side milling)    |
| DRD0605            | 20                               | 95                                                                                                                        | 5000~6000                             | 800~1000                 | 6~12                         | 0.05~0.1                     | 側銑 (Side milling)    |
| DRD0605            | 20                               | 160                                                                                                                       | 8500~9000                             | 1600~2000                | 0.15~0.2                     | 0.15~0.2                     | 3D 銑 (3D milling)    |
| DRD0605            | 20                               | 160                                                                                                                       | 8500~9000                             | 1600~2000                | 0.05~0.1                     | 0.05~0.1                     | 3D 銑 (3D milling)    |

# DRD

## 切削條件表 MILLING CONDITIONS

| 被切削材 Work Material |                                  | 碳素鋼 / 鑄鐵: Carbon Steels / Cast Iron<br>S50C / Fc250 / SS440: 1.1210 / 0.6025 / 1.0036: 10S0 / N0.35 / A570 Gr.45 (~HRC22) |                                       |                          |                              |                              |                      |
|--------------------|----------------------------------|---------------------------------------------------------------------------------------------------------------------------|---------------------------------------|--------------------------|------------------------------|------------------------------|----------------------|
| 冷卻方式 Coolant Type  |                                  | 乾式切削 Dry coolant                                                                                                          |                                       |                          |                              |                              |                      |
| 型號<br>Type NO.     | 刀具伸長量<br>Extension<br>Length(mm) | 切削速度<br>Cutting<br>Speed(m/min)                                                                                           | 迴轉速度<br>Speed<br>(min <sup>-1</sup> ) | 進給速度<br>Feed<br>(mm/min) | 加工深度<br>(Aa)<br>Depth of Cut | 加工寬度<br>(Ap)<br>Width of Cut | 加工方式<br>Milling Type |
| DRD0610            | 20                               | 90                                                                                                                        | 4800~5400                             | 1400~1600                | 0.15~0.2                     | 3~6                          | 溝銑 (Slotting)        |
| DRD0610            | 20                               | 130                                                                                                                       | 6800~7200                             | 1400~1600                | 0.05~0.1                     | 3~6                          | 溝銑 (Slotting)        |
| DRD0610            | 20                               | 95                                                                                                                        | 5000~6000                             | 1000~1200                | 6~12                         | 0.15~0.2                     | 側銑 (Side milling)    |
| DRD0610            | 20                               | 95                                                                                                                        | 5000~6000                             | 800~1000                 | 6~12                         | 0.05~0.1                     | 側銑 (Side milling)    |
| DRD0610            | 20                               | 160                                                                                                                       | 8500~9000                             | 1600~2000                | 0.15~0.2                     | 0.15~0.2                     | 3D 銑 (3D milling)    |
| DRD0610            | 20                               | 160                                                                                                                       | 8500~9000                             | 1600~2000                | 0.05~0.1                     | 0.05~0.1                     | 3D 銑 (3D milling)    |
| DRD0805            | 30                               | 135                                                                                                                       | 5200~5800                             | 1000~1400                | 0.2~0.25                     | 6~8                          | 溝銑 (Slotting)        |
| DRD0805            | 30                               | 145                                                                                                                       | 5800~6200                             | 1000~1200                | 0.06~0.11                    | 6~8                          | 溝銑 (Slotting)        |
| DRD0805            | 30                               | 90                                                                                                                        | 3500~4000                             | 1000~1200                | 8~16                         | 0.2~0.25                     | 側銑 (Side milling)    |
| DRD0805            | 30                               | 90                                                                                                                        | 3500~4000                             | 700~1000                 | 8~16                         | 0.06~0.11                    | 側銑 (Side milling)    |
| DRD0805            | 30                               | 190                                                                                                                       | 7500~8500                             | 1600~2000                | 0.2~0.25                     | 0.2~0.25                     | 3D 銑 (3D milling)    |
