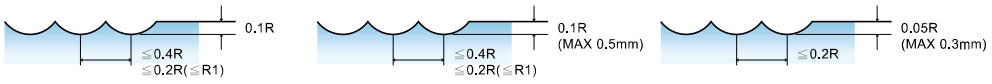
產品規格表 P275
Specification page

• KTGS 2 Flutes Standard Cutting Conditions 標準標準切削

Work material 被削材	Alloy steels, Tool steels, Prehardened steels, SCM, SKD61, SKD11, NAK, AISI H3 ,AISI D2 ect. 合金鋼、工具鋼、預硬鋼 ~HRC45					Hardened steels, SKD61, SKD11, STAVAX, AISI H13 ect. 調質鋼 HRC45~55				Hardened steels, SKD11, SKH, SKS, ASP23, AISI H13 ect. 調質鋼 HRC55~62			
R (mm) 球頭半徑	Inclination of Machining Surface 加工面傾斜角	Speed (min^{-1}) 迴轉速度	Feed (mm/min) 進給速度	切削量 (mm) Pf Pick feed	切削量 (mm) Ad Milling Amount	Speed (min^{-1}) 迴轉速度	Feed (mm/min) 進給速度	切削量 (mm) Pf Pick feed	切削量 (mm) Ad Milling Amount	Speed (min^{-1}) 迴轉速度	Feed (mm/min) 進給速度	切削量 (mm) Pf Pick feed	切削量 (mm) Ad Milling Amount
D0.5R	α ≦15°	40000	3120	≦0.2R	≦0.1R	35000	2340	≦0.2R	≦0.1R	21000	1300	≦0.2R	≦0.05R
	α >15°	35000	2080	≦0.2R	≦0.1R	30000	1430	≦0.2R	≦0.1R	15000	740	≦0.2R	≦0.05R
D0.75R	α ≦15°	40000	3900	≦0.2R	≦0.1R	30000	2470	≦0.2R	≦0.1R	14000	1160	≦0.2R	≦0.05R
	α >15°	30000	2210	≦0.4R	≦0.1R	25000	1560	≦0.4R	≦0.1R	10000	610	≦0.2R	≦0.05R
D1R	α ≦15°	35000	3900	≦0.4R	≦0.1R	25000	2340	≦0.4R	≦0.1R	11000	1040	≦0.2R	≦0.05R
	α >15°	25000	2210	≦0.4R	≦0.1R	20000	1430	≦0.4R	≦0.1R	8000	560	≦0.2R	≦0.05R
D1.25R	α ≦15°	33000	3900	≦0.4R	≦0.1R	22000	2210	≦0.4R	≦0.1R	9300	920	≦0.2R	≦0.05R
	α >15°	24000	2210	≦0.4R	≦0.1R	17000	1300	≦0.4R	≦0.1R	6500	480	≦0.2R	≦0.05R
D1.5R	α ≦15°	30000	3900	≦0.4R	≦0.1R	20000	2210	≦0.4R	≦0.1R	8000	870	≦0.2R	≦0.05R
	α >15°	23000	2210	≦0.4R	≦0.1R	15000	1300	≦0.4R	≦0.1R	5600	450	≦0.2R	≦0.05R
D2R	α ≦15°	25000	3900	≦0.4R	≦0.1R	17000	2210	≦0.4R	≦0.1R	6400	830	≦0.2R	≦0.05R
	α >15°	20000	2210	≦0.4R	≦0.1R	13000	1300	≦0.4R	≦0.1R	4500	440	≦0.2R	≦0.05R
D2.5R	α ≦15°	23000	3900	≦0.4R	≦0.1R	15000	2210	≦0.4R	≦0.1R	5000	710	≦0.2R	≦0.05R
	α >15°	17000	2210	≦0.4R	≦0.1R	11000	1300	≦0.4R	≦0.1R	3500	380	≦0.2R	≦0.05R
D3R	α ≦15°	20000	3900	≦0.4R	≦0.1R	13000	2210	≦0.4R	≦0.1R	4200	690	≦0.2R	≦0.05R
	α >15°	15000	2210	≦0.4R	≦0.1R	10000	1300	≦0.4R	≦0.1R	2900	350	≦0.2R	≦0.05R
D4R	α ≦15°	15000	3900	≦0.4R	≦0.1R	10000	2210	≦0.4R	≦0.1R	3200	700	≦0.2R	≦0.05R
	α >15°	11000	2210	≦0.4R	≦0.1R	7500	1300	≦0.4R	≦0.1R	2200	360	≦0.2R	≦0.05R
D5R	α ≦15°	12000	3770	≦0.4R	≦0.1R	8000	2080	≦0.4R	≦0.1R	2500	660	≦0.2R	≦0.05R
	α >15°	9000	2080	≦0.4R	≦0.1R	6000	1170	≦0.4R	≦0.1R	1800	350	≦0.2R	≦0.05R
D6R	α ≦15°	10000	3250	≦0.4R	≦0.1R	6600	1820	≦0.4R	≦0.1R	2100	570	≦0.2R	≦0.05R
	α >15°	7500	1820	≦0.4R	≦0.1R	5000	1040	≦0.4R	≦0.1R	1500	300	≦0.2R	≦0.05R
Depth of cut 加工深度													

