

超硬製品

Tungsten Carbide

超硬ドリル

Carbide Drill

超硬 エンドミル

Carbide Endmill

超硬 カッター

Carbide Cutter

超硬 リーマ

Carbide Reamer

KDRA-OH

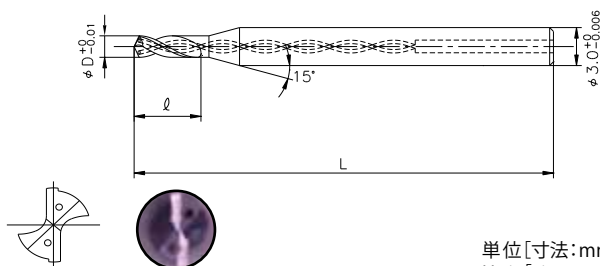
超硬油穴付ルーマ型ドリル・TiSiコーティング付
Tungsten Carbide 2 Flutes Micro Drill TiSi Coating

- 中空穴仕様で、給油性が向上します
Hollow hole specification improves oil supply.
- 切粉の排出性を向上させる事が可能です
Chip evacuation can be improved
- 耐溶着性に効果があります
Effective in welding resistance
- TiSiコーティングを施しました
TiSi coating is applied.



被削材 Workpiece			
一般構造鋼 General Structural Steel	炭素鋼 Carbon Steel	合金鋼・工具鋼 Alloy Steel Tool Steel	ステンレス鋼 Ceramics

- 切削条件表はP94に記載
●Cutting conditions are recommended on page 94.



単位 [寸法:mm]
Unit [size:mm]

品番 Code No.	刃径 D Flute Diameter	溝長 ℓ Groove length	全長 L Total Length	柄径 Shank Diameter
KDRA-OH-205003	0.5	3	50	3
KDRA-OH-205006	0.5	6	50	3
KDRA-OH-205012	0.5	12	50	3
KDRA-OH-205503	0.55	3	50	3
KDRA-OH-205506	0.55	6	50	3
KDRA-OH-205512	0.55	12	50	3
KDRA-OH-206003	0.6	3	50	3
KDRA-OH-206006	0.6	6	50	3
KDRA-OH-206012	0.6	12	50	3
KDRA-OH-206503	0.65	3	50	3
KDRA-OH-206506	0.65	6	50	3
KDRA-OH-206512	0.65	12	50	3
KDRA-OH-207004	0.7	4	50	3
KDRA-OH-207008	0.7	8	50	3
KDRA-OH-207015	0.7	15	50	3
KDRA-OH-207504	0.75	4	50	3
KDRA-OH-207508	0.75	8	50	3
KDRA-OH-207515	0.75	15	50	3
KDRA-OH-208004	0.8	4	50	3
KDRA-OH-208008	0.8	8	50	3
KDRA-OH-208015	0.8	15	50	3
KDRA-OH-208504	0.85	4	50	3
KDRA-OH-208508	0.85	8	50	3
KDRA-OH-208515	0.85	15	50	3
KDRA-OH-209004	0.9	4	50	3
KDRA-OH-209008	0.9	8	50	3
KDRA-OH-209015	0.9	15	50	3
KDRA-OH-209504	0.95	4	50	3
KDRA-OH-209508	0.95	8	50	3
KDRA-OH-209515	0.95	15	50	3

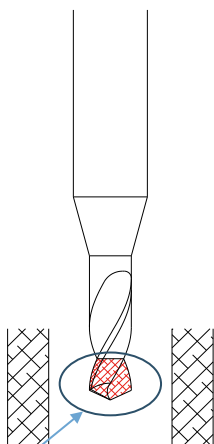
品番 Code No.	刃径 D Flute Diameter	溝長 ℓ Groove length	全長 L Total Length	柄径 Shank Diameter
KDRA-OH-210005	1	5	50	3
KDRA-OH-210010	1	10	50	3
KDRA-OH-210020	1	20	60	3
KDRA-OH-210505	1.05	5	50	3
KDRA-OH-210510	1.05	10	50	3
KDRA-OH-210520	1.05	20	60	3
KDRA-OH-211005	1.1	5	50	3
KDRA-OH-211010	1.1	10	50	3
KDRA-OH-211020	1.1	20	60	3
KDRA-OH-211505	1.15	5	50	3
KDRA-OH-211510	1.15	10	50	3
KDRA-OH-211520	1.15	20	60	3
KDRA-OH-212005	1.2	5	50	3
KDRA-OH-212010	1.2	10	50	3
KDRA-OH-212020	1.2	20	60	3
KDRA-OH-212505	1.25	5	50	3
KDRA-OH-212510	1.25	10	50	3
KDRA-OH-212520	1.25	20	60	3
KDRA-OH-213005	1.3	5	50	3
KDRA-OH-213010	1.3	10	50	3
KDRA-OH-213020	1.3	20	60	3
KDRA-OH-213505	1.35	5	50	3
KDRA-OH-213510	1.35	10	50	3
KDRA-OH-213520	1.35	20	60	3
KDRA-OH-214005	1.4	5	50	3
KDRA-OH-214010	1.4	10	50	3
KDRA-OH-214020	1.4	20	60	3
KDRA-OH-214505	1.45	5	50	3
KDRA-OH-214510	1.45	10	50	3
KDRA-OH-214520	1.45	20	60	3

KDRA-OH

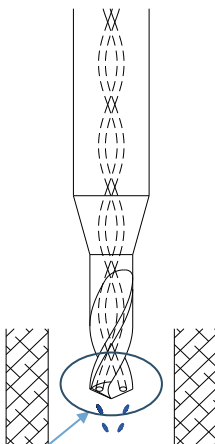
品番 Code No.	刃径 D Flute Diameter	溝長 ℓ Groove length	全長 L Total Length	柄径 Shank Diameter
KDRA-OH-215005	1.5	5	50	3
KDRA-OH-215010	1.5	10	50	3
KDRA-OH-215020	1.5	20	60	3
KDRA-OH-215505	1.55	5	50	3
KDRA-OH-215510	1.55	10	50	3
KDRA-OH-215520	1.55	20	60	3
KDRA-OH-216005	1.6	5	50	3
KDRA-OH-216010	1.6	10	50	3
KDRA-OH-216020	1.6	20	60	3
KDRA-OH-216505	1.65	5	50	3
KDRA-OH-216510	1.65	10	50	3
KDRA-OH-216520	1.65	20	60	3
KDRA-OH-217005	1.7	5	50	3
KDRA-OH-217010	1.7	10	50	3
KDRA-OH-217020	1.7	20	60	3
KDRA-OH-217505	1.75	5	50	3
KDRA-OH-217510	1.75	10	50	3

品番 Code No.	刃径 D Flute Diameter	溝長 ℓ Groove length	全長 L Total Length	柄径 Shank Diameter
KDRA-OH-217520	1.75	20	60	3
KDRA-OH-218005	1.8	5	50	3
KDRA-OH-218010	1.8	10	50	3
KDRA-OH-218020	1.8	20	60	3
KDRA-OH-218505	1.85	5	50	3
KDRA-OH-218510	1.85	10	50	3
KDRA-OH-218520	1.85	20	60	3
KDRA-OH-219005	1.9	5	50	3
KDRA-OH-219010	1.9	10	50	3
KDRA-OH-219020	1.9	20	60	3
KDRA-OH-219505	1.95	5	50	3
KDRA-OH-219510	1.95	10	50	3
KDRA-OH-219520	1.95	20	60	3
KDRA-OH-220005	2	5	50	3
KDRA-OH-220010	2	10	50	3
KDRA-OH-220020	2	20	60	3

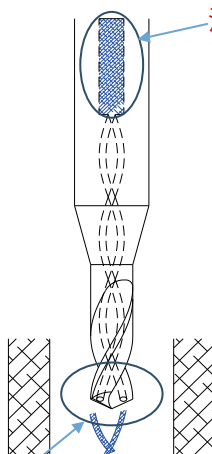
通常ドリル



従来油穴付ドリル



KDRA-OH



POINT

- 中空穴仕様で、給油性が向上します
- 工具を冷却する事により、劣化と破損を抑えられます
- 切粉の排出性を向上させる事が可能です
- 耐溶着性に効果があります
- 送り速度を向上させる事ができます

KDR-F-OH

超硬油穴付ルーマ型ドリル フラット Tungsten Carbide 2 Flutes Micro Drill

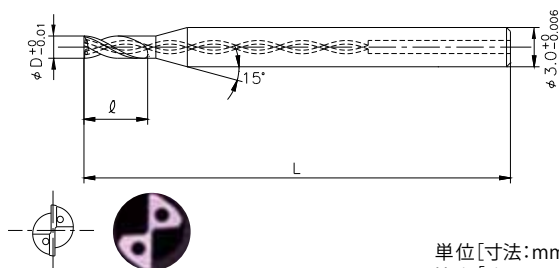
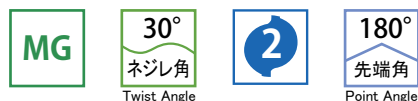
- 中空穴仕様で、給油性が向上します
Hollow hole specification improves oil supply.
- 切粉の排出性を向上させる事が可能です
Chip evacuation can be improved
- 耐溶着性に効果があります
Effective in welding resistance
- 抜けバリ対策、傾斜面の加工向けに先端をフラットにしました
Flattened tip for deburring and machining of inclined surface



被削材 Workpiece					
一般構造鋼 General Structural Steel	炭素鋼 Carbon Steel	合金鋼・工具鋼 Alloy Steel Tool Steel	ステンレス鋼 Stainless Steel	アルミ合金 Aluminum Alloy	樹脂 Resin
○	○	○	○	○	○

- 切削条件表はP94に記載
●Cutting conditions are recommended on page 94.

品番 Code No.	刃径 D Flute Diameter	溝長 ℓ Groove length	全長 L Total Length	柄径 Shank Diameter
KDR-F-OH-205003	0.5	3	50	3
KDR-F-OH-205006	0.5	6	50	3
KDR-F-OH-205012	0.5	12	50	3
KDR-F-OH-205503	0.55	3	50	3
KDR-F-OH-205506	0.55	6	50	3
KDR-F-OH-205512	0.55	12	50	3
KDR-F-OH-206003	0.6	3	50	3
KDR-F-OH-206006	0.6	6	50	3
KDR-F-OH-206012	0.6	12	50	3
KDR-F-OH-206503	0.65	3	50	3
KDR-F-OH-206506	0.65	6	50	3
KDR-F-OH-206512	0.65	12	50	3
KDR-F-OH-207004	0.7	4	50	3
KDR-F-OH-207008	0.7	8	50	3
KDR-F-OH-207015	0.7	15	50	3
KDR-F-OH-207504	0.75	4	50	3
KDR-F-OH-207508	0.75	8	50	3
KDR-F-OH-207515	0.75	15	50	3
KDR-F-OH-208004	0.8	4	50	3
KDR-F-OH-208008	0.8	8	50	3
KDR-F-OH-208015	0.8	15	50	3
KDR-F-OH-208504	0.85	4	50	3
KDR-F-OH-208508	0.85	8	50	3
KDR-F-OH-208515	0.85	15	50	3
KDR-F-OH-209004	0.9	4	50	3
KDR-F-OH-209008	0.9	8	50	3
KDR-F-OH-209015	0.9	15	50	3
KDR-F-OH-209504	0.95	4	50	3
KDR-F-OH-209508	0.95	8	50	3
KDR-F-OH-209515	0.95	15	50	3



単位 [寸法: mm]
Unit [size: mm]

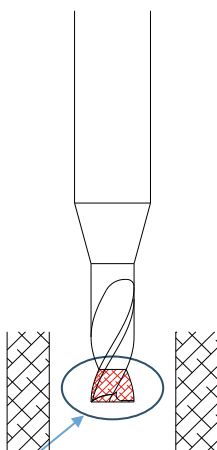
品番 Code No.	刃径 D Flute Diameter	溝長 ℓ Groove length	全長 L Total Length	柄径 Shank Diameter
KDR-F-OH-210005	1	5	50	3
KDR-F-OH-210010	1	10	50	3
KDR-F-OH-210020	1	20	60	3
KDR-F-OH-210505	1.05	5	50	3
KDR-F-OH-210510	1.05	10	50	3
KDR-F-OH-210520	1.05	20	60	3
KDR-F-OH-211005	1.1	5	50	3
KDR-F-OH-211010	1.1	10	50	3
KDR-F-OH-211020	1.1	20	60	3
KDR-F-OH-211505	1.15	5	50	3
KDR-F-OH-211510	1.15	10	50	3
KDR-F-OH-211520	1.15	20	60	3
KDR-F-OH-212005	1.2	5	50	3
KDR-F-OH-212010	1.2	10	50	3
KDR-F-OH-212020	1.2	20	60	3
KDR-F-OH-212505	1.25	5	50	3
KDR-F-OH-212510	1.25	10	50	3
KDR-F-OH-212520	1.25	20	60	3
KDR-F-OH-213005	1.3	5	50	3
KDR-F-OH-213010	1.3	10	50	3
KDR-F-OH-213020	1.3	20	60	3
KDR-F-OH-213505	1.35	5	50	3
KDR-F-OH-213510	1.35	10	50	3
KDR-F-OH-213520	1.35	20	60	3
KDR-F-OH-214005	1.4	5	50	3
KDR-F-OH-214010	1.4	10	50	3
KDR-F-OH-214020	1.4	20	60	3
KDR-F-OH-214505	1.45	5	50	3
KDR-F-OH-214510	1.45	10	50	3
KDR-F-OH-214520	1.45	20	60	3

KDR-F-OH

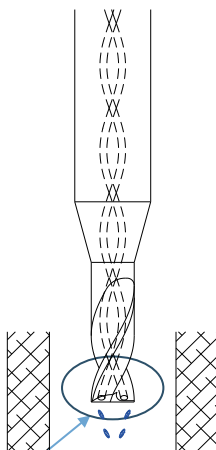
品番 Code No.	刃径 D Flute Diameter	溝長 ℓ Groove length	全長 L Total Length	柄径 Shank Diameter
KDR-F-OH-215005	1.5	5	50	3
KDR-F-OH-215010	1.5	10	50	3
KDR-F-OH-215020	1.5	20	60	3
KDR-F-OH-215505	1.55	5	50	3
KDR-F-OH-215510	1.55	10	50	3
KDR-F-OH-215520	1.55	20	60	3
KDR-F-OH-216005	1.6	5	50	3
KDR-F-OH-216010	1.6	10	50	3
KDR-F-OH-216020	1.6	20	60	3
KDR-F-OH-216505	1.65	5	50	3
KDR-F-OH-216510	1.65	10	50	3
KDR-F-OH-216520	1.65	20	60	3
KDR-F-OH-217005	1.7	5	50	3
KDR-F-OH-217010	1.7	10	50	3
KDR-F-OH-217020	1.7	20	60	3
KDR-F-OH-217505	1.75	5	50	3
KDR-F-OH-217510	1.75	10	50	3

品番 Code No.	刃径 D Flute Diameter	溝長 ℓ Groove length	全長 L Total Length	柄径 Shank Diameter
KDR-F-OH-217520	1.75	20	60	3
KDR-F-OH-218005	1.8	5	50	3
KDR-F-OH-218010	1.8	10	50	3
KDR-F-OH-218020	1.8	20	60	3
KDR-F-OH-218505	1.85	5	50	3
KDR-F-OH-218510	1.85	10	50	3
KDR-F-OH-218520	1.85	20	60	3
KDR-F-OH-219005	1.9	5	50	3
KDR-F-OH-219010	1.9	10	50	3
KDR-F-OH-219020	1.9	20	60	3
KDR-F-OH-219505	1.95	5	50	3
KDR-F-OH-219510	1.95	10	50	3
KDR-F-OH-219520	1.95	20	60	3
KDR-F-OH-220005	2	5	50	3
KDR-F-OH-220010	2	10	50	3
KDR-F-OH-220020	2	20	60	3

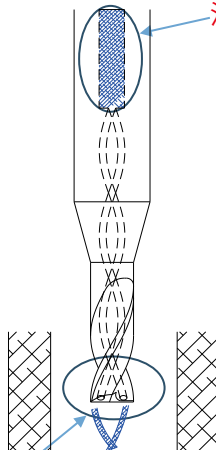
通常ドリル



従来油穴付ドリル



KDR-F-DLC



POINT

- 中空穴仕様で、給油性が向上します
- 工具を冷却する事により、劣化と破損を抑えられます
- 切粉の排出性を向上させる事が可能です
- 耐溶着性に効果があります
- 送り速度を向上させる事ができます

KDRA-OH、KDR-F-OH

切削条件参考

Referential Cutting Conditions

●KDR-F-OHは下記条件の20%減の送り速度を奨励いたします。
KDR-F are encouraged to reduce the feed rate by 20% of the following conditions.

被削材 Workpiece	炭素鋼・一般構造用鋼 Carbon Steel・ General Structural Steel SS・S55C		合金鋼・工具鋼 Alloy Steel・Tool Steel SCM・SKT・SKS・SKD		ステンレス鋼 Stainless Steel SUS303,SUS304,SUS416		アルミニウム合金 Aluminum Alloy ADC・AC	
刃 径 Flute Diameter mm	切削速度 Cutting Speed m/min	送り速度 Feed mm/rev	切削速度 Cutting Speed m/min	送り速度 Feed mm/rev	切削速度 Cutting Speed m/min	送り速度 Feed mm/rev	切削速度 Cutting Speed m/min	送り速度 Feed mm/rev
0.5~0.99	21~42	0.014~0.056	14~35	0.007~0.028	14~28	0.002~0.01	18~48	0.024~0.072
1.0~1.99	28~56	0.005~0.02	21~42	0.014~0.07	16~35	0.005~0.02	24~60	0.048~0.12
2.0	35	0.028	28	0.042	28	0.014	30	0.1
備 考 Remarks	・工具取付時の振れを最小に抑えてください。 ・切削油を使用して下さい。 ・Minimize Run out on fixing tool. ・Use Cutting Oil.							

KDR-DLC-OH

超硬油穴付ルーマ型ドリル・DLCコーティング付
Tungsten Carbide 2 Flutes Micro Drill DLC Coating

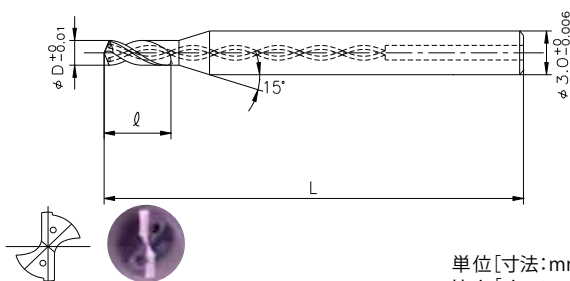
- 中空穴仕様で、給油性が向上します
Hollow hole specification improves oil supply.
- 切粉の排出性を向上させる事が可能です
Chip evacuation can be improved
- 耐溶着性に効果があります
Effective in welding resistance
- DLCコーティングを施しました
DLC coating is applied.



被削材 Workpiece		
アルミ合金 Aluminum Alloy	銅合金 COPPer Alloy	樹脂 Resin

- 切削条件表はP97に記載
- Cutting conditions are recommended on page 97.