| DRD0805            | 30                               | 190                                                                                                                       | 7500~8500                             | 1400~1800                | 0.06~0.11                    | 0.06~0.11                    | 3D 銑 (3D milling)    |
| DRD0810            | 30                               | 135                                                                                                                       | 5200~5800                             | 1000~1400                | 0.2~0.25                     | 5~8                          | 溝銑 (Slotting)        |
| DRD0810            | 30                               | 145                                                                                                                       | 5800~6200                             | 1000~1200                | 0.06~0.11                    | 5~8                          | 溝銑 (Slotting)        |
| DRD0810            | 30                               | 90                                                                                                                        | 3500~4000                             | 1000~1200                | 8~16                         | 0.2~0.25                     | 側銑 (Side milling)    |
| DRD0810            | 30                               | 90                                                                                                                        | 3500~4000                             | 700~1000                 | 8~16                         | 0.06~0.11                    | 側銑 (Side milling)    |
| DRD0810            | 30                               | 190                                                                                                                       | 7500~8500                             | 1600~2000                | 0.2~0.25                     | 0.2~0.25                     | 3D 銑 (3D milling)    |
| DRD0810            | 30                               | 190                                                                                                                       | 7500~8500                             | 1400~1800                | 0.06~0.11                    | 0.06~0.11                    | 3D 銑 (3D milling)    |
| DRD1010            | 35                               | 135                                                                                                                       | 4200~4700                             | 1200~1600                | 0.2~0.3                      | 7~10                         | 溝銑 (Slotting)        |
| DRD1010            | 35                               | 145                                                                                                                       | 4500~5000                             | 800~1000                 | 0.05~0.12                    | 7~10                         | 溝銑 (Slotting)        |
| DRD1010            | 35                               | 90                                                                                                                        | 2800~3200                             | 800~1200                 | 10~20                        | 0.2~0.3                      | 側銑 (Side milling)    |
| DRD1010            | 35                               | 90                                                                                                                        | 2800~3200                             | 700~900                  | 10~20                        | 0.05~0.12                    | 側銑 (Side milling)    |
| DRD1010            | 35                               | 190                                                                                                                       | 6000~7000                             | 1600~2000                | 0.2~0.3                      | 0.2~0.3                      | 3D 銑 (3D milling)    |
| DRD1010            | 35                               | 190                                                                                                                       | 6000~7000                             | 1400~1800                | 0.05~0.12                    | 0.05~0.12                    | 3D 銑 (3D milling)    |
| DRD1020            | 35                               | 135                                                                                                                       | 4200~4700                             | 1200~1600                | 0.2~0.3                      | 5~10                         | 溝銑 (Slotting)        |
| DRD1020            | 35                               | 145                                                                                                                       | 4500~5000                             | 800~1000                 | 0.05~0.12                    | 5~10                         | 溝銑 (Slotting)        |
| DRD1020            | 35                               | 90                                                                                                                        | 2800~3200                             | 800~1200                 | 10~20                        | 0.2~0.3                      | 側銑 (Side milling)    |
| DRD1020            | 35                               | 90                                                                                                                        | 2800~3200                             | 700~900                  | 10~20                        | 0.05~0.12                    | 側銑 (Side milling)    |
| DRD1020            | 35                               | 190                                                                                                                       | 6000~7000                             | 1600~2000                | 0.2~0.3                      | 0.2~0.3                      | 3D 銑 (3D milling)    |
| DRD1020            | 35                               | 190                                                                                                                       | 6000~7000                             | 1400~1800                | 0.05~0.12                    | 0.05~0.12                    | 3D 銑 (3D milling)    |