▲ Caution

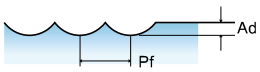
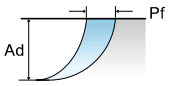
1. α is the inclination of machining surface.
2. If the rigidity of the machine or the work material installation is very low, or chattering and noise are generated, please reduce the revolutin and the feed rate propotionately.
3. Cutting condition may be considerably different due to the overhang(milling depth and neck length),depth of cut, and machine tools.
4. If the depth of cut is shallow, the revolution and feed rate can be incerased.

▲ 注意事項

1. α 為加工面的傾斜角。
2. 機械設備或工件的夾持剛性不足、出現震動或異常聲音時，請以相同比例按上表降低迴轉數及進給速度。此外，重視加工精度時，建議降低進給速度。
3. 有時候切削條件會因為刀具伸出長度、材料、機械設備的差異性而需要做調整，上表僅供一般情況參考用。
4. 切削深度較小時，可以提高迴轉數及進給速度。

Unit/單位: mm

• KTGS 2 Flutes High Speed Milling Conditions 高速標準切削

Work material 被削材	Alloy steels, Tool steels, Prehardened steels, SCM, SKD61, SKD11, NAK, AISI H3 ,AISI D2 ect. 合金鋼、工具鋼、預硬鋼 ~HRC45					Hardened steels, SKD61, SKD11, STAVAX, AISI H13 ect. 調質鋼 HRC45~55				Hardened steels, SKD11, SKH, SKS, ASP23, AISI H13 ect. 調質鋼 HRC55~62			
R (mm) 球頭半徑	Cutting Way 加工方式	Speed (min^{-1}) 迴轉速度	Feed (mm/min) 進給速度	切削量 (mm)		Speed (min^{-1}) 迴轉速度	Feed (mm/min) 進給速度	切削量 (mm)		Speed (min^{-1}) 迴轉速度	Feed (mm/min) 進給速度	切削量 (mm)	
				Pf Pick feed	Ad Milling Amount			Pf Pick feed	Ad Milling Amount			Pf Pick feed	Ad Milling Amount
D0.5R	粗 (R)	40000	3120	0.2	0.05	40000	2470	0.15	0.04	30000	1560	0.1	0.03
	精 (F)	40000	3900	0.1	0.05	40000	3120	0.8	0.04	30000	1950	0.6	0.03
D1R	粗 (R)	40000	6240	0.2	0.2	40000	4940	0.2	0.15	20000	2080	0.15	0.12
	精 (F)	40000	7800	0.2	0.1	40000	6240	0.1	0.1	20000	2600	0.1	0.06
D2R	粗 (R)	30000	6240	0.4	0.3	30000	4940	0.3	0.2	20000	2470	0.25	0.15
	精 (F)	30000	7800	0.2	0.15	30000	6240	0.2	0.1	20000	3120	0.2	0.1
D3R	粗 (R)	20000	5200	0.6	0.4	20000	4160	0.5	0.3	16000	2470	0.3	0.2
	精 (F)	20000	6500	0.2	0.2	20000	5200	0.2	0.2	16000	3120	0.2	0.2
D4R	粗 (R)	16000	4940	1	0.8	16000	3900	0.8	0.6	10000	1820	0.7	0.5
	精 (F)	16000	6240	0.2	0.2	16000	4940	0.2	0.2	10000	2340	0.2	0.2
D5R	粗 (R)	12000	4680	2	1	12000	3640	1	0.8	8000	1560	1	0.7
	精 (F)	12000	5850	0.3	0.3	12000	4680	0.2	0.2	8000	2080	0.2	0.2
D6R	粗 (R)	10000	3900	3	1.2	10000	3120	1.5	1.2	6400	1248	1.5	1
	精 (F)	10000	4870	0.3	0.3	10000	3900	0.2	0.2	6400	1560	0.2	0.2
Depth of cut 加工深度	 												

▲ Caution

1. α is the inclination of machining surface.
2. If the rigidity of the machine or the work material installation is very low, or chattering and noise are generated, please reduce the revolutin and the feed rate propotionately.
3. Cutting condition may be considerably different due to the overhang(milling depth and neck length),depth of cut, and machine tools.
4. If the depth of cut is shallow, the revolution and feed rate can be incerased.