品番 Code No.	刃径 D Flute Diameter	溝長 ℓ Groove length	全長 L Total Length	柄径 Shank Diameter
KDR-DLC-OH-205003	0.5	3	50	3
KDR-DLC-OH-205006	0.5	6	50	3
KDR-DLC-OH-205012	0.5	12	50	3
KDR-DLC-OH-205503	0.55	3	50	3
KDR-DLC-OH-205506	0.55	6	50	3
KDR-DLC-OH-205512	0.55	12	50	3
KDR-DLC-OH-206003	0.6	3	50	3
KDR-DLC-OH-206006	0.6	6	50	3
KDR-DLC-OH-206012	0.6	12	50	3
KDR-DLC-OH-206503	0.65	3	50	3
KDR-DLC-OH-206506	0.65	6	50	3
KDR-DLC-OH-206512	0.65	12	50	3
KDR-DLC-OH-207004	0.7	4	50	3
KDR-DLC-OH-207008	0.7	8	50	3
KDR-DLC-OH-207015	0.7	15	50	3
KDR-DLC-OH-207504	0.75	4	50	3
KDR-DLC-OH-207508	0.75	8	50	3
KDR-DLC-OH-207515	0.75	15	50	3
KDR-DLC-OH-208004	0.8	4	50	3
KDR-DLC-OH-208008	0.8	8	50	3
KDR-DLC-OH-208015	0.8	15	50	3
KDR-DLC-OH-208504	0.85	4	50	3
KDR-DLC-OH-208508	0.85	8	50	3
KDR-DLC-OH-208515	0.85	15	50	3
KDR-DLC-OH-209004	0.9	4	50	3
KDR-DLC-OH-209008	0.9	8	50	3
KDR-DLC-OH-209015	0.9	15	50	3
KDR-DLC-OH-209504	0.95	4	50	3
KDR-DLC-OH-209508	0.95	8	50	3
KDR-DLC-OH-209515	0.95	15	50	3



単位 [寸法:mm]
Unit [size:mm]

品番 Code No.	刃径 D Flute Diameter	溝長 ℓ Groove length	全長 L Total Length	柄径 Shank Diameter
KDR-DLC-OH-210005	1	5	50	3
KDR-DLC-OH-210010	1	10	50	3
KDR-DLC-OH-210020	1	20	60	3
KDR-DLC-OH-210505	1.05	5	50	3
KDR-DLC-OH-210510	1.05	10	50	3
KDR-DLC-OH-210520	1.05	20	60	3
KDR-DLC-OH-211005	1.1	5	50	3
KDR-DLC-OH-211010	1.1	10	50	3
KDR-DLC-OH-211020	1.1	20	60	3
KDR-DLC-OH-211505	1.15	5	50	3
KDR-DLC-OH-211510	1.15	10	50	3
KDR-DLC-OH-211520	1.15	20	60	3
KDR-DLC-OH-212005	1.2	5	50	3
KDR-DLC-OH-212010	1.2	10	50	3
KDR-DLC-OH-212020	1.2	20	60	3
KDR-DLC-OH-212505	1.25	5	50	3
KDR-DLC-OH-212510	1.25	10	50	3
KDR-DLC-OH-212520	1.25	20	60	3
KDR-DLC-OH-213005	1.3	5	50	3
KDR-DLC-OH-213010	1.3	10	50	3
KDR-DLC-OH-213020	1.3	20	60	3
KDR-DLC-OH-213505	1.35	5	50	3
KDR-DLC-OH-213510	1.35	10	50	3
KDR-DLC-OH-213520	1.35	20	60	3
KDR-DLC-OH-214005	1.4	5	50	3
KDR-DLC-OH-214010	1.4	10	50	3
KDR-DLC-OH-214020	1.4	20	60	3
KDR-DLC-OH-214505	1.45	5	50	3
KDR-DLC-OH-214510	1.45	10	50	3
KDR-DLC-OH-214520	1.45	20	60	3

超硬ドリル

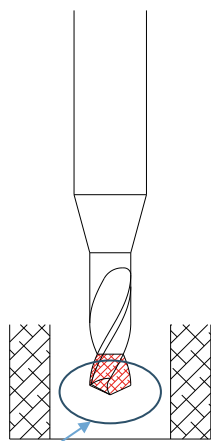
Carbide Drill

KDR-DLC-OH

品番 Code No.	刃径 D Flute Diameter	溝長 ℓ Groove length	全長 L Total Length	柄径 Shank Diameter
KDR-DLC-OH-215005	1.5	5	50	3
KDR-DLC-OH-215010	1.5	10	50	3
KDR-DLC-OH-215020	1.5	20	60	3
KDR-DLC-OH-215505	1.55	5	50	3
KDR-DLC-OH-215510	1.55	10	50	3
KDR-DLC-OH-215520	1.55	20	60	3
KDR-DLC-OH-216005	1.6	5	50	3
KDR-DLC-OH-216010	1.6	10	50	3
KDR-DLC-OH-216020	1.6	20	60	3
KDR-DLC-OH-216505	1.65	5	50	3
KDR-DLC-OH-216510	1.65	10	50	3
KDR-DLC-OH-216520	1.65	20	60	3
KDR-DLC-OH-217005	1.7	5	50	3
KDR-DLC-OH-217010	1.7	10	50	3
KDR-DLC-OH-217020	1.7	20	60	3
KDR-DLC-OH-217505	1.75	5	50	3
KDR-DLC-OH-217510	1.75	10	50	3

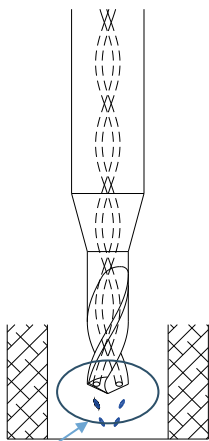
品番 Code No.	刃径 D Flute Diameter	溝長 ℓ Groove length	全長 L Total Length	柄径 Shank Diameter
KDR-DLC-OH-217520	1.75	20	60	3
KDR-DLC-OH-218005	1.8	5	50	3
KDR-DLC-OH-218010	1.8	10	50	3
KDR-DLC-OH-218020	1.8	20	60	3
KDR-DLC-OH-218505	1.85	5	50	3
KDR-DLC-OH-218510	1.85	10	50	3
KDR-DLC-OH-218520	1.85	20	60	3
KDR-DLC-OH-219005	1.9	5	50	3
KDR-DLC-OH-219010	1.9	10	50	3
KDR-DLC-OH-219020	1.9	20	60	3
KDR-DLC-OH-219505	1.95	5	50	3
KDR-DLC-OH-219510	1.95	10	50	3
KDR-DLC-OH-219520	1.95	20	60	3
KDR-DLC-OH-220005	2	5	50	3
KDR-DLC-OH-220010	2	10	50	3
KDR-DLC-OH-220020	2	20	60	3

通常ドリル



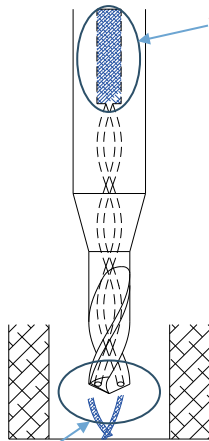
熱がこもってしまう

従来油穴付ドリル



吐出量が少ない

KDR-DLC-OH



吐出量が多い

油が入りやすく、溜まりやすい。

POINT

- 中空穴仕様で、給油性が向上します
- 工具を冷却する事により、劣化と破損を抑えられます
- 切粉の排出性を向上させる事が可能です
- 耐溶着性に効果があります
- 送り速度を向上させる事ができます

KDR-DLC-OH

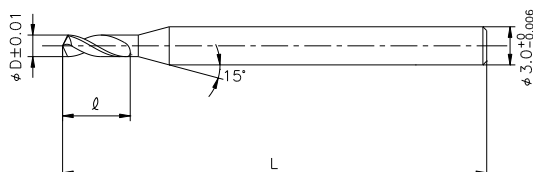
切削条件参考 Referential Cutting Conditions

被削材 Workpiece	アルミニウム合金 Aluminum Alloy		銅合金 Copper Alloy		樹脂 Rejin			
	ADC・AC							
刃 径 Flute Diameter mm	切削速度 Cutting Speed m/min	送り速度 Feed mm/rev	切削速度 Cutting Speed m/min	送り速度 Feed mm/rev	切削速度 Cutting Speed m/min	送り速度 Feed mm/rev		
0.5～0.99	36～72	0.024～0.072	24～36	0.024～0.072	24～36	0.024～0.06		
1.0～1.99	48～72	0.06 ～0.12	24～36	0.06 ～0.12	36～48	0.06～0.12		
2.0	48	0.1	36	0.1	36	0.12		
備 考 Remarks	・ 工具取付時の振れを最小に抑えてください。 ・ 樹脂はエアブロー、アルミ合金の場合は切削油を使用して下さい。 ・ Minimize Run out on fixing tool. ・ Use Air Blow for Resin and use Cutting Oil for Aluminum Alloy.							

DCHBD-2

超硬ルーマ型ドリル・DIAコーティング付（硬脆材加工用）
Tungsten Carbide 2 Flutes Micro Drill DIA Coating (For Processing Hard Brittle Material)

■硬脆材向けにDIAコーティングを施しました
DIA coating for hard brittle material



被削材 Workpiece
硬脆材 Brittle material


●切削条件表はP100に記載
●Cutting conditions are recommended on page 100.

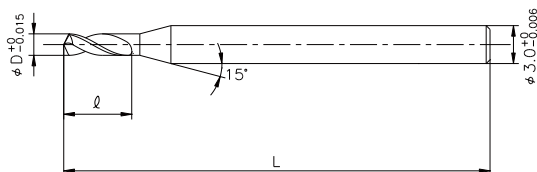
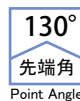
単位[寸法:mm]
Unit[size:mm]

[illegible]

DCNFD-2

超硬ルーマ型ドリル・DIAコーティング付（非鉄加工用）

■非鉄向けにDIAコーティングを施しました
DIA coating for nonferrous metals



被削材 Workpiece		
非鉄金属 nonferrous metals	樹脂 Resin	炭素繊維 Carbon fiber
		

●切削条件表はP100に記載
●Cutting conditions are recommended on page 100.

単位[寸法:mm]
Unit[size:mm]

品番 Code No.	刃径 D Flute Diameter	溝長 ℓ Groove length	全長 L Total Length	柄径 Shank Diameter
DCNFD-2010	0.1	1.2	38	3
DCNFD-2011	0.11	1.2	38	3
DCNFD-2012	0.12	1.4	38	3
DCNFD-2013	0.13	1.4	38	3
DCNFD-2014	0.14	1.4	38	3
DCNFD-2015	0.15	1.8	38	3
DCNFD-2016	0.16	1.8	38	3
DCNFD-2017	0.17	1.8	38	3
DCNFD-2018	0.18	2.1	38	3
DCNFD-2019	0.19	2.1	38	3
DCNFD-2020	0.2	2.4	38	3
DCNFD-2021	0.21	2.4	38	3
DCNFD-2022	0.22	2.6	38	3
DCNFD-2023	0.23	2.6	38	3
DCNFD-2024	0.24	2.6	38	3
DCNFD-2025	0.25	3	38	3
DCNFD-2026	0.26	3	38	3
DCNFD-2027	0.27	3	38	3
DCNFD-2028	0.28	3.3	38	3
DCNFD-2029	0.29	3.3	38	3
DCNFD-2030	0.3	5	38	3
DCNFD-2035	0.35	5	38	3
DCNFD-2040	0.4	6	38	3
DCNFD-2045	0.45	6	38	3
DCNFD-2050	0.5	6	38	3
DCNFD-2055	0.55	6	38	3
DCNFD-2060	0.6	7	38	3
DCNFD-2065	0.65	7	38	3
DCNFD-2070	0.7	8	38	3
DCNFD-2075	0.75	8	38	3

[illegible]

Carbide

DCHBD-2

切削条件参考

Referential Cutting Conditions

被削材 Workpiece	ジルコニア・アルミナ Zirconia・Aluming		石英ガラス Quartz Glass	
刃 径 Flute Diameter mm	切削速度 Cutting Speed m/min	送り速度 Feed mm/rev	切削速度 Cutting Speed m/min	送り速度 Feed mm/rev
0.1~0.3	6~12	0.0001~0.0003	6~12	0.0002~0.0006
0.4~0.7	12~19	0.0001~0.0003	12~19	0.0002~0.0006
0.8~1.0	25~31	0.0001~0.0003	25~31	0.0002~0.0006
備 考 Remarks	・ 工具取付時の振れを最小に抑えてください。 ・ 切削油を使用して下さい。			

DCNFD-2

切削条件参考

Referential Cutting Conditions

被削材 Workpiece	アルミニウム合金 Aluminum Alloy		銅・銅合金 Copper and Copper Alloy	
刃 径 Flute Diameter mm	切削速度 Cutting Speed m/min	送り速度 Feed mm/rev	切削速度 Cutting Speed m/min	送り速度 Feed mm/rev
0.1~0.3	6~15	0.001~0.003	3~10	0.001
0.4~0.7	25~40	0.01 ~0.05	15~25	0.005~0.02
0.8~1.0	40~60	0.05 ~0.1	20~30	0.03 ~0.05
備 考 Remarks	・ 工具取付時の振れを最小に抑えてください。 ・ 切削油を使用して下さい。			

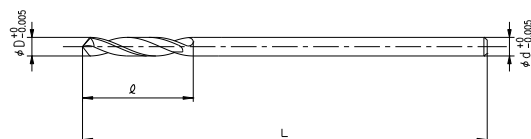
KDS-DLC

超硬ストレートドリル・DLCコーティング付
Tungsten Carbide straight Drill DLC Coating

- 非鉄金属向けにDLCコーティングを施しました
DLC coating for nonferrous metals
- φ0.3～φ3.0まで0.01とびにラインナップ
Lineup from φ0.3 to φ3.0 in 0.01 increments



被削材 Workpiece		
アルミ合金 Aluminum Alloy	銅合金 COPPer Alloy	樹脂 Resin



- 先端角 Edge Angle
0.3 ≤ D < 2.1 118°
2.1 ≤ D < 3.0 135°

- 切削条件表はP105に記載
- Cutting conditions are recommended on page 105.

単位 [寸法: mm]
Unit [size: mm]

品番 Code No.	刃径 D Flute Diameter	溝長 l Groove length	全長 L Total Length
KDS-DLC-2030	0.3	4	30
KDS-DLC-2031	0.31	4	30
KDS-DLC-2032	0.32	4	30
KDS-DLC-2033	0.33	4	30
KDS-DLC-2034	0.34	4	30
KDS-DLC-2035	0.35	4	30
KDS-DLC-2036	0.36	4	30
KDS-DLC-2037	0.37	4	30
KDS-DLC-2038	0.38	4	30
KDS-DLC-2039	0.39	4	30
KDS-DLC-2040	0.4	5	30
KDS-DLC-2041	0.41	5	30
KDS-DLC-2042	0.42	5	30
KDS-DLC-2043	0.43	5	30
KDS-DLC-2044	0.44	5	30
KDS-DLC-2045	0.45	5	30
KDS-DLC-2046	0.46	5	30
KDS-DLC-2047	0.47	5	30
KDS-DLC-2048	0.48	5	30
KDS-DLC-2049	0.49	5	30
KDS-DLC-2050	0.5	6	30
KDS-DLC-2051	0.51	6	30
KDS-DLC-2052	0.52	6	30
KDS-DLC-2053	0.53	6	30
KDS-DLC-2054	0.54	6	30
KDS-DLC-2055	0.55	6	30
KDS-DLC-2056	0.56	6	30
KDS-DLC-2057	0.57	6	30
KDS-DLC-2058	0.58	6	30
KDS-DLC-2059	0.59	6	30

品番 Code No.	刃径 D Flute Diameter	溝長 l Groove length	全長 L Total Length
KDS-DLC-2060	0.6	6	30
KDS-DLC-2061	0.61	6	30
KDS-DLC-2062	0.62	6	30
KDS-DLC-2063	0.63	6	30
KDS-DLC-2064	0.64	6	30
KDS-DLC-2065	0.65	6	30
KDS-DLC-2066	0.66	6	30
KDS-DLC-2067	0.67	6	30
KDS-DLC-2068	0.68	6	30
KDS-DLC-2069	0.69	6	30
KDS-DLC-2070	0.7	12	40
KDS-DLC-2071	0.71	12	40
KDS-DLC-2072	0.72	12	40
KDS-DLC-2073	0.73	12	40
KDS-DLC-2074	0.74	12	40
KDS-DLC-2075	0.75	12	40
KDS-DLC-2076	0.76	12	40
KDS-DLC-2077	0.77	12	40
KDS-DLC-2078	0.78	12	40
KDS-DLC-2079	0.79	12	40
KDS-DLC-2080	0.8	12	40
KDS-DLC-2081	0.81	12	40
KDS-DLC-2082	0.82	12	40
KDS-DLC-2083	0.83	12	40
KDS-DLC-2084	0.84	12	40
KDS-DLC-2085	0.85	12	40
KDS-DLC-2086	0.86	12	40
KDS-DLC-2087	0.87	12	40
KDS-DLC-2088	0.88	12	40
KDS-DLC-2089	0.89	12	40

超硬ドリル

Carbide Drill

KDS-DLC

品番 Code No.	刃径 D Flute Diameter	溝長 ℓ Groove length	全長 L Total Length
KDS-DLC-2090	0.9	12	40
KDS-DLC-2091	0.91	12	40
KDS-DLC-2092	0.92	12	40
KDS-DLC-2093	0.93	12	40
KDS-DLC-2094	0.94	12	40
KDS-DLC-2095	0.95	12	40
KDS-DLC-2096	0.96	12	40
KDS-DLC-2097	0.97	12	40
KDS-DLC-2098	0.98	12	40
KDS-DLC-2099	0.99	12	40
KDS-DLC-2100	1	15	40
KDS-DLC-2101	1.01	15	40
KDS-DLC-2102	1.02	15	40
KDS-DLC-2103	1.03	15	40
KDS-DLC-2104	1.04	15	40
KDS-DLC-2105	1.05	15	40
KDS-DLC-2106	1.06	15	40
KDS-DLC-2107	1.07	15	40
KDS-DLC-2108	1.08	15	40
KDS-DLC-2109	1.09	15	40
KDS-DLC-2110	1.1	15	40
KDS-DLC-2111	1.11	15	40
KDS-DLC-2112	1.12	15	40
KDS-DLC-2113	1.13	15	40
KDS-DLC-2114	1.14	15	40
KDS-DLC-2115	1.15	15	40
KDS-DLC-2116	1.16	15	40
KDS-DLC-2117	1.17	15	40
KDS-DLC-2118	1.18	15	40
KDS-DLC-2119	1.19	15	40
KDS-DLC-2120	1.2	15	40
KDS-DLC-2121	1.21	15	40
KDS-DLC-2122	1.22	15	40
KDS-DLC-2123	1.23	15	40
KDS-DLC-2124	1.24	15	40
KDS-DLC-2125	1.25	15	40
KDS-DLC-2126	1.26	15	40
KDS-DLC-2127	1.27	15	40
KDS-DLC-2128	1.28	15	40
KDS-DLC-2129	1.29	15	40
KDS-DLC-2130	1.3	16	40
KDS-DLC-2131	1.31	16	40
KDS-DLC-2132	1.32	16	40
KDS-DLC-2133	1.33	16	40
KDS-DLC-2134	1.34	16	40
KDS-DLC-2135	1.35	16	40
KDS-DLC-2136	1.36	16	40
KDS-DLC-2137	1.37	16	40

品番 Code No.	刃径 D Flute Diameter	溝長 ℓ Groove length	全長 L Total Length
KDS-DLC-2138	1.38	16	40
KDS-DLC-2139	1.39	16	40
KDS-DLC-2140	1.4	16	40
KDS-DLC-2141	1.41	16	40
KDS-DLC-2142	1.42	16	40
KDS-DLC-2143	1.43	16	40
KDS-DLC-2144	1.44	16	40
KDS-DLC-2145	1.45	16	40
KDS-DLC-2146	1.46	16	40
KDS-DLC-2147	1.47	16	40
KDS-DLC-2148	1.48	16	40
KDS-DLC-2149	1.49	16	40
KDS-DLC-2150	1.5	16	40
KDS-DLC-2151	1.51	16	40
KDS-DLC-2152	1.52	16	40
KDS-DLC-2153	1.53	16	40
KDS-DLC-2154	1.54	16	40
KDS-DLC-2155	1.55	16	40
KDS-DLC-2156	1.56	16	40
KDS-DLC-2157	1.57	16	40
KDS-DLC-2158	1.58	16	40
KDS-DLC-2159	1.59	16	40
KDS-DLC-2160	1.6	18	40
KDS-DLC-2161	1.61	18	40
KDS-DLC-2162	1.62	18	40
KDS-DLC-2163	1.63	18	40
KDS-DLC-2164	1.64	18	40
KDS-DLC-2165	1.65	18	40
KDS-DLC-2166	1.66	18	40
KDS-DLC-2167	1.67	18	40
KDS-DLC-2168	1.68	18	40
KDS-DLC-2169	1.69	18	40
KDS-DLC-2170	1.7	18	40
KDS-DLC-2171	1.71	18	40
KDS-DLC-2172	1.72	18	40
KDS-DLC-2173	1.73	18	40
KDS-DLC-2174	1.74	18	40
KDS-DLC-2175	1.75	18	40
KDS-DLC-2176	1.76	18	40
KDS-DLC-2177	1.77	18	40
KDS-DLC-2178	1.78	18	40
KDS-DLC-2179	1.79	18	40
KDS-DLC-2180	1.8	18	40
KDS-DLC-2181	1.81	18	40
KDS-DLC-2182	1.82	18	40
KDS-DLC-2183	1.83	18	40
KDS-DLC-2184	1.84	18	40
KDS-DLC-2185	1.85	18	40