# DRD

## 切削條件表 MILLING CONDITIONS

| 被切削材 Work Material |                                  | 碳素鋼 / 鑄鐵: Carbon Steels / Cast Iron<br>S50C / Fc250 / SS440 : 1.1210 / 0.6025 / 1.0036 : 1050 / N0.35 / A570 Gr.45 (~HRc22) |                                       |                          |                              |                              |                      |
|--------------------|----------------------------------|-----------------------------------------------------------------------------------------------------------------------------|---------------------------------------|--------------------------|------------------------------|------------------------------|----------------------|
| 冷卻方式 Coolant Type  |                                  | 乾式切削 Dry coolant                                                                                                            |                                       |                          |                              |                              |                      |
| 型號<br>Type NO.     | 刀具伸長量<br>Extension<br>Length(mm) | 切削速度<br>Cutting<br>Speed(m/min)                                                                                             | 迴轉速度<br>Speed<br>(min <sup>-1</sup> ) | 進給速度<br>Feed<br>(mm/min) | 加工深度<br>(Aa)<br>Depth of Cut | 加工寬度<br>(Ap)<br>Width of Cut | 加工方式<br>Milling Type |
| DRD1030            | 35                               | 135                                                                                                                         | 4200~4700                             | 1200~1600                | 0.2~0.3                      | 3~10                         | 溝銑 (Slotting)        |
| DRD1030            | 35                               | 145                                                                                                                         | 4500~5000                             | 800~1000                 | 0.05~0.12                    | 3~10                         | 溝銑 (Slotting)        |
| DRD1030            | 35                               | 90                                                                                                                          | 2800~3200                             | 800~1200                 | 10~20                        | 0.2~0.3                      | 側銑 (Side milling)    |
| DRD1030            | 35                               | 90                                                                                                                          | 2800~3200                             | 700~900                  | 10~20                        | 0.05~0.12                    | 側銑 (Side milling)    |
| DRD1030            | 35                               | 190                                                                                                                         | 6000~7000                             | 1600~2000                | 0.2~0.3                      | 0.2~0.3                      | 3D 銑 (3D milling)    |
| DRD1030            | 35                               | 190                                                                                                                         | 6000~7000                             | 1400~1800                | 0.05~0.12                    | 0.05~0.12                    | 3D 銑 (3D milling)    |
| DRD1210            | 40                               | 145                                                                                                                         | 3800~4200                             | 1200~1600                | 0.2~0.3                      | 9~12                         | 溝銑 (Slotting)        |
| DRD1210            | 40                               | 150                                                                                                                         | 4000~4500                             | 1400~1600                | 0.1~0.15                     | 9~12                         | 溝銑 (Slotting)        |
| DRD1210            | 40                               | 105                                                                                                                         | 2800~3200                             | 1000~1200                | 12~24                        | 0.2~0.3                      | 側銑 (Side milling)    |
| DRD1210            | 40                               | 105                                                                                                                         | 2800~3200                             | 600~800                  | 12~24                        | 0.1~0.15                     | 側銑 (Side milling)    |
| DRD1210            | 40                               | 170                                                                                                                         | 4500~5000                             | 1600~2000                | 0.2~0.3                      | 0.2~0.3                      | 3D 銑 (3D milling)    |
| DRD1210            | 40                               | 190                                                                                                                         | 5000~5500                             | 1400~1800                | 0.1~0.15                     | 0.1~0.15                     | 3D 銑 (3D milling)    |
| DRD1220            | 40                               | 145                                                                                                                         | 3800~4200                             | 1200~1600                | 0.25~0.3                     | 7~12                         | 溝銑 (Slotting)        |
| DRD1220            | 40                               | 150                                                                                                                         | 4000~4500                             | 1400~1600                | 0.1~0.15                     | 7~12                         | 溝銑 (Slotting)        |
| DRD1220            | 40                               | 105                                                                                                                         | 2800~3200                             | 1000~1200                | 12~24                        | 0.25~0.3                     | 側銑 (Side milling)    |
| DRD1220            | 40                               | 105                                                                                                                         | 2800~3200                             | 600~800                  | 12~24                        | 0.1~0.15                     | 側銑 (Side milling)    |
| DRD1220            | 40                               | 170                                                                                                                         | 4500~5000                             | 1600~2000                | 0.25~0.3                     | 0.25~0.3                     | 3D 銑 (3D milling)    |
| DRD1220            | 40                               | 190                                                                                                                         | 5000~5500                             | 1400~1800                | 0.1~0.15                     | 0.1~0.15                     | 3D 銑 (3D milling)    |
| DRD1230            | 40                               | 145                                                                                                                         | 3800~4200                             | 1200~1600                | 0.25~0.3                     | 5~12                         | 溝銑 (Slotting)        |
| DRD1230            | 40                               | 150                                                                                                                         | 4000~4500                             | 1400~1600                | 0.1~0.15                     | 5~12                         | 溝銑 (Slotting)        |
| DRD1230            | 40                               | 105                                                                                                                         | 2800~3200                             | 1000~1200                | 12~24                        | 0.25~0.3                     | 側銑 (Side milling)    |
| DRD1230            | 40                               | 105                                                                                                                         | 2800~3200                             | 600~800                  | 12~24                        | 0.1~0.15                     | 側銑 (Side milling)    |
| DRD1230            | 40                               | 170                                                                                                                         | 4500~5000                             | 1600~2000                | 0.25~0.3                     | 0.25~0.3                     | 3D 銑 (3D milling)    |
| DRD1230            | 40                               | 190                                                                                                                         | 5000~5500                             | 1400~1800                | 0.1~0.15                     | 0.1~0.15                     | 3D 銑 (3D milling)    |