▲ 注意事項

1. α 為加工面的傾斜角。
2. 機械設備或工件的夾持剛性不足、出現震動或異常聲音時，請以相同比例按上表降低迴轉數及進給速度。此外，重視加工精度時，建議降低進給速度。
3. 有時候切削條件會因為刀具伸出長度、材料、機械設備的差異性而需要做調整，上表僅供一般情況參考用。
4. 切削深度較小時，可以提高迴轉數及進給速度。

Unit/單位: mm

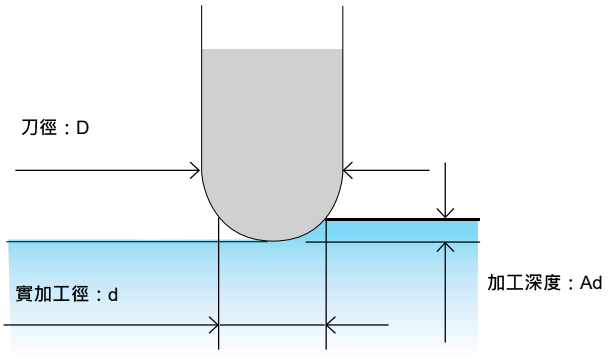
產品規格表 P275
Specification page

• KTGS 2 Flutes Ball End Milling Actual Diameter 球型銑刀實際加工直徑速查表

R R半徑	D 刀徑	Depth of cut (mm) 加工深度														
Radius	Dia	0.01	0.02	0.03	0.04	0.05	0.08	0.1	0.15	0.2	0.3	0.5	0.8	1	2	3
0.1	0.2	0.087	0.12	0.143	0.16	0.173	0.196	0.2								
0.2	0.4	0.125	0.174	0.211	0.24	0.265	0.32	0.35	0.39	0.4						
0.3	0.6	0.154	0.215	0.262	0.299	0.332	0.41	0.45	0.52	0.57	0.6					
0.4	0.8	0.178	0.25	0.304	0.349	0.387	0.48	0.53	0.62	0.69	0.77					
0.5	1	0.199	0.28	0.341	0.392	0.436	0.54	0.6	0.71	0.8	0.92	1				
1	2	0.282	0.398	0.486	0.56	0.624	0.78	0.87	1.05	1.2	1.43	1.73	1.96	2		
1.5	3	0.346	0.488	0.597	0.688	0.768	0.97	1.08	1.31	1.5	1.8	2.24	2.65	2.83		
2	4	0.399	0.564	0.69	0.796	0.889	1.12	1.25	1.52	1.74	2.11	2.65	3.2	3.46	4	
2.5	5	0.447	0.631	0.722	0.891	0.995	1.25	1.4	1.71	1.96	2.37	3	3.67	4	4.9	
3	6	0.489	0.692	0.846	0.977	1.091	1.38	1.54	1.87	2.15	2.62	3.32	4.08	4.47	5.66	6
4	8	0.565	0.799	0.978	1.129	1.261	1.59	1.78	2.17	2.5	3.04	3.87	4.8	5.29	6.93	7.75
5	10	0.632	0.894	1.094	1.262	1.411	1.78	1.99	2.43	2.8	3.41	4.36	5.43	6	8	9.17
6	12	0.693	0.979	1.198	1.383	1.546	1.95	2.18	2.67	3.07	3.75	4.8	5.99	6.63	8.94	10.39
7	14	0.748	1.058	1.295	1.495	1.67	2.11	2.36	2.88	3.32	4.05	5.2	6.5	7.21	9.8	11.49
8	16	0.8	1.131	1.384	1.598	1.786	2.26	2.52	3.08	3.56	4.34	5.57	6.97	7.75	10.58	12.49
9	18	0.848	1.199	1.468	1.695	1.895	2.39	2.68	3.27	3.77	4.61	5.92	7.42	8.25	11.31	13.42
10	20	0.894	1.264	1.548	1.787	1.997	2.52	2.82	3.45	3.98	4.86	6.24	7.84	8.72	12	14.28

Caculation of Actual Dia

$$d=2\sqrt{Ad\ (\ D-Ad\ )}$$



Unit/單位: mm