KDS-DLC

品番 Code No.	刃径 D Flute Diameter	溝長 ℓ Groove length	全長 L Total Length
KDS-DLC-2186	1.86	18	40
KDS-DLC-2187	1.87	18	40
KDS-DLC-2188	1.88	18	40
KDS-DLC-2189	1.89	18	40
KDS-DLC-2190	1.9	18	40
KDS-DLC-2191	1.91	18	40
KDS-DLC-2192	1.92	18	40
KDS-DLC-2193	1.93	18	40
KDS-DLC-2194	1.94	18	40
KDS-DLC-2195	1.95	18	40
KDS-DLC-2196	1.96	18	40
KDS-DLC-2197	1.97	18	40
KDS-DLC-2198	1.98	18	40
KDS-DLC-2199	1.99	18	40
KDS-DLC-2200	2	18	40
KDS-DLC-2201	2.01	18	40
KDS-DLC-2202	2.02	18	40
KDS-DLC-2203	2.03	18	40
KDS-DLC-2204	2.04	18	40
KDS-DLC-2205	2.05	18	40
KDS-DLC-2206	2.06	18	40
KDS-DLC-2207	2.07	18	40
KDS-DLC-2208	2.08	18	40
KDS-DLC-2209	2.09	18	40
KDS-DLC-2210	2.1	20	45
KDS-DLC-2211	2.11	20	45
KDS-DLC-2212	2.12	20	45
KDS-DLC-2213	2.13	20	45
KDS-DLC-2214	2.14	20	45
KDS-DLC-2215	2.15	20	45
KDS-DLC-2216	2.16	20	45
KDS-DLC-2217	2.17	20	45
KDS-DLC-2218	2.18	20	45
KDS-DLC-2219	2.19	20	45
KDS-DLC-2220	2.2	20	45
KDS-DLC-2221	2.21	20	45
KDS-DLC-2222	2.22	20	45
KDS-DLC-2223	2.23	20	45
KDS-DLC-2224	2.24	20	45
KDS-DLC-2225	2.25	20	45
KDS-DLC-2226	2.26	20	45
KDS-DLC-2227	2.27	20	45
KDS-DLC-2228	2.28	20	45
KDS-DLC-2229	2.29	20	45
KDS-DLC-2230	2.3	20	45
KDS-DLC-2231	2.31	20	45
KDS-DLC-2232	2.32	20	45
KDS-DLC-2233	2.33	20	45

品番 Code No.	刃径 D Flute Diameter	溝長 ℓ Groove length	全長 L Total Length
KDS-DLC-2234	2.34	20	45
KDS-DLC-2235	2.35	20	45
KDS-DLC-2236	2.36	20	45
KDS-DLC-2237	2.37	20	45
KDS-DLC-2238	2.38	20	45
KDS-DLC-2239	2.39	20	45
KDS-DLC-2240	2.4	20	45
KDS-DLC-2241	2.41	20	45
KDS-DLC-2242	2.42	20	45
KDS-DLC-2243	2.43	20	45
KDS-DLC-2244	2.44	20	45
KDS-DLC-2245	2.45	20	45
KDS-DLC-2246	2.46	20	45
KDS-DLC-2247	2.47	20	45
KDS-DLC-2248	2.48	20	45
KDS-DLC-2249	2.49	20	45
KDS-DLC-2250	2.5	20	45
KDS-DLC-2251	2.51	20	45
KDS-DLC-2252	2.52	20	45
KDS-DLC-2253	2.53	20	45
KDS-DLC-2254	2.54	20	45
KDS-DLC-2255	2.55	20	45
KDS-DLC-2256	2.56	20	45
KDS-DLC-2257	2.57	20	45
KDS-DLC-2258	2.58	20	45
KDS-DLC-2259	2.59	20	45
KDS-DLC-2260	2.6	20	45
KDS-DLC-2261	2.61	20	45
KDS-DLC-2262	2.62	20	45
KDS-DLC-2263	2.63	20	45
KDS-DLC-2264	2.64	20	45
KDS-DLC-2265	2.65	20	45
KDS-DLC-2266	2.66	20	45
KDS-DLC-2267	2.67	20	45
KDS-DLC-2268	2.68	20	45
KDS-DLC-2269	2.69	20	45
KDS-DLC-2270	2.7	20	45
KDS-DLC-2271	2.71	20	45
KDS-DLC-2272	2.72	20	45
KDS-DLC-2273	2.73	20	45
KDS-DLC-2274	2.74	20	45
KDS-DLC-2275	2.75	20	45
KDS-DLC-2276	2.76	20	45
KDS-DLC-2277	2.77	20	45
KDS-DLC-2278	2.78	20	45
KDS-DLC-2279	2.79	20	45
KDS-DLC-2280	2.8	20	45
KDS-DLC-2281	2.81	20	45

KDS-DLC

[illegible][illegible]

KDS-DLC

切削条件参考 Referential Cutting Conditions

被削材 Workpiece	アルミニウム合金 Aluminum Alloy		銅合金 Copper Alloy		樹脂 Rejin			
	ADC・AC							
刃 径 Flute Diameter mm	切削速度 Cutting Speed m/min	送り速度 Feed mm/rev	切削速度 Cutting Speed m/min	送り速度 Feed mm/rev	切削速度 Cutting Speed m/min	送り速度 Feed mm/rev		
0.3~0.49	10~30	0.01~0.04	10~18	0.008~0.015	14~23	0.01~0.02		
0.5~0.99	15~40	0.02~0.06	18~30	0.015~0.04	23~30	0.02~0.04		
1.0~1.99	20~50	0.04~0.1	24~30	0.04 ~0.08	30~38	0.05~0.07		
2.0~3.0	25~60	0.08~0.2	30~40	0.08 ~0.15	38~47	0.07~0.1		
備 考 Remarks	・ 工具取付時の振れを最小に抑えてください。 ・ 切削油を使用して下さい。				Minimize Run out on fixing tool. Use Cutting Oil.			

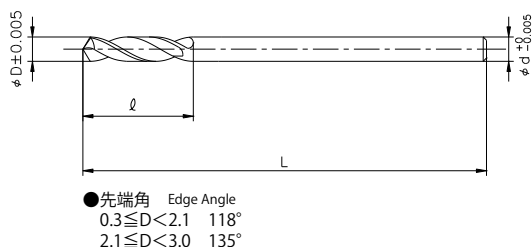
KDSA-2

超硬ストレートドリル・TiA ℓ Nコーティング付
Tungsten Carbide straight Drill TiA ℓ N Coating

- TiAlNコーティングを施しました
TiAlN coating is applied
- φ0.3～φ3.0まで0.01とびにラインナップ
Lineup from φ0.3 to φ3.0 in 0.01 increments



被削材 Workpiece			
一般構造鋼 General Structural Steel	炭素鋼 Carbon Steel	合金鋼・工具鋼 Alloy Steel Tool Steel	ステンレス鋼 Stainless Steel Ceramics



- 切削条件表はP125に記載
- Cutting conditions are recommended on page 125.

単位 [寸法:mm]
Unit [size:mm]

品番 Code No.	刃径 D Flute Diameter	溝長 ℓ Groove length	全長 L Total Length
KDSA-2030	0.3	4	30
KDSA-2031	0.31	4	30
KDSA-2032	0.32	4	30
KDSA-2033	0.33	4	30
KDSA-2034	0.34	4	30
KDSA-2035	0.35	4	30
KDSA-2036	0.36	4	30
KDSA-2037	0.37	4	30
KDSA-2038	0.38	4	30
KDSA-2039	0.39	4	30
KDSA-2040	0.4	5	30
KDSA-2041	0.41	5	30
KDSA-2042	0.42	5	30
KDSA-2043	0.43	5	30
KDSA-2044	0.44	5	30
KDSA-2045	0.45	5	30
KDSA-2046	0.46	5	30
KDSA-2047	0.47	5	30
KDSA-2048	0.48	5	30
KDSA-2049	0.49	5	30
KDSA-2050	0.5	6	30
KDSA-2051	0.51	6	30
KDSA-2052	0.52	6	30
KDSA-2053	0.53	6	30
KDSA-2054	0.54	6	30
KDSA-2055	0.55	6	30
KDSA-2056	0.56	6	30
KDSA-2057	0.57	6	30
KDSA-2058	0.58	6	30
KDSA-2059	0.59	6	30

品番 Code No.	刃径 D Flute Diameter	溝長 ℓ Groove length	全長 L Total Length
KDSA-2060	0.6	6	30
KDSA-2061	0.61	6	30
KDSA-2062	0.62	6	30
KDSA-2063	0.63	6	30
KDSA-2064	0.64	6	30
KDSA-2065	0.65	6	30
KDSA-2066	0.66	6	30
KDSA-2067	0.67	6	30
KDSA-2068	0.68	6	30
KDSA-2069	0.69	6	30
KDSA-2070	0.7	12	40
KDSA-2071	0.71	12	40
KDSA-2072	0.72	12	40
KDSA-2073	0.73	12	40
KDSA-2074	0.74	12	40
KDSA-2075	0.75	12	40
KDSA-2076	0.76	12	40
KDSA-2077	0.77	12	40
KDSA-2078	0.78	12	40
KDSA-2079	0.79	12	40
KDSA-2080	0.8	12	40
KDSA-2081	0.81	12	40
KDSA-2082	0.82	12	40
KDSA-2083	0.83	12	40
KDSA-2084	0.84	12	40
KDSA-2085	0.85	12	40
KDSA-2086	0.86	12	40
KDSA-2087	0.87	12	40
KDSA-2088	0.88	12	40
KDSA-2089	0.89	12	40

KDSA-2

品 番 Code No.	刃径 D Flute Diameter	溝長 ℓ Groove length	全長 L Total Length
KDSA-2090	0.9	12	40
KDSA-2091	0.91	12	40
KDSA-2092	0.92	12	40
KDSA-2093	0.93	12	40
KDSA-2094	0.94	12	40
KDSA-2095	0.95	12	40
KDSA-2096	0.96	12	40
KDSA-2097	0.97	12	40
KDSA-2098	0.98	12	40
KDSA-2099	0.99	12	40
KDSA-2100	1	15	40
KDSA-2101	1.01	15	40
KDSA-2102	1.02	15	40
KDSA-2103	1.03	15	40
KDSA-2104	1.04	15	40
KDSA-2105	1.05	15	40
KDSA-2106	1.06	15	40
KDSA-2107	1.07	15	40
KDSA-2108	1.08	15	40
KDSA-2109	1.09	15	40
KDSA-2110	1.1	15	40
KDSA-2111	1.11	15	40
KDSA-2112	1.12	15	40
KDSA-2113	1.13	15	40
KDSA-2114	1.14	15	40
KDSA-2115	1.15	15	40
KDSA-2116	1.16	15	40
KDSA-2117	1.17	15	40
KDSA-2118	1.18	15	40
KDSA-2119	1.19	15	40
KDSA-2120	1.2	15	40
KDSA-2121	1.21	15	40
KDSA-2122	1.22	15	40
KDSA-2123	1.23	15	40
KDSA-2124	1.24	15	40
KDSA-2125	1.25	15	40
KDSA-2126	1.26	15	40
KDSA-2127	1.27	15	40
KDSA-2128	1.28	15	40
KDSA-2129	1.29	15	40
KDSA-2130	1.3	16	40
KDSA-2131	1.31	16	40
KDSA-2132	1.32	16	40
KDSA-2133	1.33	16	40
KDSA-2134	1.34	16	40
KDSA-2135	1.35	16	40
KDSA-2136	1.36	16	40
KDSA-2137	1.37	16	40

品 番 Code No.	刃径 D Flute Diameter	溝長 ℓ Groove length	全長 L Total Length
KDSA-2138	1.38	16	40
KDSA-2139	1.39	16	40
KDSA-2140	1.4	16	40
KDSA-2141	1.41	16	40
KDSA-2142	1.42	16	40
KDSA-2143	1.43	16	40
KDSA-2144	1.44	16	40
KDSA-2145	1.45	16	40
KDSA-2146	1.46	16	40
KDSA-2147	1.47	16	40
KDSA-2148	1.48	16	40
KDSA-2149	1.49	16	40
KDSA-2150	1.5	16	40
KDSA-2151	1.51	16	40
KDSA-2152	1.52	16	40
KDSA-2153	1.53	16	40
KDSA-2154	1.54	16	40
KDSA-2155	1.55	16	40
KDSA-2156	1.56	16	40
KDSA-2157	1.57	16	40
KDSA-2158	1.58	16	40
KDSA-2159	1.59	16	40
KDSA-2160	1.6	18	40
KDSA-2161	1.61	18	40
KDSA-2162	1.62	18	40
KDSA-2163	1.63	18	40
KDSA-2164	1.64	18	40
KDSA-2165	1.65	18	40
KDSA-2166	1.66	18	40
KDSA-2167	1.67	18	40
KDSA-2168	1.68	18	40
KDSA-2169	1.69	18	40
KDSA-2170	1.7	18	40
KDSA-2171	1.71	18	40
KDSA-2172	1.72	18	40
KDSA-2173	1.73	18	40
KDSA-2174	1.74	18	40
KDSA-2175	1.75	18	40
KDSA-2176	1.76	18	40
KDSA-2177	1.77	18	40
KDSA-2178	1.78	18	40
KDSA-2179	1.79	18	40
KDSA-2180	1.8	18	40
KDSA-2181	1.81	18	40
KDSA-2182	1.82	18	40
KDSA-2183	1.83	18	40
KDSA-2184	1.84	18	40
KDSA-2185	1.85	18	40

KDSA-2

品 番 Code No.	刃径 D Flute Diameter	溝長 ℓ Groove length	全長 L Total Length
KDSA-2186	1.86	18	40
KDSA-2187	1.87	18	40
KDSA-2188	1.88	18	40
KDSA-2189	1.89	18	40
KDSA-2190	1.9	18	40
KDSA-2191	1.91	18	40
KDSA-2192	1.92	18	40
KDSA-2193	1.93	18	40
KDSA-2194	1.94	18	40
KDSA-2195	1.95	18	40
KDSA-2196	1.96	18	40
KDSA-2197	1.97	18	40
KDSA-2198	1.98	18	40
KDSA-2199	1.99	18	40
KDSA-2200	2	18	40
KDSA-2201	2.01	18	40
KDSA-2202	2.02	18	40
KDSA-2203	2.03	18	40
KDSA-2204	2.04	18	40
KDSA-2205	2.05	18	40
KDSA-2206	2.06	18	40
KDSA-2207	2.07	18	40
KDSA-2208	2.08	18	40
KDSA-2209	2.09	18	40
KDSA-2210	2.1	20	45
KDSA-2211	2.11	20	45
KDSA-2212	2.12	20	45
KDSA-2213	2.13	20	45
KDSA-2214	2.14	20	45
KDSA-2215	2.15	20	45
KDSA-2216	2.16	20	45
KDSA-2217	2.17	20	45
KDSA-2218	2.18	20	45
KDSA-2219	2.19	20	45
KDSA-2220	2.2	20	45
KDSA-2221	2.21	20	45
KDSA-2222	2.22	20	45
KDSA-2223	2.23	20	45
KDSA-2224	2.24	20	45
KDSA-2225	2.25	20	45
KDSA-2226	2.26	20	45
KDSA-2227	2.27	20	45
KDSA-2228	2.28	20	45
KDSA-2229	2.29	20	45
KDSA-2230	2.3	20	45
KDSA-2231	2.31	20	45
KDSA-2232	2.32	20	45
KDSA-2233	2.33	20	45

品 番 Code No.	刃径 D Flute Diameter	溝長 ℓ Groove length	全長 L Total Length
KDSA-2234	2.34	20	45
KDSA-2235	2.35	20	45
KDSA-2236	2.36	20	45
KDSA-2237	2.37	20	45
KDSA-2238	2.38	20	45
KDSA-2239	2.39	20	45
KDSA-2240	2.4	20	45
KDSA-2241	2.41	20	45
KDSA-2242	2.42	20	45
KDSA-2243	2.43	20	45
KDSA-2244	2.44	20	45
KDSA-2245	2.45	20	45
KDSA-2246	2.46	20	45
KDSA-2247	2.47	20	45
KDSA-2248	2.48	20	45
KDSA-2249	2.49	20	45
KDSA-2250	2.5	20	45
KDSA-2251	2.51	20	45
KDSA-2252	2.52	20	45
KDSA-2253	2.53	20	45
KDSA-2254	2.54	20	45
KDSA-2255	2.55	20	45
KDSA-2256	2.56	20	45
KDSA-2257	2.57	20	45
KDSA-2258	2.58	20	45
KDSA-2259	2.59	20	45
KDSA-2260	2.6	20	45
KDSA-2261	2.61	20	45
KDSA-2262	2.62	20	45
KDSA-2263	2.63	20	45
KDSA-2264	2.64	20	45
KDSA-2265	2.65	20	45
KDSA-2266	2.66	20	45
KDSA-2267	2.67	20	45
KDSA-2268	2.68	20	45
KDSA-2269	2.69	20	45
KDSA-2270	2.7	20	45
KDSA-2271	2.71	20	45
KDSA-2272	2.72	20	45
KDSA-2273	2.73	20	45
KDSA-2274	2.74	20	45
KDSA-2275	2.75	20	45
KDSA-2276	2.76	20	45
KDSA-2277	2.77	20	45
KDSA-2278	2.78	20	45
KDSA-2279	2.79	20	45
KDSA-2280	2.8	20	45
KDSA-2281	2.81	20	45

超硬ドリル

Carbide Drill

KDSA-2

[illegible][illegible]

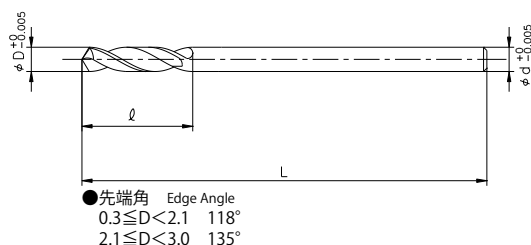
KDS-2

超硬ストレートドリル Tungsten Carbide straight Drill

- 一般鋼～アルミまで幅広い被削材が加工可能
A wide range of work materials can be machined from general steel to aluminum
- $\phi 0.3 \sim \phi 3.0$ まで0.01とびにラインナップ
Lineup from $\phi 0.3$ to $\phi 3.0$ in 0.01 increments



被削材 Workpiece					
一般構造鋼 General Structural Steel	炭素鋼 Carbon Steel	合金鋼・工具鋼 Alloy Steel Tool Steel	ステンレス鋼 Stainless Steel Ceramics	アルミ合金 Aluminum Alloy	樹脂 Resin
○	○	○	○	○	○



- 切削条件表はP125に記載
- Cutting conditions are recommended on page 125.