# DRD

## 切削條件表 MILLING CONDITIONS

| 被切削材 Work Material |                                  | 調質鋼 / 預硬鋼 : Prehardened Steels<br>NAK80 : 1.2083 : AISI420 : M310 (HRC 36~45) |                                       |                          |                              |                              |                      |
|--------------------|----------------------------------|-------------------------------------------------------------------------------|---------------------------------------|--------------------------|------------------------------|------------------------------|----------------------|
| 冷卻方式 Coolant Type  |                                  | 乾式切削 Dry coolant                                                              |                                       |                          |                              |                              |                      |
| 型號<br>Type NO.     | 刀具伸長量<br>Extension<br>Length(mm) | 切削速度<br>Cutting<br>Speed(m/min)                                               | 迴轉速度<br>Speed<br>(min <sup>-1</sup> ) | 進給速度<br>Feed<br>(mm/min) | 加工深度<br>(Aa)<br>Depth of Cut | 加工寬度<br>(Ap)<br>Width of Cut | 加工方式<br>Milling Type |
| DRD0305            | 12                               | 85                                                                            | 9000~10000                            | 800~1000                 | 0.1~0.15                     | 1~3                          | 溝銑 (Slotting)        |
| DRD0305            | 12                               | 85                                                                            | 9000~10000                            | 800~1000                 | 0.05~0.08                    | 1~3                          | 溝銑 (Slotting)        |
| DRD0305            | 12                               | 80                                                                            | 8500~9000                             | 1000~1200                | 3~6                          | 0.1~0.15                     | 側銑 (Side milling)    |
| DRD0305            | 12                               | 80                                                                            | 8500~9000                             | 700~900                  | 3~6                          | 0.06~0.08                    | 側銑 (Side milling)    |
| DRD0305            | 12                               | 85                                                                            | 9000~10000                            | 1000~1200                | 0.1~0.15                     | 0.1~0.15                     | 3D 銑 (3D milling)    |
| DRD0305            | 12                               | 85                                                                            | 9000~10000                            | 1000~1200                | 0.05~0.08                    | 0.05~0.08                    | 3D 銑 (3D milling)    |
| DRD0405            | 14                               | 100                                                                           | 8000~8400                             | 800~1000                 | 0.12~0.17                    | 2~4                          | 溝銑 (Slotting)        |
| DRD0405            | 14                               | 100                                                                           | 8000~8400                             | 800~1000                 | 0.05~0.1                     | 2~4                          | 溝銑 (Slotting)        |
| DRD0405            | 14                               | 85                                                                            | 6800~7200                             | 800~1000                 | 4~8                          | 0.12~0.17                    | 側銑 (Side milling)    |
| DRD0405            | 14                               | 85                                                                            | 6500~7000                             | 500~700                  | 4~8                          | 0.05~0.1                     | 側銑 (Side milling)    |
| DRD0405            | 14                               | 110                                                                           | 8700~9200                             | 800~1000                 | 0.12~0.17                    | 0.12~0.17                    | 3D 銑 (3D milling)    |
| DRD0405            | 14                               | 110                                                                           | 8700~9200                             | 1000~1200                | 0.05~0.1                     | 0.05~0.1                     | 3D 銑 (3D milling)    |
| DRD0505            | 17                               | 90                                                                            | 5800~6400                             | 800~1000                 | 0.12~0.17                    | 3~5                          | 溝銑 (Slotting)        |
| DRD0505            | 17                               | 115                                                                           | 7200~7600                             | 1000~1200                | 0.05~0.1                     | 3~5                          | 溝銑 (Slotting)        |
| DRD0505            | 17                               | 85                                                                            | 5400~6000                             | 800~1000                 | 5~10                         | 0.12~0.17                    | 側銑 (Side milling)    |
| DRD0505            | 17                               | 90                                                                            | 5800~6400                             | 600~800                  | 5~10                         | 0.05~0.1                     | 側銑 (Side milling)    |
| DRD0505            | 17                               | 130                                                                           | 8000~8500                             | 800~1200                 | 0.12~0.17                    | 0.12~0.17                    | 3D 銑 (3D milling)    |
| DRD0505            | 17                               | 130                                                                           | 8000~8500                             | 1000~1400                | 0.05~0.1                     | 0.05~0.1                     | 3D 銑 (3D milling)    |
| DRD0510            | 17                               | 90                                                                            | 5800~6400                             | 800~1000                 | 0.12~0.17                    | 2~5                          | 溝銑 (Slotting)        |
| DRD0510            | 17                               | 115                                                                           | 7200~7600                             | 1000~1200                | 0.05~0.1                     | 2~5                          | 溝銑 (Slotting)        |
| DRD0510            | 17                               | 85                                                                            | 5400~6000                             | 800~1000                 | 5~10                         | 0.12~0.17                    | 側銑 (Side milling)    |
| DRD0510            | 17                               | 90                                                                            | 5800~6400                             | 600~800                  | 5~10                         | 0.05~0.1                     | 側銑 (Side milling)    |
| DRD0510            | 17                               | 130                                                                           | 8000~8500                             | 800~1200                 | 0.12~0.17                    | 0.12~0.17                    | 3D 銑 (3D milling)    |
| DRD0510            | 17                               | 130                                                                           | 8000~8500                             | 1000~1400                | 0.05~0.1                     | 0.05~0.1                     | 3D 銑 (3D milling)    |
| DRD0605            | 20                               | 90                                                                            | 4800~5400                             | 1000~1400                | 0.15~0.2                     | 4~6                          | 溝銑 (Slotting)        |
| DRD0605            | 20                               | 115                                                                           | 6000~6400                             | 1200~1400                | 0.05~0.1                     | 4~6                          | 溝銑 (Slotting)        |
| DRD0605            | 20                               | 85                                                                            | 4500~5000                             | 800~1000                 | 6~12                         | 0.15~0.2                     | 側銑 (Side milling)    |
| DRD0605            | 20                               | 90                                                                            | 4800~5200                             | 600~800                  | 6~12                         | 0.05~0.1                     | 側銑 (Side milling)    |
| DRD0605            | 20                               | 160                                                                           | 8500~9000                             | 1000~1400                | 0.15~0.2                     | 0.15~0.2                     | 3D 銑 (3D milling)    |
| DRD0605            | 20                               | 160                                                                           | 8500~9000                             | 1400~1800                | 0.05~0.1                     | 0.05~0.1                     | 3D 銑 (3D milling)    |