単位 [寸法: mm]
Unit [size: mm]

品番 Code No.	刃径 D Flute Diameter	溝長 l Groove length	全長 L Total Length
KDS-2030	0.3	4	30
KDS-2031	0.31	4	30
KDS-2032	0.32	4	30
KDS-2033	0.33	4	30
KDS-2034	0.34	4	30
KDS-2035	0.35	4	30
KDS-2036	0.36	4	30
KDS-2037	0.37	4	30
KDS-2038	0.38	4	30
KDS-2039	0.39	4	30
KDS-2040	0.4	5	30
KDS-2041	0.41	5	30
KDS-2042	0.42	5	30
KDS-2043	0.43	5	30
KDS-2044	0.44	5	30
KDS-2045	0.45	5	30
KDS-2046	0.46	5	30
KDS-2047	0.47	5	30
KDS-2048	0.48	5	30
KDS-2049	0.49	5	30
KDS-2050	0.5	6	30
KDS-2051	0.51	6	30
KDS-2052	0.52	6	30
KDS-2053	0.53	6	30
KDS-2054	0.54	6	30
KDS-2055	0.55	6	30
KDS-2056	0.56	6	30
KDS-2057	0.57	6	30
KDS-2058	0.58	6	30
KDS-2059	0.59	6	30

品番 Code No.	刃径 D Flute Diameter	溝長 l Groove length	全長 L Total Length
KDS-2060	0.6	6	30
KDS-2061	0.61	6	30
KDS-2062	0.62	6	30
KDS-2063	0.63	6	30
KDS-2064	0.64	6	30
KDS-2065	0.65	6	30
KDS-2066	0.66	6	30
KDS-2067	0.67	6	30
KDS-2068	0.68	6	30
KDS-2069	0.69	6	30
KDS-2070	0.7	12	40
KDS-2071	0.71	12	40
KDS-2072	0.72	12	40
KDS-2073	0.73	12	40
KDS-2074	0.74	12	40
KDS-2075	0.75	12	40
KDS-2076	0.76	12	40
KDS-2077	0.77	12	40
KDS-2078	0.78	12	40
KDS-2079	0.79	12	40
KDS-2080	0.8	12	40
KDS-2081	0.81	12	40
KDS-2082	0.82	12	40
KDS-2083	0.83	12	40
KDS-2084	0.84	12	40
KDS-2085	0.85	12	40
KDS-2086	0.86	12	40
KDS-2087	0.87	12	40
KDS-2088	0.88	12	40
KDS-2089	0.89	12	40

KDS-2

品 番 Code No.	刃径 D Flute Diameter	溝長 ℓ Groove length	全長 L Total Length
KDS-2090	0.9	12	40
KDS-2091	0.91	12	40
KDS-2092	0.92	12	40
KDS-2093	0.93	12	40
KDS-2094	0.94	12	40
KDS-2095	0.95	12	40
KDS-2096	0.96	12	40
KDS-2097	0.97	12	40
KDS-2098	0.98	12	40
KDS-2099	0.99	12	40
KDS-2100	1	15	40
KDS-2101	1.01	15	40
KDS-2102	1.02	15	40
KDS-2103	1.03	15	40
KDS-2104	1.04	15	40
KDS-2105	1.05	15	40
KDS-2106	1.06	15	40
KDS-2107	1.07	15	40
KDS-2108	1.08	15	40
KDS-2109	1.09	15	40
KDS-2110	1.1	15	40
KDS-2111	1.11	15	40
KDS-2112	1.12	15	40
KDS-2113	1.13	15	40
KDS-2114	1.14	15	40
KDS-2115	1.15	15	40
KDS-2116	1.16	15	40
KDS-2117	1.17	15	40
KDS-2118	1.18	15	40
KDS-2119	1.19	15	40
KDS-2120	1.2	15	40
KDS-2121	1.21	15	40
KDS-2122	1.22	15	40
KDS-2123	1.23	15	40
KDS-2124	1.24	15	40
KDS-2125	1.25	15	40
KDS-2126	1.26	15	40
KDS-2127	1.27	15	40
KDS-2128	1.28	15	40
KDS-2129	1.29	15	40
KDS-2130	1.3	16	40
KDS-2131	1.31	16	40
KDS-2132	1.32	16	40
KDS-2133	1.33	16	40
KDS-2134	1.34	16	40
KDS-2135	1.35	16	40
KDS-2136	1.36	16	40
KDS-2137	1.37	16	40

品 番 Code No.	刃径 D Flute Diameter	溝長 ℓ Groove length	全長 L Total Length
KDS-2138	1.38	16	40
KDS-2139	1.39	16	40
KDS-2140	1.4	16	40
KDS-2141	1.41	16	40
KDS-2142	1.42	16	40
KDS-2143	1.43	16	40
KDS-2144	1.44	16	40
KDS-2145	1.45	16	40
KDS-2146	1.46	16	40
KDS-2147	1.47	16	40
KDS-2148	1.48	16	40
KDS-2149	1.49	16	40
KDS-2150	1.5	16	40
KDS-2151	1.51	16	40
KDS-2152	1.52	16	40
KDS-2153	1.53	16	40
KDS-2154	1.54	16	40
KDS-2155	1.55	16	40
KDS-2156	1.56	16	40
KDS-2157	1.57	16	40
KDS-2158	1.58	16	40
KDS-2159	1.59	16	40
KDS-2160	1.6	18	40
KDS-2161	1.61	18	40
KDS-2162	1.62	18	40
KDS-2163	1.63	18	40
KDS-2164	1.64	18	40
KDS-2165	1.65	18	40
KDS-2166	1.66	18	40
KDS-2167	1.67	18	40
KDS-2168	1.68	18	40
KDS-2169	1.69	18	40
KDS-2170	1.7	18	40
KDS-2171	1.71	18	40
KDS-2172	1.72	18	40
KDS-2173	1.73	18	40
KDS-2174	1.74	18	40
KDS-2175	1.75	18	40
KDS-2176	1.76	18	40
KDS-2177	1.77	18	40
KDS-2178	1.78	18	40
KDS-2179	1.79	18	40
KDS-2180	1.8	18	40
KDS-2181	1.81	18	40
KDS-2182	1.82	18	40
KDS-2183	1.83	18	40
KDS-2184	1.84	18	40
KDS-2185	1.85	18	40

KDS-2

品番 Code No.	刃径 D Flute Diameter	溝長 ℓ Groove length	全長 L Total Length
KDS-2186	1.86	18	40
KDS-2187	1.87	18	40
KDS-2188	1.88	18	40
KDS-2189	1.89	18	40
KDS-2190	1.9	18	40
KDS-2191	1.91	18	40
KDS-2192	1.92	18	40
KDS-2193	1.93	18	40
KDS-2194	1.94	18	40
KDS-2195	1.95	18	40
KDS-2196	1.96	18	40
KDS-2197	1.97	18	40
KDS-2198	1.98	18	40
KDS-2199	1.99	18	40
KDS-2200	2	18	40
KDS-2201	2.01	18	40
KDS-2202	2.02	18	40
KDS-2203	2.03	18	40
KDS-2204	2.04	18	40
KDS-2205	2.05	18	40
KDS-2206	2.06	18	40
KDS-2207	2.07	18	40
KDS-2208	2.08	18	40
KDS-2209	2.09	18	40
KDS-2210	2.1	20	45
KDS-2211	2.11	20	45
KDS-2212	2.12	20	45
KDS-2213	2.13	20	45
KDS-2214	2.14	20	45
KDS-2215	2.15	20	45
KDS-2216	2.16	20	45
KDS-2217	2.17	20	45
KDS-2218	2.18	20	45
KDS-2219	2.19	20	45
KDS-2220	2.2	20	45
KDS-2221	2.21	20	45
KDS-2222	2.22	20	45
KDS-2223	2.23	20	45
KDS-2224	2.24	20	45
KDS-2225	2.25	20	45
KDS-2226	2.26	20	45
KDS-2227	2.27	20	45
KDS-2228	2.28	20	45
KDS-2229	2.29	20	45
KDS-2230	2.3	20	45
KDS-2231	2.31	20	45
KDS-2232	2.32	20	45
KDS-2233	2.33	20	45

品番 Code No.	刃径 D Flute Diameter	溝長 ℓ Groove length	全長 L Total Length
KDS-2234	2.34	20	45
KDS-2235	2.35	20	45
KDS-2236	2.36	20	45
KDS-2237	2.37	20	45
KDS-2238	2.38	20	45
KDS-2239	2.39	20	45
KDS-2240	2.4	20	45
KDS-2241	2.41	20	45
KDS-2242	2.42	20	45
KDS-2243	2.43	20	45
KDS-2244	2.44	20	45
KDS-2245	2.45	20	45
KDS-2246	2.46	20	45
KDS-2247	2.47	20	45
KDS-2248	2.48	20	45
KDS-2249	2.49	20	45
KDS-2250	2.5	20	45
KDS-2251	2.51	20	45
KDS-2252	2.52	20	45
KDS-2253	2.53	20	45
KDS-2254	2.54	20	45
KDS-2255	2.55	20	45
KDS-2256	2.56	20	45
KDS-2257	2.57	20	45
KDS-2258	2.58	20	45
KDS-2259	2.59	20	45
KDS-2260	2.6	20	45
KDS-2261	2.61	20	45
KDS-2262	2.62	20	45
KDS-2263	2.63	20	45
KDS-2264	2.64	20	45
KDS-2265	2.65	20	45
KDS-2266	2.66	20	45
KDS-2267	2.67	20	45
KDS-2268	2.68	20	45
KDS-2269	2.69	20	45
KDS-2270	2.7	20	45
KDS-2271	2.71	20	45
KDS-2272	2.72	20	45
KDS-2273	2.73	20	45
KDS-2274	2.74	20	45
KDS-2275	2.75	20	45
KDS-2276	2.76	20	45
KDS-2277	2.77	20	45
KDS-2278	2.78	20	45
KDS-2279	2.79	20	45
KDS-2280	2.8	20	45
KDS-2281	2.81	20	45

KDS-2

[illegible][illegible]

KDSL-2

超硬ストレートセミロングドリル
Tungsten Carbide straight semi-long Drill

- 一般鋼～アルミまで幅広い被削材が加工可能
A wide range of work materials can be machined from general steel to aluminum

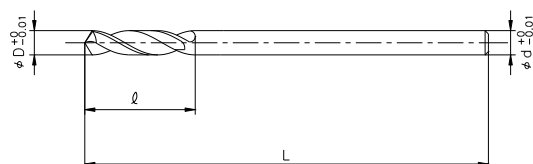


被削材 Workpiece					
一般構造鋼 General Structural Steel	炭素鋼 Carbon Steel	合金鋼・工具鋼 Alloy Steel Tool Steel	ステンレス鋼 Stainless Steel Ceramics	アルミ合金 Aluminum Alloy	樹脂 Resin
○	○	○	○	○	○

- 切削条件表はP125に記載

- Cutting conditions are recommended on page 125.

- ▲生産終了品 Discontinued product



- 先端角 Edge Angle
 $0.3 \leq D < 2.1$ 118°
 $2.1 \leq D < 3.0$ 135°

単位 [寸法: mm]
Unit [size: mm]

品番 Code No.	刃径 D Flute Diameter	溝長 l Groove length	全長 L Total Length
▲ KDSL-2030	0.3	8	40
▲ KDSL-2035	0.35	8	40
▲ KDSL-2040	0.4	8	40
▲ KDSL-2045	0.45	8	40
▲ KDSL-2050	0.5	8	40
▲ KDSL-2055	0.55	8	40
▲ KDSL-2060	0.6	8	40
▲ KDSL-2065	0.65	8	40
▲ KDSL-2070	0.7	15	50
▲ KDSL-2075	0.75	15	50
▲ KDSL-2080	0.8	15	50
▲ KDSL-2085	0.85	15	50
▲ KDSL-2090	0.9	15	50
▲ KDSL-2095	0.95	15	50
KDSL-2100	1	16	50
KDSL-2105	1.05	16	50
KDSL-2110	1.1	16	50
KDSL-2115	1.15	16	50
KDSL-2120	1.2	18	50
KDSL-2125	1.25	18	50
KDSL-2130	1.3	18	50
KDSL-2135	1.35	18	50
KDSL-2140	1.4	18	50
KDSL-2145	1.45	18	50
KDSL-2150	1.5	24	55
KDSL-2155	1.55	24	55
KDSL-2160	1.6	24	55
KDSL-2165	1.65	24	55

品番 Code No.	刃径 D Flute Diameter	溝長 l Groove length	全長 L Total Length
KDSL-2170	1.7	24	55
KDSL-2175	1.75	24	55
KDSL-2180	1.8	24	55
KDSL-2185	1.85	24	55
KDSL-2190	1.9	24	55
KDSL-2195	1.95	24	55
KDSL-2200	2	24	55
KDSL-2205	2.05	24	55
KDSL-2210	2.1	24	55
KDSL-2215	2.15	24	55
KDSL-2220	2.2	26	65
KDSL-2225	2.25	26	65
KDSL-2230	2.3	26	65
KDSL-2235	2.35	26	65
KDSL-2240	2.4	26	65
KDSL-2245	2.45	26	65
KDSL-2250	2.5	26	65
KDSL-2255	2.55	26	65
KDSL-2260	2.6	28	65
KDSL-2265	2.65	28	65
KDSL-2270	2.7	28	65
KDSL-2275	2.75	28	65
KDSL-2280	2.8	30	75
KDSL-2285	2.85	30	75
KDSL-2290	2.9	30	75
KDSL-2295	2.95	30	75
KDSL-2300	3	30	75

- ▲は生産終了品です。在庫無くなり次第、販売終了となります。

- ▲This product has been discontinued. Sales will end once current stock is depleted.

KDL-2

超硬ストレートロングドリル Tungsten Carbide straight long Drill

- 一般鋼～アルミまで幅広い被削材が加工可能
A wide range of work materials can be machined
from general steel to aluminum



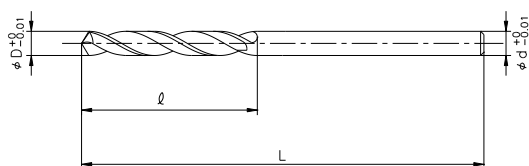
被削材 Workpiece					
一般構造鋼 General Structural Steel	炭素鋼 Carbon Steel	合金鋼・工具鋼 Alloy Steel Tool Steel	ステンレス鋼 Stainless Steel Ceramics	アルミ合金 Aluminum Alloy	樹脂 Resin
○	○	○	○	○	○

- 切削条件表はP125に記載

- Cutting conditions are recommended on page 125.

- ▲生産終了品 Discontinued product

品番 Code No.	刃径 D Flute Diameter	溝長 ℓ Groove length	全長 L Total Length
▲ KDL-2030	0.3	10	60
▲ KDL-2035	0.35	10	60
▲ KDL-2040	0.4	10	60
▲ KDL-2045	0.45	10	60
▲ KDL-2050	0.5	10	60
▲ KDL-2055	0.55	15	65
▲ KDL-2060	0.6	15	65
▲ KDL-2065	0.65	15	65
▲ KDL-2070	0.7	15	65
▲ KDL-2075	0.75	15	65
▲ KDL-2080	0.8	20	75
▲ KDL-2085	0.85	20	75
▲ KDL-2090	0.9	20	75
▲ KDL-2095	0.95	20	75
KDL-2100	1	25	75
KDL-2105	1.05	25	75
KDL-2110	1.1	25	75
KDL-2115	1.15	25	75
KDL-2120	1.2	25	75
KDL-2125	1.25	25	75
KDL-2130	1.3	25	75
KDL-2135	1.35	25	75
KDL-2140	1.4	30	75
KDL-2145	1.45	30	75
KDL-2150	1.5	30	75
KDL-2155	1.55	30	75
KDL-2160	1.6	30	75
KDL-2165	1.65	30	75



- 先端角 Edge Angle
0.3 ≤ D < 2.1 118°
2.1 ≤ D < 3.0 135°

単位 [寸法: mm]
Unit [size: mm]

品番 Code No.	刃径 D Flute Diameter	溝長 ℓ Groove length	全長 L Total Length
KDL-2170	1.7	30	75
KDL-2175	1.75	30	75
KDL-2180	1.8	30	75
KDL-2185	1.85	30	75
KDL-2190	1.9	30	75
KDL-2195	1.95	30	75
KDL-2200	2	30	75
KDL-2205	2.05	30	75
KDL-2210	2.1	30	75
KDL-2215	2.15	30	75
KDL-2220	2.2	30	75
KDL-2225	2.25	30	75
KDL-2230	2.3	30	75
KDL-2235	2.35	30	75
KDL-2240	2.4	35	100
KDL-2245	2.45	35	100
KDL-2250	2.5	35	100
KDL-2255	2.55	35	100
KDL-2260	2.6	35	100
KDL-2265	2.65	35	100
KDL-2270	2.7	35	100
KDL-2275	2.75	35	100
KDL-2280	2.8	35	100
KDL-2285	2.85	35	100
KDL-2290	2.9	35	100
KDL-2295	2.95	35	100
KDL-2300	3	50	100

- ▲は生産終了品です。在庫無くなり次第、販売終了となります。

- ▲This product has been discontinued. Sales will end once current stock is depleted.

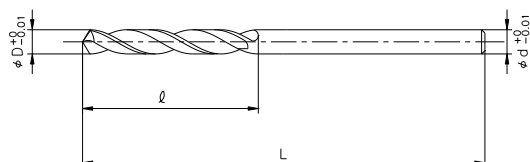
KDLL-2

超硬ストレートスーパーロングドリル Tungsten Carbide straight Super long Drill

- 一般鋼～アルミまで幅広い被削材が加工可能
A wide range of work materials can be machined
from general steel to aluminum



被削材 Workpiece					
一般構造鋼 General Structural Steel	炭素鋼 Carbon Steel	合金鋼・工具鋼 Alloy Steel Tool Steel	ステンレス鋼 Stainless Steel Ceramics	アルミ合金 Aluminum Alloy	樹脂 Resin
○	○	○	○	○	○



- 先端角 Edge Angle
0.3 ≤ D < 2.1 118°
2.1 ≤ D < 3.0 135°

- 切削条件表はP125に記載
●Cutting conditions are recommended on page 125.
▲生産終了品 Discontinued product

単位 [寸法: mm]
Unit [size: mm]

品番 Code No.	刃径 D Flute Diameter	溝長 l Groove length	全長 L Total Length
▲ KDLL-2030	0.3	15	75
▲ KDLL-2035	0.35	15	75
▲ KDLL-2040	0.4	15	75
▲ KDLL-2045	0.45	15	75
▲ KDLL-2050	0.5	15	75
▲ KDLL-2055	0.55	20	90
▲ KDLL-2060	0.6	20	90
▲ KDLL-2065	0.65	20	90
▲ KDLL-2070	0.7	20	90
▲ KDLL-2075	0.75	20	90
▲ KDLL-2080	0.8	25	100
▲ KDLL-2085	0.85	25	100
▲ KDLL-2090	0.9	25	100
▲ KDLL-2095	0.95	25	100
KDLL-2100	1	30	100
KDLL-2105	1.05	30	100
KDLL-2110	1.1	30	100
KDLL-2115	1.15	30	100
KDLL-2120	1.2	35	100
KDLL-2125	1.25	35	100
KDLL-2130	1.3	35	100
KDLL-2135	1.35	35	100
KDLL-2140	1.4	40	100
KDLL-2145	1.45	40	100
KDLL-2150	1.5	40	100
KDLL-2155	1.55	40	100
KDLL-2160	1.6	40	100
KDLL-2165	1.65	40	100

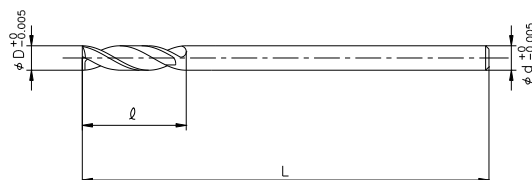
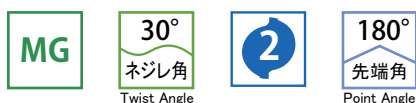
品番 Code No.	刃径 D Flute Diameter	溝長 l Groove length	全長 L Total Length
KDLL-2170	1.7	40	100
KDLL-2175	1.75	40	100
KDLL-2180	1.8	40	100
KDLL-2185	1.85	40	100
KDLL-2190	1.9	40	100
KDLL-2195	1.95	40	100
KDLL-2200	2	40	100
KDLL-2205	2.05	40	100
KDLL-2210	2.1	40	100
KDLL-2215	2.15	40	100
KDLL-2220	2.2	40	100
KDLL-2225	2.25	40	100
KDLL-2230	2.3	40	100
KDLL-2235	2.35	40	100
KDLL-2240	2.4	50	150
KDLL-2245	2.45	50	150
KDLL-2250	2.5	50	150
KDLL-2255	2.55	50	150
KDLL-2260	2.6	50	150
KDLL-2265	2.65	50	150
KDLL-2270	2.7	50	150
KDLL-2275	2.75	50	150
KDLL-2280	2.8	50	150
KDLL-2285	2.85	50	150
KDLL-2290	2.9	50	150
KDLL-2295	2.95	50	150
KDLL-2300	3	65	150

- ▲は生産終了品です。在庫無くなり次第、販売終了となります。
▲This product has been discontinued. Sales will end once current stock is depleted.

KDS-F

超硬ストレートドリル フラット
Tungsten Carbide straight Drill

- 一般鋼～アルミまで幅広い被削材が加工可能
A wide range of work materials can be machined
from general steel to aluminum
- 抜けバリ対策、傾斜面の加工向けに先端をフラットにしました
Flattened tip for deburring and machining of inclined surfaces

[illegible]

- 切削条件表はP125に記載
●Cutting conditions are recommended on page 125.

単位[寸法:mm]
Unit[size:mm]

品番 Code No.	刃径 D Flute Diameter	溝長 ℓ Groove length	全長 L Total Length
KDS-F-2100	1	15	40
KDS-F-2105	1.05	15	40
KDS-F-2110	1.1	15	40
KDS-F-2115	1.15	15	40
KDS-F-2120	1.2	15	40
KDS-F-2125	1.25	15	40
KDS-F-2130	1.3	16	40
KDS-F-2135	1.35	16	40
KDS-F-2140	1.4	16	40
KDS-F-2145	1.45	16	40
KDS-F-2150	1.5	16	40
KDS-F-2155	1.55	16	40
KDS-F-2160	1.6	18	40
KDS-F-2165	1.65	18	40
KDS-F-2170	1.7	18	40
KDS-F-2175	1.75	18	40
KDS-F-2180	1.8	18	40
KDS-F-2185	1.85	18	40
KDS-F-2190	1.9	18	40
KDS-F-2195	1.95	18	40
KDS-F-2200	2	18	40
KDS-F-2205	2.05	18	40
KDS-F-2210	2.1	20	45
KDS-F-2215	2.15	20	45
KDS-F-2220	2.2	20	45
KDS-F-2225	2.25	20	45
KDS-F-2230	2.3	20	45
KDS-F-2235	2.35	20	45
KDS-F-2240	2.4	20	45
KDS-F-2245	2.45	20	45

[illegible]

Carbide

超硬ストレートセミロングドリル フラット
Tungsten Carbide straight semi-long Drill

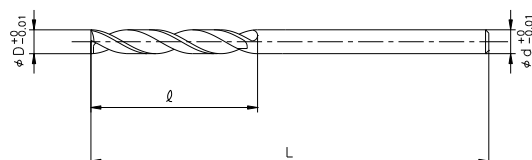
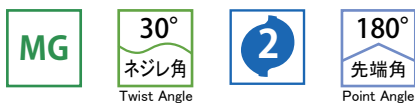
- 一般鋼～アルミまで幅広い被削材が加工可能
A wide range of work materials can be machined from general steel to aluminum
- 抜けバリ対策、傾斜面の加工向けに先端をフラットにしました
Flattened tip for deburring and machining of inclined surfaces

[illegible]

KDL-F

超硬ストレートロングドリル フラット
Tungsten Carbide straight long Drill

- 一般鋼～アルミまで幅広い被削材が加工可能
A wide range of work materials can be machined
from general steel to aluminum
- 抜けバリ対策、傾斜面の加工向けに先端をフラットにしました
Flattened tip for deburring and machining of inclined surfaces

[illegible]

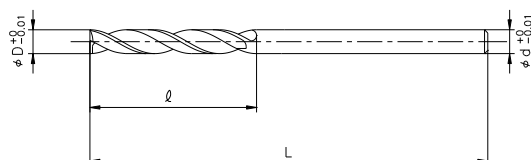
- 切削条件表はP125に記載
●Cutting conditions are recommended on page 125.

単位[寸法:mm]
Unit[size:mm]

品 番 Code No.	刃径 D Flute Diameter	溝長 ℓ Groove length	全長 L Total Length
KDL-F-2100	1	25	75
KDL-F-2105	1.05	25	75
KDL-F-2110	1.1	25	75
KDL-F-2115	1.15	25	75
KDL-F-2120	1.2	25	75
KDL-F-2125	1.25	25	75
KDL-F-2130	1.3	25	75
KDL-F-2135	1.35	25	75
KDL-F-2140	1.4	30	75
KDL-F-2145	1.45	30	75
KDL-F-2150	1.5	30	75
KDL-F-2155	1.55	30	75
KDL-F-2160	1.6	30	75
KDL-F-2165	1.65	30	75
KDL-F-2170	1.7	30	75
KDL-F-2175	1.75	30	75
KDL-F-2180	1.8	30	75
KDL-F-2185	1.85	30	75
KDL-F-2190	1.9	30	75
KDL-F-2195	1.95	30	75
KDL-F-2200	2	30	75
KDL-F-2205	2.05	30	75
KDL-F-2210	2.1	30	75
KDL-F-2215	2.15	30	75
KDL-F-2220	2.2	30	75
KDL-F-2225	2.25	30	75
KDL-F-2230	2.3	30	75
KDL-F-2235	2.35	30	75
KDL-F-2240	2.4	35	100
KDL-F-2245	2.45	35	100

[illegible]

- 切削条件表はP125に記載
- Cutting conditions are recommended on page 125.



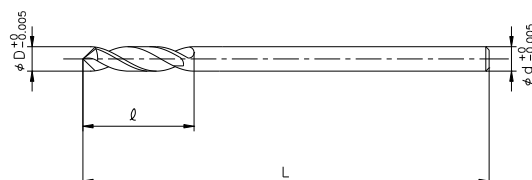
単位[寸法:mm]
Unit[size:mm]

[illegible]

KDS-90

超硬ストレートドリル 90°
Tungsten Carbide straight Drill

- 一般鋼～アルミまで幅広い被削材が加工可能
A wide range of work materials can be machined
from general steel to aluminum
- 先端角を90°にしました
90° tip angle



被削材 Workpiece					
一般構造鋼 General Structural Steel	炭素鋼 Caebon Steel	合金鋼・工具鋼 Alloy Steel Tool Steel	ステンレス鋼 Stainless Steel Ceramics	アルミ合金 Aluminum Alloy	樹脂 Resin
○	○	○	○	○	○

- 切削条件表はP125に記載
●Cutting conditions are recommended on page 125.

単位[寸法:mm]
Unit[size:mm]

品番 Code No.	刃径 D Flute Diameter	溝長 ℓ Groove length	全長 L Total Length
KDS-90-2100	1	15	40
KDS-90-2105	1.05	15	40
KDS-90-2110	1.1	15	40
KDS-90-2115	1.15	15	40
KDS-90-2120	1.2	15	40
KDS-90-2125	1.25	15	40
KDS-90-2130	1.3	16	40
KDS-90-2135	1.35	16	40
KDS-90-2140	1.4	16	40
KDS-90-2145	1.45	16	40
KDS-90-2150	1.5	16	40
KDS-90-2155	1.55	16	40
KDS-90-2160	1.6	18	40
KDS-90-2165	1.65	18	40
KDS-90-2170	1.7	18	40
KDS-90-2175	1.75	18	40
KDS-90-2180	1.8	18	40
KDS-90-2185	1.85	18	40
KDS-90-2190	1.9	18	40
KDS-90-2195	1.95	18	40
KDS-90-2200	2	18	40
KDS-90-2205	2.05	18	40
KDS-90-2210	2.1	20	45
KDS-90-2215	2.15	20	45
KDS-90-2220	2.2	20	45
KDS-90-2225	2.25	20	45
KDS-90-2230	2.3	20	45
KDS-90-2235	2.35	20	45
KDS-90-2240	2.4	20	45
KDS-90-2245	2.45	20	45

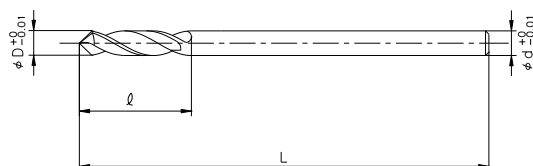
[illegible]

超硬ドリル

Carbide

- MG

30°
ネジレ角
Twist Angle



●切削条件表はP125に記載
●Cutting conditions are recommended on page 125.

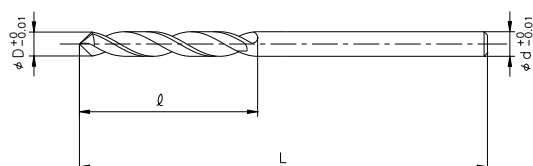
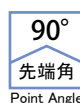
単位[寸法:mm]
Unit[size:mm]

[illegible]

KDL-90

超硬ストレートロングドリル 90°
Tungsten Carbide straight long Drill

- 一般鋼～アルミまで幅広い被削材が加工可能
A wide range of work materials can be machined
from general steel to aluminum
- 先端角を90°にしました
90° tip angle

[illegible]

- 切削条件表はP125に記載
●Cutting conditions are recommended on page 125.

単位[寸法:mm]
Unit[size:mm]

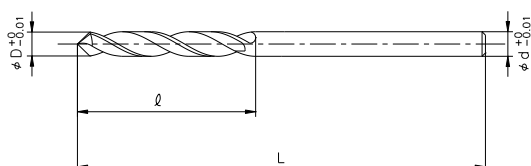
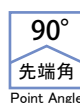
品 番 Code No.	刃径 D Flute Diameter	溝長 ℓ Groove length	全長 L Total Length
KDL-90-2100	1	25	75
KDL-90-2105	1.05	25	75
KDL-90-2110	1.1	25	75
KDL-90-2115	1.15	25	75
KDL-90-2120	1.2	25	75
KDL-90-2125	1.25	25	75
KDL-90-2130	1.3	25	75
KDL-90-2135	1.35	25	75
KDL-90-2140	1.4	30	75
KDL-90-2145	1.45	30	75
KDL-90-2150	1.5	30	75
KDL-90-2155	1.55	30	75
KDL-90-2160	1.6	30	75
KDL-90-2165	1.65	30	75
KDL-90-2170	1.7	30	75
KDL-90-2175	1.75	30	75
KDL-90-2180	1.8	30	75
KDL-90-2185	1.85	30	75
KDL-90-2190	1.9	30	75
KDL-90-2195	1.95	30	75
KDL-90-2200	2	30	75
KDL-90-2205	2.05	30	75
KDL-90-2210	2.1	30	75
KDL-90-2215	2.15	30	75
KDL-90-2220	2.2	30	75
KDL-90-2225	2.25	30	75
KDL-90-2230	2.3	30	75
KDL-90-2235	2.35	30	75
KDL-90-2240	2.4	35	100
KDL-90-2245	2.45	35	100

[illegible]

KDLL-90

超硬ストレートスーパーロングドリル 90°
Tungsten Carbide straight long Drill

- 一般鋼～アルミまで幅広い被削材が加工可能
A wide range of work materials can be machined
from general steel to aluminum
- 先端角を90°にしました
90° tip angle

[illegible]

- 切削条件表はP125に記載
●Cutting conditions are recommended on page 125.

単位[寸法:mm]
Unit[size:mm]

品番 Code No.	刃径 D Flute Diameter	溝長 ℓ Groove length	全長 L Total Length
KDLL-90-2100	1	30	100
KDLL-90-2105	1.05	30	100
KDLL-90-2110	1.1	30	100
KDLL-90-2115	1.15	30	100
KDLL-90-2120	1.2	35	100
KDLL-90-2125	1.25	35	100
KDLL-90-2130	1.3	35	100
KDLL-90-2135	1.35	35	100
KDLL-90-2140	1.4	40	100
KDLL-90-2145	1.45	40	100
KDLL-90-2150	1.5	40	100
KDLL-90-2155	1.55	40	100
KDLL-90-2160	1.6	40	100
KDLL-90-2165	1.65	40	100
KDLL-90-2170	1.7	40	100
KDLL-90-2175	1.75	40	100
KDLL-90-2180	1.8	40	100
KDLL-90-2185	1.85	40	100
KDLL-90-2190	1.9	40	100
KDLL-90-2195	1.95	40	100
KDLL-90-2200	2	40	100
KDLL-90-2205	2.05	40	100
KDLL-90-2210	2.1	40	100
KDLL-90-2215	2.15	40	100
KDLL-90-2220	2.2	40	100
KDLL-90-2225	2.25	40	100
KDLL-90-2230	2.3	40	100
KDLL-90-2235	2.35	40	100
KDLL-90-2240	2.4	50	150
KDLL-90-2245	2.45	50	150

[illegible]

KDSA-2、KDS-2、KDSL-2 KDS-F、KDSL-F、KDS-90、KDSL-90

切削条件参考

Referential Cutting Conditions

- TiA ℓ Nコーティング付のKDSA-2は下記条件の20%～30%アップを推奨いたします。
KDSA-2 with TiA ℓ N coating shall be recommended to increase 20%～30% on the following conditions
- KDS-F・KDSL-Fは下記条件の20%減の送り速度を奨励いたします。
KDS-F and KDSL-F are encouraged to reduce the feed rate by 20% of the following conditions.

被削材 Workpiece	炭素鋼・一般構造用鋼 Carbon Steel・ General Structural Steel SS・S55C		合金鋼・工具鋼 Alloy Steel・Tool Steel SCM・SKT・SKS・SKD		ステンレス鋼 Stainless Steel SUS303,SUS304,SUS416		アルミニウム合金 Aluminum Alloy ADC・AC	
刃 径 Flute Diameter mm	切削速度 Cutting Speed m/min	送り速度 Feed mm/rev	切削速度 Cutting Speed m/min	送り速度 Feed mm/rev	切削速度 Cutting Speed m/min	送り速度 Feed mm/rev	切削速度 Cutting Speed m/min	送り速度 Feed mm/rev
0.3～0.49	10～20	0.005～0.01	5～15	0.003～0.008	3～6	0.001	10～30	0.01～0.04
0.5～0.99	15～30	0.01 ～0.02	8～25	0.005～0.013	7～15	0.001～0.003	15～40	0.02～0.06
1.0～1.99	20～40	0.02 ～0.04	10～30	0.01 ～0.02	10～25	0.003～0.015	20～50	0.04～0.1
2.0～3.0	25～45	0.04 ～0.08	15～30	0.02 ～0.035	13～30	0.01 ～0.025	25～60	0.08～0.2
備 考 Remarks	・工具取付時の振れを最小に抑えてください。 ・切削油を使用して下さい。				・Minimize Run out on fixing tool. ・Use Cutting Oil.			

KDL-2、KDLL-2 KDL-F、KDLL-F、KDL-90、KDLL-90

切削条件参考

Referential Cutting Conditions

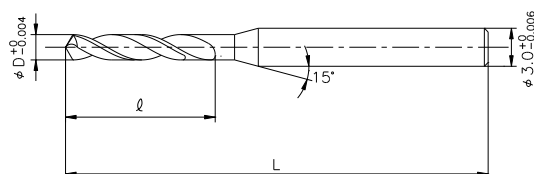
- KDL-F・KDLL-Fは下記条件の20%減の送り速度を奨励いたします。
KDL-F and KDLL-F are encouraged to reduce the feed rate by 20% of the following conditions.

被削材 Workpiece	炭素鋼・一般構造用鋼 Carbon Steel・ General Structural Steel SS・S55C		合金鋼・工具鋼 Alloy Steel・Tool Steel SCM・SKT・SKS・SKD		ステンレス鋼 Stainless Steel SUS303,SUS304,SUS416		アルミニウム合金 Aluminum Alloy ADC・AC	
刃 径 Flute Diameter mm	切削速度 Cutting Speed m/min	送り速度 Feed mm/rev	切削速度 Cutting Speed m/min	送り速度 Feed mm/rev	切削速度 Cutting Speed m/min	送り速度 Feed mm/rev	切削速度 Cutting Speed m/min	送り速度 Feed mm/rev
0.3～0.49	9～15	0.003	8～14	0.002	5～8	0.0005～0.001	10～30	0.01～0.04
0.5～0.99	15～30	0.008～0.017	12～25	0.005～0.013	9～15	0.001 ～0.003	15～40	0.02～0.06
1.0～1.99	20～45	0.02 ～0.04	15～35	0.01 ～0.018	10～25	0.005 ～0.015	20～50	0.04～0.1
2.0～3.0	25～55	0.05 ～0.07	17～28	0.02 ～0.035	13～30	0.02 ～0.03	25～60	0.08～0.2
備 考 Remarks	・工具取付時の振れを最小に抑えてください。 ・切削油を使用して下さい。				・Minimize Run out on fixing tool. ・Use Cutting Oil.			

KDR-DLC

超硬ルーマ型ドリル・DLCコーティング付
Tungsten Carbide 2 Flutes Micro Drill DLC Coating

- 非鉄金属向けにDLCコーティングを施しました
DLC coating for nonferrous metals.



被削材 Workpiece		
アルミ合金 Aluminum Alloy	銅合金 COPPer Alloy	樹脂 Resin
◎	◎	◎

- 切削条件表はP129に記載
- Cutting conditions are recommended on page 129.

単位 [寸法: mm]
Unit [size: mm]

品番 Code No.	刃径 D Flute Diameter	溝長 ℓ Groove length	全長 L Total Length	柄径 Shank Diameter
KDR-DLC-2008	0.08	0.8	38	3
KDR-DLC-2009	0.09	0.9	38	3
KDR-DLC-2010	0.1	1.2	38	3
KDR-DLC-2011	0.11	1.2	38	3
KDR-DLC-2012	0.12	1.4	38	3
KDR-DLC-2013	0.13	1.4	38	3
KDR-DLC-2014	0.14	1.4	38	3
KDR-DLC-2015	0.15	1.8	38	3
KDR-DLC-2016	0.16	1.8	38	3
KDR-DLC-2017	0.17	1.8	38	3
KDR-DLC-2018	0.18	2.1	38	3
KDR-DLC-2019	0.19	2.1	38	3
KDR-DLC-2020	0.2	2.4	38	3
KDR-DLC-2021	0.21	2.4	38	3
KDR-DLC-2022	0.22	2.6	38	3
KDR-DLC-2023	0.23	2.6	38	3
KDR-DLC-2024	0.24	2.6	38	3
KDR-DLC-2025	0.25	3	38	3
KDR-DLC-2026	0.26	3	38	3
KDR-DLC-2027	0.27	3	38	3
KDR-DLC-2028	0.28	3.3	38	3
KDR-DLC-2029	0.29	3.3	38	3
KDR-DLC-2030	0.3	5	38	3
KDR-DLC-2031	0.31	5	38	3
KDR-DLC-2032	0.32	5	38	3
KDR-DLC-2033	0.33	5	38	3
KDR-DLC-2034	0.34	5	38	3
KDR-DLC-2035	0.35	5	38	3
KDR-DLC-2036	0.36	5	38	3
KDR-DLC-2037	0.37	5	38	3

品番 Code No.	刃径 D Flute Diameter	溝長 ℓ Groove length	全長 L Total Length	柄径 Shank Diameter
KDR-DLC-2038	0.38	5	38	3
KDR-DLC-2039	0.39	5	38	3
KDR-DLC-2040	0.4	6	38	3
KDR-DLC-2041	0.41	6	38	3
KDR-DLC-2042	0.42	6	38	3
KDR-DLC-2043	0.43	6	38	3
KDR-DLC-2044	0.44	6	38	3
KDR-DLC-2045	0.45	6	38	3
KDR-DLC-2046	0.46	6	38	3
KDR-DLC-2047	0.47	6	38	3
KDR-DLC-2048	0.48	6	38	3
KDR-DLC-2049	0.49	6	38	3
KDR-DLC-2050	0.5	6	38	3
KDR-DLC-2051	0.51	6	38	3
KDR-DLC-2052	0.52	6	38	3
KDR-DLC-2053	0.53	6	38	3
KDR-DLC-2054	0.54	6	38	3
KDR-DLC-2055	0.55	6	38	3
KDR-DLC-2056	0.56	6	38	3
KDR-DLC-2057	0.57	6	38	3
KDR-DLC-2058	0.58	6	38	3
KDR-DLC-2059	0.59	6	38	3
KDR-DLC-2060	0.6	7	38	3
KDR-DLC-2061	0.61	7	38	3
KDR-DLC-2062	0.62	7	38	3
KDR-DLC-2063	0.63	7	38	3
KDR-DLC-2064	0.64	7	38	3
KDR-DLC-2065	0.65	7	38	3
KDR-DLC-2066	0.66	7	38	3
KDR-DLC-2067	0.67	7	38	3

KDR-DLC

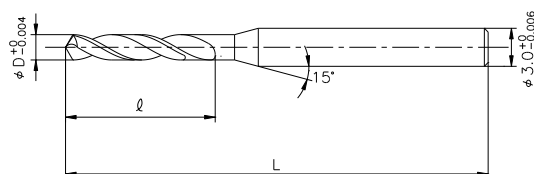
品番 Code No.	刃径 D Flute Diameter	溝長 <i>l</i> Groove length	全長 L Total Length	柄径 Shank Diameter
KDR-DLC-2068	0.68	7	38	3
KDR-DLC-2069	0.69	7	38	3
KDR-DLC-2070	0.7	8	38	3
KDR-DLC-2071	0.71	8	38	3
KDR-DLC-2072	0.72	8	38	3
KDR-DLC-2073	0.73	8	38	3
KDR-DLC-2074	0.74	8	38	3
KDR-DLC-2075	0.75	8	38	3
KDR-DLC-2076	0.76	8	38	3
KDR-DLC-2077	0.77	8	38	3
KDR-DLC-2078	0.78	8	38	3
KDR-DLC-2079	0.79	8	38	3
KDR-DLC-2080	0.8	8	38	3
KDR-DLC-2081	0.81	8	38	3
KDR-DLC-2082	0.82	8	38	3
KDR-DLC-2083	0.83	8	38	3
KDR-DLC-2084	0.84	8	38	3
KDR-DLC-2085	0.85	8	38	3
KDR-DLC-2086	0.86	8	38	3
KDR-DLC-2087	0.87	8	38	3
KDR-DLC-2088	0.88	8	38	3
KDR-DLC-2089	0.89	8	38	3
KDR-DLC-2090	0.9	8	38	3
KDR-DLC-2091	0.91	8	38	3
KDR-DLC-2092	0.92	8	38	3
KDR-DLC-2093	0.93	8	38	3
KDR-DLC-2094	0.94	8	38	3
KDR-DLC-2095	0.95	8	38	3
KDR-DLC-2096	0.96	8	38	3
KDR-DLC-2097	0.97	8	38	3
KDR-DLC-2098	0.98	8	38	3
KDR-DLC-2099	0.99	8	38	3
KDR-DLC-2100	1	10	38	3
KDR-DLC-2105	1.05	10	38	3
KDR-DLC-2110	1.1	10	38	3
KDR-DLC-2115	1.15	10	38	3
KDR-DLC-2120	1.2	10	38	3
KDR-DLC-2125	1.25	10	38	3
KDR-DLC-2130	1.3	10	38	3
KDR-DLC-2135	1.35	10	38	3
KDR-DLC-2140	1.4	10	38	3
KDR-DLC-2145	1.45	10	38	3
KDR-DLC-2150	1.5	10	38	3
KDR-DLC-2155	1.55	10	38	3
KDR-DLC-2160	1.6	22	50	3
KDR-DLC-2165	1.65	22	50	3
KDR-DLC-2170	1.7	22	50	3
KDR-DLC-2175	1.75	22	50	3

[illegible]

KDRS-DLC

超硬ルーマ型ドリル(ショート刃)・DLCコーティング付
Tungsten Carbide 2 Flutes Micro Drill Shot DLC Coating

■非鉄金属向けにDLCコーティングを施しました
DLC coating for nonferrous metals



被削材 Workpiece		
アルミ合金 Aluminum Alloy	銅合金 COPPer Alloy	樹脂 Resin
		

●切削条件表はP129に記載
●Cutting conditions are recommended on page 129.