## DRD

切削條件表 MILLING CONDITIONS

| 被切削材 Work Material |                                  | 調質鋼 / 預硬鋼: Prehardened Steels<br>NAK80 : 1.2083 : AISI420 : M310 (HRC 36~45) |                                       |                          |                              |                              |                      |
|--------------------|----------------------------------|------------------------------------------------------------------------------|---------------------------------------|--------------------------|------------------------------|------------------------------|----------------------|
| 冷卻方式 Coolant Type  |                                  | 乾式切削 Dry coolant                                                             |                                       |                          |                              |                              |                      |
| 型號<br>Type NO.     | 刀具伸長量<br>Extension<br>Length(mm) | 切削速度<br>Cutting<br>Speed(m/min)                                              | 迴轉速度<br>Speed<br>(min <sup>-1</sup> ) | 進給速度<br>Feed<br>(mm/min) | 加工深度<br>(Aa)<br>Depth of Cut | 加工寬度<br>(Ap)<br>Width of Cut | 加工方式<br>Milling Type |
| DRD0610            | 20                               | 90                                                                           | 4800~5400                             | 1000~1400                | 0.15~0.2                     | 3~6                          | 溝銑 (Slotting)        |
| DRD0610            | 20                               | 115                                                                          | 6000~6400                             | 1200~1400                | 0.05~0.1                     | 3~6                          | 溝銑 (Slotting)        |
| DRD0610            | 20                               | 85                                                                           | 4500~5000                             | 800~1000                 | 6~12                         | 0.15~0.2                     | 側銑 (Side milling)    |
| DRD0610            | 20                               | 90                                                                           | 4800~5200                             | 600~800                  | 6~12                         | 0.05~0.1                     | 側銑 (Side milling)    |
| DRD0610            | 20                               | 160                                                                          | 8500~9000                             | 1000~1400                | 0.15~0.2                     | 0.15~0.2                     | 3D 銑 (3D milling)    |
| DRD0610            | 20                               | 160                                                                          | 8500~9000                             | 1400~1800                | 0.05~0.1                     | 0.05~0.1                     | 3D 銑 (3D milling)    |
| DRD0805            | 30                               | 100                                                                          | 4000~4500                             | 700~1000                 | 0.2~0.25                     | 6~8                          | 溝銑 (Slotting)        |
| DRD0805            | 30                               | 140                                                                          | 5500~6000                             | 800~1000                 | 0.06~0.11                    | 6~8                          | 溝銑 (Slotting)        |
| DRD0805            | 30                               | 90                                                                           | 3500~4000                             | 700~900                  | 8~16                         | 0.2~0.25                     | 側銑 (Side milling)    |
| DRD0805            | 30                               | 90                                                                           | 3500~4000                             | 600~800                  | 8~16                         | 0.06~0.11                    | 側銑 (Side milling)    |
| DRD0805            | 30                               | 100                                                                          | 4000~4500                             | 1400~1800                | 0.2~0.25                     | 0.2~0.25                     | 3D 銑 (3D milling)    |
| DRD0805            | 30                               | 185                                                                          | 7200~7700                             | 1200~1600                | 0.06~0.11                    | 0.06~0.11                    | 3D 銑 (3D milling)    |
| DRD0810            | 30                               | 100                                                                          | 4000~4500                             | 700~1000                 | 0.2~0.25                     | 5~8                          | 溝銑 (Slotting)        |