単位[寸法:mm]
Unit[size:mm]

品番 Code No.	刃径 D Flute Diameter	溝長 ℓ Groove length	全長 L Total Length	柄径 Shank Diameter
KDRS-DLC-2100	1	5	38	3
KDRS-DLC-2105	1.05	5	38	3
KDRS-DLC-2110	1.1	5	38	3
KDRS-DLC-2115	1.15	5	38	3
KDRS-DLC-2120	1.2	5	38	3
KDRS-DLC-2125	1.25	5	38	3
KDRS-DLC-2130	1.3	5	38	3
KDRS-DLC-2135	1.35	5	38	3
KDRS-DLC-2140	1.4	5	38	3
KDRS-DLC-2145	1.45	5	38	3
KDRS-DLC-2150	1.5	5	38	3
KDRS-DLC-2155	1.55	5	38	3
KDRS-DLC-2160	1.6	10	38	3
KDRS-DLC-2165	1.65	10	38	3
KDRS-DLC-2170	1.7	10	38	3
KDRS-DLC-2175	1.75	10	38	3
KDRS-DLC-2180	1.8	10	38	3
KDRS-DLC-2185	1.85	10	38	3
KDRS-DLC-2190	1.9	10	38	3
KDRS-DLC-2195	1.95	10	38	3
KDRS-DLC-2200	2	10	38	3
KDRS-DLC-2205	2.05	10	38	3
KDRS-DLC-2210	2.1	10	38	3
KDRS-DLC-2215	2.15	10	38	3
KDRS-DLC-2220	2.2	10	38	3
KDRS-DLC-2225	2.25	10	38	3
KDRS-DLC-2230	2.3	10	38	3
KDRS-DLC-2235	2.35	10	38	3
KDRS-DLC-2240	2.4	10	38	3
KDRS-DLC-2245	2.45	10	38	3

[illegible]

KDR-DLC、KDRS-DLC

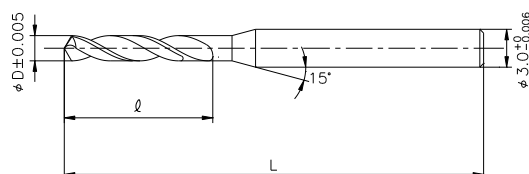
切削条件参考
Referential Cutting Conditions

被削材 Workpiece	アルミニウム合金 Aluminum Alloy		銅合金 Copper Alloy		樹脂 Rejin			
	ADC・AC							
刃 径 Flute Diameter mm	切削速度 Cutting Speed m/min	送り速度 Feed mm/rev	切削速度 Cutting Speed m/min	送り速度 Feed mm/rev	切削速度 Cutting Speed m/min	送り速度 Feed mm/rev		
0.08～0.09	10～20	0.005～0.02	7～10	0.002～0.04	5～10	0.005～0.01		
0.1 ～0.29	10～20	0.01 ～0.04	7～10	0.005～0.015	5～15	0.005～0.02		
0.3 ～0.49	20～30	0.05 ～0.1	15～20	0.01 ～0.04	10～30	0.01 ～0.04		
0.5 ～0.99	30～60	0.02 ～0.06	20～30	0.02 ～0.04	20～30	0.02 ～0.05		
1.0 ～1.99	40～60	0.05 ～0.1	20～30	0.05 ～0.08	30～40	0.05 ～0.1		
2.0 ～3.0	40～60	0.08 ～0.2	30～40	0.08 ～0.2	30～40	0.1 ～0.15		
備 考 Remarks	・ 工具取付時の振れを最小に抑えてください。 ・ Minimize Run out on fixing tool. ・ 樹脂はエアブロー、アルミ合金の場合は切削油を使用して下さい。 ・ Use Air Blow for Resin and use Cutting Oil for Aluminum Alloy.Oil.							

KDRA-2

超硬ルーマ型ドリル・TiA ℓ Nコーティング付
Tungsten Carbide 2 Flutes Micro Drill TiA ℓ N Coating

- TiAlNコーティングを施しました
TiAlN coating is applied
- $\phi 0.1 \sim \phi 3.0$ まで0.01とびにラインナップ
Lineup from $\phi 0.1$ to $\phi 3.0$ in 0.01 increments



被削材 Workpiece			
一般構造鋼 General Structural Steel	炭素鋼 Carbon Steel	合金鋼・工具鋼 Alloy Steel Tool Steel	ステンレス鋼 Stainless Steel Ceramics

- 切削条件表はP144に記載
- Cutting conditions are recommended on page 144.

単位[寸法:mm]
Unit [size:mm]

品番 Code No.	刃径 D Flute Diameter	溝長 ℓ Groove length	全長 L Total Length	柄径 Shank Diameter
KDRA-2010	0.1	1.2	38	3
KDRA-2011	0.11	1.2	38	3
KDRA-2012	0.12	1.4	38	3
KDRA-2013	0.13	1.4	38	3
KDRA-2014	0.14	1.4	38	3
KDRA-2015	0.15	1.8	38	3
KDRA-2016	0.16	1.8	38	3
KDRA-2017	0.17	1.8	38	3
KDRA-2018	0.18	2.1	38	3
KDRA-2019	0.19	2.1	38	3
KDRA-2020	0.2	2.4	38	3
KDRA-2021	0.21	2.4	38	3
KDRA-2022	0.22	2.6	38	3
KDRA-2023	0.23	2.6	38	3
KDRA-2024	0.24	2.6	38	3
KDRA-2025	0.25	3	38	3
KDRA-2026	0.26	3	38	3
KDRA-2027	0.27	3	38	3
KDRA-2028	0.28	3.3	38	3
KDRA-2029	0.29	3.3	38	3
KDRA-2030	0.3	5	38	3
KDRA-2031	0.31	5	38	3
KDRA-2032	0.32	5	38	3
KDRA-2033	0.33	5	38	3
KDRA-2034	0.34	5	38	3
KDRA-2035	0.35	5	38	3
KDRA-2036	0.36	5	38	3
KDRA-2037	0.37	5	38	3
KDRA-2038	0.38	5	38	3
KDRA-2039	0.39	5	38	3

品番 Code No.	刃径 D Flute Diameter	溝長 ℓ Groove length	全長 L Total Length	柄径 Shank Diameter
KDRA-2040	0.4	6	38	3
KDRA-2041	0.41	6	38	3
KDRA-2042	0.42	6	38	3
KDRA-2043	0.43	6	38	3
KDRA-2044	0.44	6	38	3
KDRA-2045	0.45	6	38	3
KDRA-2046	0.46	6	38	3
KDRA-2047	0.47	6	38	3
KDRA-2048	0.48	6	38	3
KDRA-2049	0.49	6	38	3
KDRA-2050	0.5	6	38	3
KDRA-2051	0.51	6	38	3
KDRA-2052	0.52	6	38	3
KDRA-2053	0.53	6	38	3
KDRA-2054	0.54	6	38	3
KDRA-2055	0.55	6	38	3
KDRA-2056	0.56	6	38	3
KDRA-2057	0.57	6	38	3
KDRA-2058	0.58	6	38	3
KDRA-2059	0.59	6	38	3
KDRA-2060	0.6	7	38	3
KDRA-2061	0.61	7	38	3
KDRA-2062	0.62	7	38	3
KDRA-2063	0.63	7	38	3
KDRA-2064	0.64	7	38	3
KDRA-2065	0.65	7	38	3
KDRA-2066	0.66	7	38	3
KDRA-2067	0.67	7	38	3
KDRA-2068	0.68	7	38	3
KDRA-2069	0.69	7	38	3

KDRA-2

品番 Code No.	刃径 D Flute Diameter	溝長 ℓ Groove length	全長 L Total Length	柄径 Shank Diameter
KDRA-2070	0.7	8	38	3
KDRA-2071	0.71	8	38	3
KDRA-2072	0.72	8	38	3
KDRA-2073	0.73	8	38	3
KDRA-2074	0.74	8	38	3
KDRA-2075	0.75	8	38	3
KDRA-2076	0.76	8	38	3
KDRA-2077	0.77	8	38	3
KDRA-2078	0.78	8	38	3
KDRA-2079	0.79	8	38	3
KDRA-2080	0.8	8	38	3
KDRA-2081	0.81	8	38	3
KDRA-2082	0.82	8	38	3
KDRA-2083	0.83	8	38	3
KDRA-2084	0.84	8	38	3
KDRA-2085	0.85	8	38	3
KDRA-2086	0.86	8	38	3
KDRA-2087	0.87	8	38	3
KDRA-2088	0.88	8	38	3
KDRA-2089	0.89	8	38	3
KDRA-2090	0.9	8	38	3
KDRA-2091	0.91	8	38	3
KDRA-2092	0.92	8	38	3
KDRA-2093	0.93	8	38	3
KDRA-2094	0.94	8	38	3
KDRA-2095	0.95	8	38	3
KDRA-2096	0.96	8	38	3
KDRA-2097	0.97	8	38	3
KDRA-2098	0.98	8	38	3
KDRA-2099	0.99	8	38	3
KDRA-2100	1	10	38	3
KDRA-2101	1.01	10	38	3
KDRA-2102	1.02	10	38	3
KDRA-2103	1.03	10	38	3
KDRA-2104	1.04	10	38	3
KDRA-2105	1.05	10	38	3
KDRA-2106	1.06	10	38	3
KDRA-2107	1.07	10	38	3
KDRA-2108	1.08	10	38	3
KDRA-2109	1.09	10	38	3
KDRA-2110	1.1	10	38	3
KDRA-2111	1.11	10	38	3
KDRA-2112	1.12	10	38	3
KDRA-2113	1.13	10	38	3
KDRA-2114	1.14	10	38	3
KDRA-2115	1.15	10	38	3
KDRA-2116	1.16	10	38	3
KDRA-2117	1.17	10	38	3

品番 Code No.	刃径 D Flute Diameter	溝長 ℓ Groove length	全長 L Total Length	柄径 Shank Diameter
KDRA-2118	1.18	10	38	3
KDRA-2119	1.19	10	38	3
KDRA-2120	1.2	10	38	3
KDRA-2121	1.21	10	38	3
KDRA-2122	1.22	10	38	3
KDRA-2123	1.23	10	38	3
KDRA-2124	1.24	10	38	3
KDRA-2125	1.25	10	38	3
KDRA-2126	1.26	10	38	3
KDRA-2127	1.27	10	38	3
KDRA-2128	1.28	10	38	3
KDRA-2129	1.29	10	38	3
KDRA-2130	1.3	10	38	3
KDRA-2131	1.31	10	38	3
KDRA-2132	1.32	10	38	3
KDRA-2133	1.33	10	38	3
KDRA-2134	1.34	10	38	3
KDRA-2135	1.35	10	38	3
KDRA-2136	1.36	10	38	3
KDRA-2137	1.37	10	38	3
KDRA-2138	1.38	10	38	3
KDRA-2139	1.39	10	38	3
KDRA-2140	1.4	10	38	3
KDRA-2141	1.41	10	38	3
KDRA-2142	1.42	10	38	3
KDRA-2143	1.43	10	38	3
KDRA-2144	1.44	10	38	3
KDRA-2145	1.45	10	38	3
KDRA-2146	1.46	10	38	3
KDRA-2147	1.47	10	38	3
KDRA-2148	1.48	10	38	3
KDRA-2149	1.49	10	38	3
KDRA-2150	1.5	10	38	3
KDRA-2151	1.51	10	38	3
KDRA-2152	1.52	10	38	3
KDRA-2153	1.53	10	38	3
KDRA-2154	1.54	10	38	3
KDRA-2155	1.55	10	38	3
KDRA-2156	1.56	10	38	3
KDRA-2157	1.57	10	38	3
KDRA-2158	1.58	10	38	3
KDRA-2159	1.59	10	38	3
KDRA-2160	1.6	22	50	3
KDRA-2161	1.61	22	50	3
KDRA-2162	1.62	22	50	3
KDRA-2163	1.63	22	50	3
KDRA-2164	1.64	22	50	3
KDRA-2165	1.65	22	50	3

KDRA-2

品番 Code No.	刃径 D Flute Diameter	溝長 ℓ Groove length	全長 L Total Length	柄径 Shank Diameter
KDRA-2166	1.66	22	50	3
KDRA-2167	1.67	22	50	3
KDRA-2168	1.68	22	50	3
KDRA-2169	1.69	22	50	3
KDRA-2170	1.7	22	50	3
KDRA-2171	1.71	22	50	3
KDRA-2172	1.72	22	50	3
KDRA-2173	1.73	22	50	3
KDRA-2174	1.74	22	50	3
KDRA-2175	1.75	22	50	3
KDRA-2176	1.76	22	50	3
KDRA-2177	1.77	22	50	3
KDRA-2178	1.78	22	50	3
KDRA-2179	1.79	22	50	3
KDRA-2180	1.8	22	50	3
KDRA-2181	1.81	22	50	3
KDRA-2182	1.82	22	50	3
KDRA-2183	1.83	22	50	3
KDRA-2184	1.84	22	50	3
KDRA-2185	1.85	22	50	3
KDRA-2186	1.86	22	50	3
KDRA-2187	1.87	22	50	3
KDRA-2188	1.88	22	50	3
KDRA-2189	1.89	22	50	3
KDRA-2190	1.9	22	50	3
KDRA-2191	1.91	22	50	3
KDRA-2192	1.92	22	50	3
KDRA-2193	1.93	22	50	3
KDRA-2194	1.94	22	50	3
KDRA-2195	1.95	22	50	3
KDRA-2196	1.96	22	50	3
KDRA-2197	1.97	22	50	3
KDRA-2198	1.98	22	50	3
KDRA-2199	1.99	22	50	3
KDRA-2200	2	22	50	3
KDRA-2201	2.01	22	50	3
KDRA-2202	2.02	22	50	3
KDRA-2203	2.03	22	50	3
KDRA-2204	2.04	22	50	3
KDRA-2205	2.05	22	50	3
KDRA-2206	2.06	22	50	3
KDRA-2207	2.07	22	50	3
KDRA-2208	2.08	22	50	3
KDRA-2209	2.09	22	50	3
KDRA-2210	2.1	22	50	3
KDRA-2211	2.11	22	50	3
KDRA-2212	2.12	22	50	3
KDRA-2213	2.13	22	50	3

品番 Code No.	刃径 D Flute Diameter	溝長 ℓ Groove length	全長 L Total Length	柄径 Shank Diameter
KDRA-2214	2.14	22	50	3
KDRA-2215	2.15	22	50	3
KDRA-2216	2.16	22	50	3
KDRA-2217	2.17	22	50	3
KDRA-2218	2.18	22	50	3
KDRA-2219	2.19	22	50	3
KDRA-2220	2.2	22	50	3
KDRA-2221	2.21	22	50	3
KDRA-2222	2.22	22	50	3
KDRA-2223	2.23	22	50	3
KDRA-2224	2.24	22	50	3
KDRA-2225	2.25	22	50	3
KDRA-2226	2.26	22	50	3
KDRA-2227	2.27	22	50	3
KDRA-2228	2.28	22	50	3
KDRA-2229	2.29	22	50	3
KDRA-2230	2.3	22	50	3
KDRA-2231	2.31	22	50	3
KDRA-2232	2.32	22	50	3
KDRA-2233	2.33	22	50	3
KDRA-2234	2.34	22	50	3
KDRA-2235	2.35	22	50	3
KDRA-2236	2.36	22	50	3
KDRA-2237	2.37	22	50	3
KDRA-2238	2.38	22	50	3
KDRA-2239	2.39	22	50	3
KDRA-2240	2.4	22	50	3
KDRA-2241	2.41	22	50	3
KDRA-2242	2.42	22	50	3
KDRA-2243	2.43	22	50	3
KDRA-2244	2.44	22	50	3
KDRA-2245	2.45	22	50	3
KDRA-2246	2.46	22	50	3
KDRA-2247	2.47	22	50	3
KDRA-2248	2.48	22	50	3
KDRA-2249	2.49	22	50	3
KDRA-2250	2.5	22	50	3
KDRA-2251	2.51	22	50	3
KDRA-2252	2.52	22	50	3
KDRA-2253	2.53	22	50	3
KDRA-2254	2.54	22	50	3
KDRA-2255	2.55	22	50	3
KDRA-2256	2.56	22	50	3
KDRA-2257	2.57	22	50	3
KDRA-2258	2.58	22	50	3
KDRA-2259	2.59	22	50	3
KDRA-2260	2.6	22	50	3
KDRA-2261	2.61	22	50	3

KDRA-2

[illegible][illegible]

KDR-2

超硬ルーマ型ドリル Tungsten Carbide 2 Flutes Micro Drill

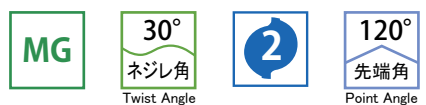
- 一般鋼～アルミまで幅広い被削材が加工可能
A wide range of work materials can be machined from general steel to aluminum
- $\phi 0.03 \sim \phi 3.0$ まで 0.01 とびにラインナップ
Lineup from $\phi 0.03$ to $\phi 3.0$ in 0.01 increments



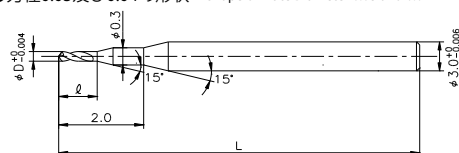
被削材 Workpiece					
一般構造鋼 General Structural Steel	炭素鋼 Carbon Steel	合金鋼・工具鋼 Alloy Steel Tool Steel	ステンレス鋼 Stainless Steel Ceramics	アルミ合金 Aluminum Alloy	樹脂 Resin
○	○	○	○	○	○

- 切削条件表はP144に記載
- Cutting conditions are recommended on page 144.

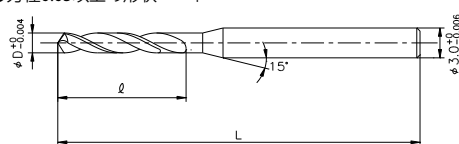
品番 Code No.	刃径 D Flute Diameter	溝長 ℓ Groove length	全長 L Total Length	柄径 Shank Diameter
KDR-2003	0.03	0.3	38	3
KDR-2004	0.04	0.4	38	3
KDR-2005	0.05	0.5	38	3
KDR-2006	0.06	0.6	38	3
KDR-2007	0.07	0.7	38	3
KDR-2008	0.08	0.8	38	3
KDR-2009	0.09	0.9	38	3
KDR-2010	0.1	1.2	38	3
KDR-2011	0.11	1.2	38	3
KDR-2012	0.12	1.4	38	3
KDR-2013	0.13	1.4	38	3
KDR-2014	0.14	1.4	38	3
KDR-2015	0.15	1.8	38	3
KDR-2016	0.16	1.8	38	3
KDR-2017	0.17	1.8	38	3
KDR-2018	0.18	2.1	38	3
KDR-2019	0.19	2.1	38	3
KDR-2020	0.2	2.4	38	3
KDR-2021	0.21	2.4	38	3
KDR-2022	0.22	2.6	38	3
KDR-2023	0.23	2.6	38	3
KDR-2024	0.24	2.6	38	3
KDR-2025	0.25	3	38	3
KDR-2026	0.26	3	38	3
KDR-2027	0.27	3	38	3
KDR-2028	0.28	3.3	38	3
KDR-2029	0.29	3.3	38	3
KDR-2030	0.3	5	38	3
KDR-2031	0.31	5	38	3



- 刃径0.03及び0.04の形状 Shape of Flute Diameter 0.03 and 0.04



- 刃径0.05以上の形状 Shape of Flute Diameter more than 0.05



単位 [寸法: mm]
Unit [size: mm]

品番 Code No.	刃径 D Flute Diameter	溝長 ℓ Groove length	全長 L Total Length	柄径 Shank Diameter
KDR-2032	0.32	5	38	3
KDR-2033	0.33	5	38	3
KDR-2034	0.34	5	38	3
KDR-2035	0.35	5	38	3
KDR-2036	0.36	5	38	3
KDR-2037	0.37	5	38	3
KDR-2038	0.38	5	38	3
KDR-2039	0.39	5	38	3
KDR-2040	0.4	6	38	3
KDR-2041	0.41	6	38	3
KDR-2042	0.42	6	38	3
KDR-2043	0.43	6	38	3
KDR-2044	0.44	6	38	3
KDR-2045	0.45	6	38	3
KDR-2046	0.46	6	38	3
KDR-2047	0.47	6	38	3
KDR-2048	0.48	6	38	3
KDR-2049	0.49	6	38	3
KDR-2050	0.5	6	38	3
KDR-2051	0.51	6	38	3
KDR-2052	0.52	6	38	3
KDR-2053	0.53	6	38	3
KDR-2054	0.54	6	38	3
KDR-2055	0.55	6	38	3
KDR-2056	0.56	6	38	3
KDR-2057	0.57	6	38	3
KDR-2058	0.58	6	38	3
KDR-2059	0.59	6	38	3
KDR-2060	0.6	7	38	3

KDR-2

品番 Code No.	刃径 D Flute Diameter	溝長 ℓ Groove length	全長 L Total Length	柄径 Shank Diameter
KDR-2061	0.61	7	38	3
KDR-2062	0.62	7	38	3
KDR-2063	0.63	7	38	3
KDR-2064	0.64	7	38	3
KDR-2065	0.65	7	38	3
KDR-2066	0.66	7	38	3
KDR-2067	0.67	7	38	3
KDR-2068	0.68	7	38	3
KDR-2069	0.69	7	38	3
KDR-2070	0.7	8	38	3
KDR-2071	0.71	8	38	3
KDR-2072	0.72	8	38	3
KDR-2073	0.73	8	38	3
KDR-2074	0.74	8	38	3
KDR-2075	0.75	8	38	3
KDR-2076	0.76	8	38	3
KDR-2077	0.77	8	38	3
KDR-2078	0.78	8	38	3
KDR-2079	0.79	8	38	3
KDR-2080	0.8	8	38	3
KDR-2081	0.81	8	38	3
KDR-2082	0.82	8	38	3
KDR-2083	0.83	8	38	3
KDR-2084	0.84	8	38	3
KDR-2085	0.85	8	38	3
KDR-2086	0.86	8	38	3
KDR-2087	0.87	8	38	3
KDR-2088	0.88	8	38	3
KDR-2089	0.89	8	38	3
KDR-2090	0.9	8	38	3
KDR-2091	0.91	8	38	3
KDR-2092	0.92	8	38	3
KDR-2093	0.93	8	38	3
KDR-2094	0.94	8	38	3
KDR-2095	0.95	8	38	3
KDR-2096	0.96	8	38	3
KDR-2097	0.97	8	38	3
KDR-2098	0.98	8	38	3
KDR-2099	0.99	8	38	3
KDR-2100	1	10	38	3
KDR-2101	1.01	10	38	3
KDR-2102	1.02	10	38	3
KDR-2103	1.03	10	38	3
KDR-2104	1.04	10	38	3
KDR-2105	1.05	10	38	3
KDR-2106	1.06	10	38	3
KDR-2107	1.07	10	38	3
KDR-2108	1.08	10	38	3

品番 Code No.	刃径 D Flute Diameter	溝長 ℓ Groove length	全長 L Total Length	柄径 Shank Diameter
KDR-2109	1.09	10	38	3
KDR-2110	1.1	10	38	3
KDR-2111	1.11	10	38	3
KDR-2112	1.12	10	38	3
KDR-2113	1.13	10	38	3
KDR-2114	1.14	10	38	3
KDR-2115	1.15	10	38	3
KDR-2116	1.16	10	38	3
KDR-2117	1.17	10	38	3
KDR-2118	1.18	10	38	3
KDR-2119	1.19	10	38	3
KDR-2120	1.2	10	38	3
KDR-2121	1.21	10	38	3
KDR-2122	1.22	10	38	3
KDR-2123	1.23	10	38	3
KDR-2124	1.24	10	38	3
KDR-2125	1.25	10	38	3
KDR-2126	1.26	10	38	3
KDR-2127	1.27	10	38	3
KDR-2128	1.28	10	38	3
KDR-2129	1.29	10	38	3
KDR-2130	1.3	10	38	3
KDR-2131	1.31	10	38	3
KDR-2132	1.32	10	38	3
KDR-2133	1.33	10	38	3
KDR-2134	1.34	10	38	3
KDR-2135	1.35	10	38	3
KDR-2136	1.36	10	38	3
KDR-2137	1.37	10	38	3
KDR-2138	1.38	10	38	3
KDR-2139	1.39	10	38	3
KDR-2140	1.4	10	38	3
KDR-2141	1.41	10	38	3
KDR-2142	1.42	10	38	3
KDR-2143	1.43	10	38	3
KDR-2144	1.44	10	38	3
KDR-2145	1.45	10	38	3
KDR-2146	1.46	10	38	3
KDR-2147	1.47	10	38	3
KDR-2148	1.48	10	38	3
KDR-2149	1.49	10	38	3
KDR-2150	1.5	10	38	3
KDR-2151	1.51	10	38	3
KDR-2152	1.52	10	38	3
KDR-2153	1.53	10	38	3
KDR-2154	1.54	10	38	3
KDR-2155	1.55	10	38	3
KDR-2156	1.56	10	38	3

KDR-2

品番 Code No.	刃径 D Flute Diameter	溝長 ℓ Groove length	全長 L Total Length	柄径 Shank Diameter
KDR-2157	1.57	10	38	3
KDR-2158	1.58	10	38	3
KDR-2159	1.59	10	38	3
KDR-2160	1.6	22	50	3
KDR-2161	1.61	22	50	3
KDR-2162	1.62	22	50	3
KDR-2163	1.63	22	50	3
KDR-2164	1.64	22	50	3
KDR-2165	1.65	22	50	3
KDR-2166	1.66	22	50	3
KDR-2167	1.67	22	50	3
KDR-2168	1.68	22	50	3
KDR-2169	1.69	22	50	3
KDR-2170	1.7	22	50	3
KDR-2171	1.71	22	50	3
KDR-2172	1.72	22	50	3
KDR-2173	1.73	22	50	3
KDR-2174	1.74	22	50	3
KDR-2175	1.75	22	50	3
KDR-2176	1.76	22	50	3
KDR-2177	1.77	22	50	3
KDR-2178	1.78	22	50	3
KDR-2179	1.79	22	50	3
KDR-2180	1.8	22	50	3
KDR-2181	1.81	22	50	3
KDR-2182	1.82	22	50	3
KDR-2183	1.83	22	50	3
KDR-2184	1.84	22	50	3
KDR-2185	1.85	22	50	3
KDR-2186	1.86	22	50	3
KDR-2187	1.87	22	50	3
KDR-2188	1.88	22	50	3
KDR-2189	1.89	22	50	3
KDR-2190	1.9	22	50	3
KDR-2191	1.91	22	50	3
KDR-2192	1.92	22	50	3
KDR-2193	1.93	22	50	3
KDR-2194	1.94	22	50	3
KDR-2195	1.95	22	50	3
KDR-2196	1.96	22	50	3
KDR-2197	1.97	22	50	3
KDR-2198	1.98	22	50	3
KDR-2199	1.99	22	50	3
KDR-2200	2	22	50	3
KDR-2201	2.01	22	50	3
KDR-2202	2.02	22	50	3
KDR-2203	2.03	22	50	3
KDR-2204	2.04	22	50	3

品番 Code No.	刃径 D Flute Diameter	溝長 ℓ Groove length	全長 L Total Length	柄径 Shank Diameter
KDR-2205	2.05	22	50	3
KDR-2206	2.06	22	50	3
KDR-2207	2.07	22	50	3
KDR-2208	2.08	22	50	3
KDR-2209	2.09	22	50	3
KDR-2210	2.1	22	50	3
KDR-2211	2.11	22	50	3
KDR-2212	2.12	22	50	3
KDR-2213	2.13	22	50	3
KDR-2214	2.14	22	50	3
KDR-2215	2.15	22	50	3
KDR-2216	2.16	22	50	3
KDR-2217	2.17	22	50	3
KDR-2218	2.18	22	50	3
KDR-2219	2.19	22	50	3
KDR-2220	2.2	22	50	3
KDR-2221	2.21	22	50	3
KDR-2222	2.22	22	50	3
KDR-2223	2.23	22	50	3
KDR-2224	2.24	22	50	3
KDR-2225	2.25	22	50	3
KDR-2226	2.26	22	50	3
KDR-2227	2.27	22	50	3
KDR-2228	2.28	22	50	3
KDR-2229	2.29	22	50	3
KDR-2230	2.3	22	50	3
KDR-2231	2.31	22	50	3
KDR-2232	2.32	22	50	3
KDR-2233	2.33	22	50	3
KDR-2234	2.34	22	50	3
KDR-2235	2.35	22	50	3
KDR-2236	2.36	22	50	3
KDR-2237	2.37	22	50	3
KDR-2238	2.38	22	50	3
KDR-2239	2.39	22	50	3
KDR-2240	2.4	22	50	3
KDR-2241	2.41	22	50	3
KDR-2242	2.42	22	50	3
KDR-2243	2.43	22	50	3
KDR-2244	2.44	22	50	3
KDR-2245	2.45	22	50	3
KDR-2246	2.46	22	50	3
KDR-2247	2.47	22	50	3
KDR-2248	2.48	22	50	3
KDR-2249	2.49	22	50	3
KDR-2250	2.5	22	50	3
KDR-2251	2.51	22	50	3
KDR-2252	2.52	22	50	3

KDR-2

品番 Code No.	刃径 D Flute Diameter	溝長 ℓ Groove length	全長 L Total Length	柄径 Shank Diameter
KDR-2253	2.53	22	50	3
KDR-2254	2.54	22	50	3
KDR-2255	2.55	22	50	3
KDR-2256	2.56	22	50	3
KDR-2257	2.57	22	50	3
KDR-2258	2.58	22	50	3
KDR-2259	2.59	22	50	3
KDR-2260	2.6	22	50	3
KDR-2261	2.61	22	50	3
KDR-2262	2.62	22	50	3
KDR-2263	2.63	22	50	3
KDR-2264	2.64	22	50	3
KDR-2265	2.65	22	50	3
KDR-2266	2.66	22	50	3
KDR-2267	2.67	22	50	3
KDR-2268	2.68	22	50	3
KDR-2269	2.69	22	50	3
KDR-2270	2.7	25	50	3
KDR-2271	2.71	25	50	3
KDR-2272	2.72	25	50	3
KDR-2273	2.73	25	50	3
KDR-2274	2.74	25	50	3
KDR-2275	2.75	25	50	3
KDR-2276	2.76	25	50	3
KDR-2277	2.77	25	50	3
KDR-2278	2.78	25	50	3
KDR-2279	2.79	25	50	3
KDR-2280	2.8	25	50	3
KDR-2281	2.81	25	50	3
KDR-2282	2.82	25	50	3
KDR-2283	2.83	25	50	3
KDR-2284	2.84	25	50	3
KDR-2285	2.85	25	50	3
KDR-2286	2.86	25	50	3
KDR-2287	2.87	25	50	3
KDR-2288	2.88	25	50	3
KDR-2289	2.89	25	50	3
KDR-2290	2.9	25	50	3
KDR-2291	2.91	25	50	3
KDR-2292	2.92	25	50	3
KDR-2293	2.93	25	50	3
KDR-2294	2.94	25	50	3
KDR-2295	2.95	25	50	3
KDR-2296	2.96	25	50	3
KDR-2297	2.97	25	50	3
KDR-2298	2.98	25	50	3
KDR-2299	2.99	25	50	3
KDR-2300	3	25	50	3

[illegible]

KDR-F

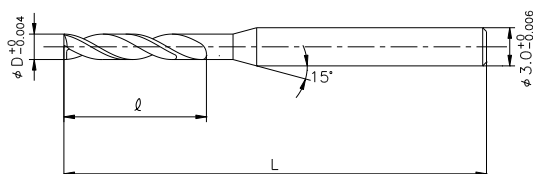
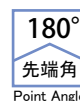
超硬ルーマ型ドリル フラット Tungsten Carbide 2 Flutes Micro Drill

■一般鋼～アルミまで幅広い被削材が加工可能

A wide range of work materials can be machined from general steel to aluminum.

■抜けバリ対策、傾斜面の加工向けに先端をフラットにしました

Flattened tip for deburring and machining of inclined surfaces



被削材 Workpiece					
一般構造鋼 General Structural Steel	炭素鋼 Carbon Steel	合金鋼・工具鋼 Alloy Steel Tool Steel	ステンレス鋼 Stainless Steel Ceramics	アルミ合金 Aluminum Alloy	樹脂 Resin
○	○	○	○	○	○

●切削条件表はP144に記載

●Cutting conditions are recommended on page 144.

単位 [寸法: mm]

Unit [size: mm]

品番 Code No.	刃径 D Flute Diameter	溝長 l Groove length	全長 L Total Length	柄径 Shank Diameter
KDR-F-2050	0.5	5	38	3
KDR-F-2051	0.51	5	38	3
KDR-F-2052	0.52	5	38	3
KDR-F-2053	0.53	5	38	3
KDR-F-2054	0.54	5	38	3
KDR-F-2055	0.55	5	38	3
KDR-F-2056	0.56	5	38	3
KDR-F-2057	0.57	5	38	3
KDR-F-2058	0.58	5	38	3
KDR-F-2059	0.59	5	38	3
KDR-F-2060	0.6	6	38	3
KDR-F-2061	0.61	6	38	3
KDR-F-2062	0.62	6	38	3
KDR-F-2063	0.63	6	38	3
KDR-F-2064	0.64	6	38	3
KDR-F-2065	0.65	6	38	3
KDR-F-2066	0.66	6	38	3
KDR-F-2067	0.67	6	38	3
KDR-F-2068	0.68	6	38	3
KDR-F-2069	0.69	6	38	3
KDR-F-2070	0.7	7	38	3
KDR-F-2071	0.71	7	38	3
KDR-F-2072	0.72	7	38	3
KDR-F-2073	0.73	7	38	3
KDR-F-2074	0.74	7	38	3
KDR-F-2075	0.75	7	38	3
KDR-F-2076	0.76	7	38	3
KDR-F-2077	0.77	7	38	3
KDR-F-2078	0.78	7	38	3
KDR-F-2079	0.7	7	38	3

品番 Code No.	刃径 D Flute Diameter	溝長 l Groove length	全長 L Total Length	柄径 Shank Diameter
KDR-F-2080	0.8	7	38	3
KDR-F-2081	0.81	7	38	3
KDR-F-2082	0.82	7	38	3
KDR-F-2083	0.83	7	38	3
KDR-F-2084	0.84	7	38	3
KDR-F-2085	0.85	7	38	3
KDR-F-2086	0.86	7	38	3
KDR-F-2087	0.87	7	38	3
KDR-F-2088	0.88	7	38	3
KDR-F-2089	0.89	7	38	3
KDR-F-2090	0.9	7	38	3
KDR-F-2091	0.91	7	38	3
KDR-F-2092	0.92	7	38	3
KDR-F-2093	0.93	7	38	3
KDR-F-2094	0.94	7	38	3
KDR-F-2095	0.95	7	38	3
KDR-F-2096	0.96	7	38	3
KDR-F-2097	0.97	7	38	3
KDR-F-2098	0.98	7	38	3
KDR-F-2099	0.99	7	38	3
KDR-F-2100	1	9	38	3
KDR-F-2105	1.05	9	38	3
KDR-F-2110	1.1	9	38	3
KDR-F-2115	1.15	9	38	3
KDR-F-2120	1.2	9	38	3
KDR-F-2125	1.25	9	38	3
KDR-F-2130	1.3	9	38	3
KDR-F-2135	1.35	9	38	3
KDR-F-2140	1.4	9	38	3
KDR-F-2145	1.45	9	38	3

KDR-F

[illegible][illegible]

KDR-90

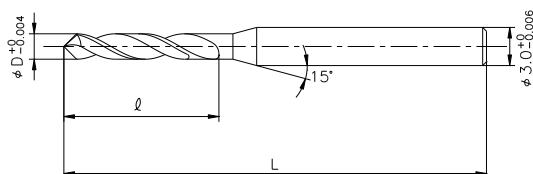
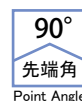
超硬ルーマ型ドリル 90°
Tungsten Carbide 2 Flutes Micro Drill

■一般鋼～アルミまで幅広い被削材が加工可能

A wide range of work materials can be machined from general steel to aluminum

■先端角を90°にしました

90° tip angle



被削材 Workpiece					
一般構造鋼 General Structural Steel	炭素鋼 Carbon Steel	合金鋼・工具鋼 Alloy Steel Tool Steel	ステンレス鋼 Stainless Steel Ceramics	アルミ合金 Aluminum Alloy	樹脂 Resin
○	○	○	○	○	○

●切削条件表はP144に記載

●Cutting conditions are recommended on page 144.