| DRD0810            | 30                               | 140                                                                          | 5500~6000                             | 800~1000                 | 0.06~0.11                    | 5~8                          | 溝銑 (Slotting)        |
| DRD0810            | 30                               | 90                                                                           | 3500~4000                             | 700~900                  | 8~16                         | 0.2~0.25                     | 側銑 (Side milling)    |
| DRD0810            | 30                               | 90                                                                           | 3500~4000                             | 600~800                  | 8~16                         | 0.06~0.11                    | 側銑 (Side milling)    |
| DRD0810            | 30                               | 100                                                                          | 4000~4500                             | 1400~1800                | 0.2~0.25                     | 0.2~0.25                     | 3D 銑 (3D milling)    |
| DRD0810            | 30                               | 185                                                                          | 7200~7700                             | 1200~1600                | 0.06~0.11                    | 0.06~0.11                    | 3D 銑 (3D milling)    |
| DRD1010            | 35                               | 100                                                                          | 3200~3600                             | 800~1100                 | 0.2~0.3                      | 7~10                         | 溝銑 (Slotting)        |
| DRD1010            | 35                               | 140                                                                          | 4400~4800                             | 800~1000                 | 0.05~0.12                    | 7~10                         | 溝銑 (Slotting)        |
| DRD1010            | 35                               | 90                                                                           | 2800~3200                             | 700~1000                 | 10~20                        | 0.2~0.3                      | 側銑 (Side milling)    |
| DRD1010            | 35                               | 90                                                                           | 2800~3200                             | 600~800                  | 10~20                        | 0.05~0.12                    | 側銑 (Side milling)    |
| DRD1010            | 35                               | 100                                                                          | 3200~3600                             | 1400~1800                | 0.2~0.3                      | 0.2~0.3                      | 3D 銑 (3D milling)    |
| DRD1010            | 35                               | 185                                                                          | 5800~6200                             | 1200~1600                | 0.05~0.12                    | 0.05~0.12                    | 3D 銑 (3D milling)    |
| DRD1020            | 35                               | 100                                                                          | 3200~3600                             | 800~1100                 | 0.2~0.3                      | 5~10                         | 溝銑 (Slotting)        |
| DRD1020            | 35                               | 140                                                                          | 4400~4800                             | 800~1000                 | 0.05~0.12                    | 5~10                         | 溝銑 (Slotting)        |
| DRD1020            | 35                               | 90                                                                           | 2800~3200                             | 700~1000                 | 10~20                        | 0.2~0.3                      | 側銑 (Side milling)    |
| DRD1020            | 35                               | 90                                                                           | 2800~3200                             | 600~800                  | 10~20                        | 0.05~0.12                    | 側銑 (Side milling)    |
| DRD1020            | 35                               | 100                                                                          | 3200~3600                             | 1400~1800                | 0.2~0.3                      | 0.2~0.3                      | 3D 銑 (3D milling)    |
| DRD1020            | 35                               | 185                                                                          | 5800~6200                             | 1200~1600                | 0.05~0.12                    | 0.05~0.12                    | 3D 銑 (3D milling)    |

# DRD

## 切削條件表 MILLING CONDITIONS

| 被切削材 Work Material |                                  | 調質鋼 / 預硬鋼 : Prehardened Steels<br>NAK80 : 1.2083 : AISI420 : M310 (HRC 36~45) |                                       |                          |                              |                              |                      |
|--------------------|----------------------------------|-------------------------------------------------------------------------------|---------------------------------------|--------------------------|------------------------------|------------------------------|----------------------|
| 冷卻方式 Coolant Type  |                                  | 乾式切削 Dry coolant                                                              |                                       |                          |                              |                              |                      |
| 型號<br>Type NO.     | 刀具伸長量<br>Extension<br>Length(mm) | 切削速度<br>Cutting<br>Speed(m/min)                                               | 迴轉速度<br>Speed<br>(min <sup>-1</sup> ) | 進給速度<br>Feed<br>(mm/min) | 加工深度<br>(Aa)<br>Depth of Cut | 加工寬度<br>(Ap)<br>Width of Cut | 加工方式<br>Milling Type |
| DRD1030            | 35                               | 100                                                                           | 3200~3600                             | 800~1100                 | 0.2~0.3                      | 3~10                         | 溝銑 (Slotting)        |
| DRD1030            | 35                               | 140                                                                           | 4400~4800                             | 800~1000                 | 0.05~0.12                    | 3~10                         | 溝銑 (Slotting)        |
| DRD1030            | 35                               | 90                                                                            | 2800~3200                             | 700~1000                 | 10~20                        | 0.2~0.3                      | 側銑 (Side milling)    |
| DRD1030            | 35                               | 90                                                                            | 2800~3200                             | 600~800                  | 10~20                        | 0.05~0.12                    | 側銑 (Side milling)    |
| DRD1030            | 35                               | 100                                                                           | 3200~3600                             | 1400~1800                | 0.2~0.3                      | 0.2~0.3                      | 3D 銑 (3D milling)    |
| DRD1030            | 35                               | 185                                                                           | 5800~6200                             | 1200~1600                | 0.05~0.12                    | 0.05~0.12                    | 3D 銑 (3D milling)    |
| DRD1210            | 40                               | 90                                                                            | 2400~2800                             | 800~1000                 | 0.2~0.3                      | 9~12                         | 溝銑 (Slotting)        |
| DRD1210            | 40                               | 145                                                                           | 3800~4200                             | 1200~1400                | 0.1~0.15                     | 9~12                         | 溝銑 (Slotting)        |
| DRD1210            | 40                               | 70                                                                            | 1800~2200                             | 600~800                  | 12~24                        | 0.2~0.3                      | 側銑 (Side milling)    |
| DRD1210            | 40                               | 75                                                                            | 1900~2300                             | 400~600                  | 12~24                        | 0.1~0.15                     | 側銑 (Side milling)    |
| DRD1210            | 40                               | 150                                                                           | 4000~4400                             | 1200~1400                | 0.2~0.3                      | 0.2~0.3                      | 3D 銑 (3D milling)    |
| DRD1210            | 40                               | 180                                                                           | 4700~5200                             | 1200~1600                | 0.1~0.15                     | 0.1~0.15                     | 3D 銑 (3D milling)    |
| DRD1220            | 40                               | 90                                                                            | 2400~2800                             | 800~1000                 | 0.25~0.3                     | 7~12                         | 溝銑 (Slotting)        |
| DRD1220            | 40                               | 145                                                                           | 3800~4200                             | 1200~1400                | 0.1~0.15                     | 7~12                         | 溝銑 (Slotting)        |
| DRD1220            | 40                               | 70                                                                            | 1800~2200                             | 600~800                  | 12~24                        | 0.25~0.3                     | 側銑 (Side milling)    |
| DRD1220            | 40                               | 75                                                                            | 1900~2300                             | 400~600                  | 12~24                        | 0.1~0.15                     | 側銑 (Side milling)    |
| DRD1220            | 40                               | 150                                                                           | 4000~4400                             | 1200~1400                | 0.25~0.3                     | 0.25~0.3                     | 3D 銑 (3D milling)    |
| DRD1220            | 40                               | 180                                                                           | 4700~5200                             | 1200~1600                | 0.1~0.15                     | 0.1~0.15                     | 3D 銑 (3D milling)    |
| DRD1230            | 40                               | 90                                                                            | 2400~2800                             | 800~1000                 | 0.25~0.3                     | 5~12                         | 溝銑 (Slotting)        |
| DRD1230            | 40                               | 145                                                                           | 3800~4200                             | 1200~1400                | 0.1~0.15                     | 5~12                         | 溝銑 (Slotting)        |
| DRD1230            | 40                               | 70                                                                            | 1800~2200                             | 600~800                  | 12~24                        | 0.25~0.3                     | 側銑 (Side milling)    |
| DRD1230            | 40                               | 75                                                                            | 1900~2300                             | 400~600                  | 12~24                        | 0.1~0.15                     | 側銑 (Side milling)    |
| DRD1230            | 40                               | 150                                                                           | 4000~4400                             | 1200~1400                | 0.25~0.3                     | 0.25~0.3                     | 3D 銑 (3D milling)    |
| DRD1230            | 40                               | 180                                                                           | 4700~5200                             | 1200~1600                | 0.1~0.15                     | 0.1~0.15                     | 3D 銑 (3D milling)    |