単位[寸法:mm]

Unit [size:mm]

品番 Code No.	刃径 D Flute Diameter	溝長 l Groove length	全長 L Total Length	柄径 Shank Diameter
KDR-90-2050	0.5	5	38	3
KDR-90-2051	0.51	5	38	3
KDR-90-2052	0.52	5	38	3
KDR-90-2053	0.53	5	38	3
KDR-90-2054	0.54	5	38	3
KDR-90-2055	0.55	5	38	3
KDR-90-2056	0.56	5	38	3
KDR-90-2057	0.57	5	38	3
KDR-90-2058	0.58	5	38	3
KDR-90-2059	0.59	5	38	3
KDR-90-2060	0.6	6	38	3
KDR-90-2061	0.61	6	38	3
KDR-90-2062	0.62	6	38	3
KDR-90-2063	0.63	6	38	3
KDR-90-2064	0.64	6	38	3
KDR-90-2065	0.65	6	38	3
KDR-90-2066	0.66	6	38	3
KDR-90-2067	0.67	6	38	3
KDR-90-2068	0.68	6	38	3
KDR-90-2069	0.69	6	38	3
KDR-90-2070	0.7	7	38	3
KDR-90-2071	0.71	7	38	3
KDR-90-2072	0.72	7	38	3
KDR-90-2073	0.73	7	38	3
KDR-90-2074	0.74	7	38	3
KDR-90-2075	0.75	7	38	3
KDR-90-2076	0.76	7	38	3
KDR-90-2077	0.77	7	38	3
KDR-90-2078	0.78	7	38	3
KDR-90-2079	0.79	7	38	3

品番 Code No.	刃径 D Flute Diameter	溝長 l Groove length	全長 L Total Length	柄径 Shank Diameter
KDR-90-2080	0.8	7	38	3
KDR-90-2081	0.81	7	38	3
KDR-90-2082	0.82	7	38	3
KDR-90-2083	0.83	7	38	3
KDR-90-2084	0.84	7	38	3
KDR-90-2085	0.85	7	38	3
KDR-90-2086	0.86	7	38	3
KDR-90-2087	0.87	7	38	3
KDR-90-2088	0.88	7	38	3
KDR-90-2089	0.89	7	38	3
KDR-90-2090	0.9	7	38	3
KDR-90-2091	0.91	7	38	3
KDR-90-2092	0.92	7	38	3
KDR-90-2093	0.93	7	38	3
KDR-90-2094	0.94	7	38	3
KDR-90-2095	0.95	7	38	3
KDR-90-2096	0.96	7	38	3
KDR-90-2097	0.97	7	38	3
KDR-90-2098	0.98	7	38	3
KDR-90-2099	0.99	7	38	3
KDR-90-2100	1	9	38	3
KDR-90-2105	1.05	9	38	3
KDR-90-2110	1.1	9	38	3
KDR-90-2115	1.15	9	38	3
KDR-90-2120	1.2	9	38	3
KDR-90-2125	1.25	9	38	3
KDR-90-2130	1.3	9	38	3
KDR-90-2135	1.35	9	38	3
KDR-90-2140	1.4	9	38	3
KDR-90-2145	1.45	9	38	3

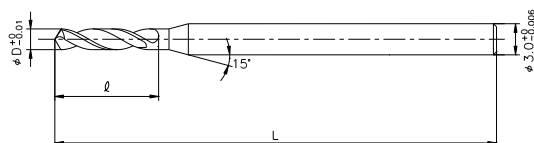
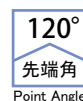
KDR-90

[illegible][illegible]

KDRLS-2

超硬ロングシャンクドリル Tungsten Carbide Long Shank Drill

- 深い穴位置加工用に全長を長くしました
Longer overall length for deep
hole location machining



被削材 Workpiece					
一般構造鋼 General Structural Steel	炭素鋼 Carbon Steel	合金鋼・工具鋼 Alloy Steel Tool Steel	ステンレス鋼 Stainless Steel Ceramics	アルミ合金 Aluminum Alloy	樹脂 Resin
○	○	○	○	○	○

- 切削条件表はP144に記載
●Cutting conditions are recommended on page 144.

単位[寸法:mm]
Unit [size:mm]

品番 Code No.	刃径 D Flute Diameter	溝長 ℓ Groove length	全長 L Total Length	柄径 Shank Diameter
KDRLS-203002	0.3	2	100	3
KDRLS-203005	0.3	5	100	3
KDRLS-203502	0.35	2	100	3
KDRLS-203505	0.35	5	100	3
KDRLS-204003	0.4	3	100	3
KDRLS-204006	0.4	6	100	3
KDRLS-204503	0.45	3	100	3
KDRLS-204506	0.45	6	100	3
KDRLS-205003	0.5	3	100	3
KDRLS-205006	0.5	6	100	3
KDRLS-205503	0.55	3	100	3
KDRLS-205506	0.55	6	100	3
KDRLS-206003	0.6	3	100	3
KDRLS-206006	0.6	6	100	3
KDRLS-206503	0.65	3	100	3
KDRLS-206506	0.65	6	100	3
KDRLS-207004	0.7	4	100	3
KDRLS-207008	0.7	8	100	3
KDRLS-207504	0.75	4	100	3
KDRLS-207508	0.75	8	100	3
KDRLS-208004	0.8	4	100	3
KDRLS-208008	0.8	8	100	3
KDRLS-208504	0.85	4	100	3
KDRLS-208508	0.85	8	100	3
KDRLS-209004	0.9	4	100	3
KDRLS-209008	0.9	8	100	3
KDRLS-209504	0.95	4	100	3
KDRLS-209508	0.95	8	100	3
KDRLS-210005	1	5	100	3
KDRLS-210010	1	10	100	3

品番 Code No.	刃径 D Flute Diameter	溝長 ℓ Groove length	全長 L Total Length	柄径 Shank Diameter
KDRLS-210505	1.05	5	100	3
KDRLS-210510	1.05	10	100	3
KDRLS-211005	1.1	5	100	3
KDRLS-211010	1.1	10	100	3
KDRLS-211505	1.15	5	100	3
KDRLS-211510	1.15	10	100	3
KDRLS-212005	1.2	5	100	3
KDRLS-212010	1.2	10	100	3
KDRLS-212505	1.25	5	100	3
KDRLS-212510	1.25	10	100	3
KDRLS-213005	1.3	5	100	3
KDRLS-213010	1.3	10	100	3
KDRLS-213505	1.35	5	100	3
KDRLS-213510	1.35	10	100	3
KDRLS-214005	1.4	5	100	3
KDRLS-214010	1.4	10	100	3
KDRLS-214505	1.45	5	100	3
KDRLS-214510	1.45	10	100	3
KDRLS-215005	1.5	5	100	3
KDRLS-215010	1.5	10	100	3
KDRLS-215505	1.55	5	100	3
KDRLS-215510	1.55	10	100	3
KDRLS-216007	1.6	7	100	3
KDRLS-216015	1.6	15	100	3
KDRLS-216507	1.65	7	100	3
KDRLS-216515	1.65	15	100	3
KDRLS-217007	1.7	7	100	3
KDRLS-217015	1.7	15	100	3
KDRLS-217507	1.75	7	100	3
KDRLS-217515	1.75	15	100	3

KDRLS-2

[illegible][illegible]

KDR-2、KDRA-2、KDR-90 KDR-F、KDRLS-2

切削条件参考

Referential Cutting Conditions

- KDR-F・KDRLS-2は下記条件の20%減の送り速度を奨励いたします。

KDR-F and KDRLS-2 are encouraged to reduce the feed rate by 20% of the following conditions.

- TiA ℓ Nコーティング付のKDRA-2は下記条件の20%～30%アップを推奨いたします

KDSA-2 with TiA ℓ N coating shall be recommended to increase 20%～30% on the following conditions

被削材 Workpiece	炭素鋼・一般構造用鋼 Carbon Steel・ General Structural Steel SS・S55C		合金鋼・工具鋼 Alloy Steel・Tool Steel SCM・SKT・SKS・SKD		ステンレス鋼 Stainless Steel SUS303,SUS304,SUS416		アルミニウム合金 Aluminum Alloy ADC・AC	
刃 径 Flute Diameter mm	切削速度 Cutting Speed m/min	送り速度 Feed mm/rev	切削速度 Cutting Speed m/min	送り速度 Feed mm/rev	切削速度 Cutting Speed m/min	送り速度 Feed mm/rev	切削速度 Cutting Speed m/min	送り速度 Feed mm/rev
0.03～0.09	2～10	0.0005～0.002	2～ 8	0.0005～0.001	2～ 6	0.0005～0.001	4～ 6	0.0005～0.001
0.1 ～0.29	5～15	0.002 ～0.01	5～12	0.001 ～0.005	2～ 8	0.0005～0.002	10～20	0.005 ～0.02
0.3 ～0.49	10～25	0.005 ～0.02	8～20	0.002 ～0.01	6～12	0.001 ～0.005	10～30	0.01 ～0.04
0.5 ～0.99	15～30	0.01 ～0.04	10～25	0.005 ～0.02	10～20	0.002 ～0.01	15～40	0.02 ～0.06
1.0 ～1.99	20～40	0.02 ～0.06	15～30	0.01 ～0.05	12～25	0.005 ～0.02	20～50	0.04 ～0.1
2.0 ～3.0	25～50	0.05 ～0.1	20～40	0.03 ～0.08	20～36	0.01 ～0.05	25～60	0.08 ～0.2
備 考 Remarks	・工具取付時の振れを最小に抑えてください。 ・切削油を使用して下さい。 ・Minimize Run out on fixing tool. ・Use Cutting Oil.							

KPD-90

超硬ポイントドリル Tungsten Carbide point Drill

- 一般鋼～アルミまで幅広い被削材が加工可能
A wide range of work materials can be machined from general steel to aluminum

- 先端角140°×90°のポイントドリルです
Point drill with a 140° x 90° tip angle



被削材 Workpiece					
一般構造鋼 General Structural Steel	炭素鋼 Carbon Steel	合金鋼・工具鋼 Alloy Steel Tool Steel	ステンレス鋼 Stainless Steel Ceramics	アルミ合金 Aluminum Alloy	樹脂 Resin
○	○	○	○	○	○

- 切削条件表はP147に記載

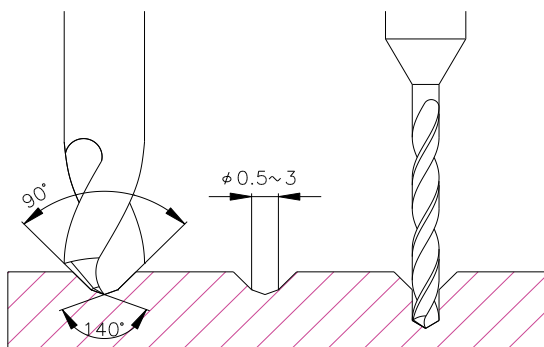
- Cutting conditions are recommended on page 147.

単位 [寸法: mm]

Unit [size: mm]

品番 Code No.	刃径 D Flute Diameter	面取り長さ ℓ chanfa Length	溝長 ℓ1 Groove length	全長 L Total Length	柄径 d Shank Diameter
KPD-9005	0.5	1.25	6	40	3
KPD-9006	0.6	1.2	6	40	3
KPD-9007	0.7	1.15	6	40	3
KPD-9008	0.8	1.1	6	40	3
KPD-9009	0.9	1.05	6	40	3
KPD-9010	1	1	6	40	3
KPD-9011	1.1	1.45	10	50	4
KPD-9012	1.2	1.4	10	50	4
KPD-9013	1.3	1.35	10	50	4
KPD-9014	1.4	1.3	10	50	4
KPD-9015	1.5	1.25	10	50	4
KPD-9016	1.6	1.2	10	50	4
KPD-9017	1.7	1.15	10	50	4

品番 Code No.	刃径 D Flute Diameter	面取り長さ ℓ chanfa Length	溝長 ℓ1 Groove length	全長 L Total Length	柄径 d Shank Diameter
KPD-9018	1.8	1.1	10	50	4
KPD-9019	1.9	1.05	10	50	4
KPD-9020	2	2	12	50	6
KPD-9021	2.1	1.95	12	50	6
KPD-9022	2.2	1.9	12	50	6
KPD-9023	2.3	1.85	12	50	6
KPD-9024	2.4	1.8	12	50	6
KPD-9025	2.5	1.75	12	50	6
KPD-9026	2.6	1.7	12	50	6
KPD-9027	2.7	1.65	12	50	6
KPD-9028	2.8	1.6	12	50	6
KPD-9029	2.9	1.55	12	50	6
KPD-9030	3	1.5	12	50	6



KPDA-90

超硬ポイントドリル・TiA ℓ Nコーティング付
Tungsten Carbide point Drill TiA ℓ N Coating

- TiAlNコーティングを施しました
TiAlN coating is applied
- 先端角140°×90°のポイントドリルです
Point drill with a 140° x 90° tip angle



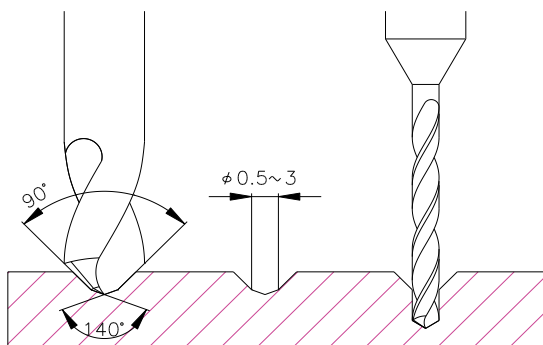
被削材 Workpiece			
一般構造鋼 General Structural Steel	炭素鋼 Carbon Steel	合金鋼・工具鋼 Alloy Steel Tool Steel	ステンレス鋼 Stainless Steel Ceramics

- 切削条件表はP147に記載
●Cutting conditions are recommended on page 147.

単位 [寸法:mm]
Unit [size:mm]

品番 Code No.	刃径 D Flute Diameter	面取り長さ l Chamfer Length	溝長 l1 Groove length	全長 L Total Length	柄径 d Shank Diameter
KPDA-9005	0.5	1.25	6	40	3
KPDA-9006	0.6	1.2	6	40	3
KPDA-9007	0.7	1.15	6	40	3
KPDA-9008	0.8	1.1	6	40	3
KPDA-9009	0.9	1.05	6	40	3
KPDA-9010	1	1	6	40	3
KPDA-9011	1.1	1.45	10	50	4
KPDA-9012	1.2	1.4	10	50	4
KPDA-9013	1.3	1.35	10	50	4
KPDA-9014	1.4	1.3	10	50	4
KPDA-9015	1.5	1.25	10	50	4
KPDA-9016	1.6	1.2	10	50	4
KPDA-9017	1.7	1.15	10	50	4

品番 Code No.	刃径 D Flute Diameter	面取り長さ l Chamfer Length	溝長 l1 Groove length	全長 L Total Length	柄径 d Shank Diameter
KPDA-9018	1.8	1.1	10	50	4
KPDA-9019	1.9	1.05	10	50	4
KPDA-9020	2	2	12	50	6
KPDA-9021	2.1	1.95	12	50	6
KPDA-9022	2.2	1.9	12	50	6
KPDA-9023	2.3	1.85	12	50	6
KPDA-9024	2.4	1.8	12	50	6
KPDA-9025	2.5	1.75	12	50	6
KPDA-9026	2.6	1.7	12	50	6
KPDA-9027	2.7	1.65	12	50	6
KPDA-9028	2.8	1.6	12	50	6
KPDA-9029	2.9	1.55	12	50	6
KPDA-9030	3	1.5	12	50	6



KPD-90

切削条件参考

Referential Cutting Conditions

被削材 Workpiece	炭素鋼・一般構造用鋼 Carbon Steel・ General Structural Steel SS・S55C		合金鋼・工具鋼 Alloy Steel・Tool Steel SCM・SKT・SKS・SKD		ステンレス鋼 Stainless Steel SUS303,SUS304,SUS416		アルミニウム合金 Aluminum Alloy ADC・AC	
刃 径 Flute Diameter mm	切削速度 Cutting Speed m/min	送り速度 Feed mm/rev	切削速度 Cutting Speed m/min	送り速度 Feed mm/rev	切削速度 Cutting Speed m/min	送り速度 Feed mm/rev	切削速度 Cutting Speed m/min	送り速度 Feed mm/rev
0.5~0.9	15~20	0.01~0.03	10~20	0.01~0.02	10~20	0.01~0.02	20~30	0.03~0.06
1.0~1.9	15~25	0.02~0.04	10~25	0.02~0.03	10~25	0.02~0.03	25~35	0.04~0.07
2.0~3.0	20~30	0.03~0.05	15~25	0.02~0.04	15~25	0.02~0.04	30~40	0.04~0.08
備 考 Remarks	・工具取付時の振れを最小に抑えてください。 ・切削油を使用して下さい。 ・Minimize Run out on fixing tool. ・Use Cutting Oil.							

KPDA-90

切削条件参考

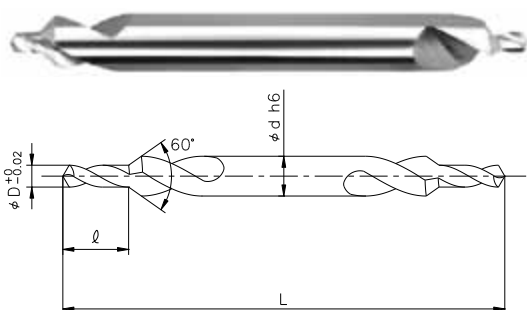
Referential Cutting Conditions

被削材 Workpiece	炭素鋼・一般構造用鋼 Carbon Steel・ General Structural Steel SS・S55C		合金鋼・工具鋼 Alloy Steel・Tool Steel SCM・SKT・SKS・SKD		ステンレス鋼 Stainless Steel SUS303,SUS304,SUS416			
刃 径 Flute Diameter mm	切削速度 Cutting Speed m/min	送り速度 Feed mm/rev	切削速度 Cutting Speed m/min	送り速度 Feed mm/rev	切削速度 Cutting Speed m/min	送り速度 Feed mm/rev		
0.5~0.9	20~30	0.02~0.05	15~25	0.01~0.03	15~25	0.01~0.03		
1.0~1.9	20~35	0.03~0.06	15~30	0.02~0.05	15~30	0.02~0.05		
2.0~3.0	20~40	0.04~0.08	20~35	0.03~0.07	20~35	0.03~0.07		
備 考 Remarks	・工具取付時の振れを最小に抑えてください。 ・切削油を使用して下さい。 ・Minimize Run out on fixing tool. ・Use Cutting Oil.							

KCD-60

超硬センタードリル
Tungsten Carbide 2 Flutes Drill (Turbo Drill)

- 先端径、太径ともネジレ角30°
Twist Angle 30° at both Small Flute Diameter and Large Flute Diameter
- バリを抑制し高効率加工が可能
Possible to cut by High Efficiency without Bur



被削材 Workpiece					
一般構造鋼 General Structural Steel	炭素鋼 Carbon Steel	合金鋼・工具鋼 Alloy Steel Tool Steel	ステンレス鋼 Stainless Steel	アルミ合金 Aluminum Alloy	樹脂 Resin
○	○	○	○	○	○

- 切削条件表はP150に記載
- Cutting conditions are recommended on page 150.

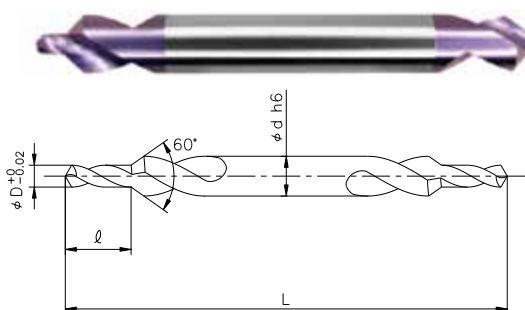
単位 [寸法: mm]
Unit [size: mm]

品番 Code No.	刃径 D Flute Diameter	刃長 ℓ Flute Length	全長 L Total Length	柄径 d Shank Diameter
KCD-6003	0.3	0.3	60	3
KCD-6004	0.4	0.5	60	3
KCD-6005	0.5	0.6	60	3
KCD-6008	0.8	1	60	3
KCD-6010	1	1.3	60	4
KCD-6012	1.2	1.5	60	4
KCD-6015	1.5	1.9	60	4
KCD-6020	2	2.6	60	6
KCD-6020L	2	2.6	150	6
KCD-6025	2.5	3.2	60	6
KCD-6025L	2.5	3.2	150	6
KCD-6030	3	3.9	70	8
KCD-6030L	3	3.9	150	8

KCDA-60

超硬センタードリル・TiAlNコーティング付
Tungsten Carbide 2 Flutes Drill (Turbo Drill)
TiAlN Coating

- TiAlNコーティングを施しました
TiAlN coating is applied
- 先端径、太径ともネジレ角30°
Twist Angle 30° at both Small Flute Diameter and Large Flute Diameter
- バリを抑制し高効率加工が可能
Possible to cut by High Efficiency without Bur



被削材 Workpiece			
一般構造鋼 General Structural Steel	炭素鋼 Carbon Steel	合金鋼・工具鋼 Alloy Steel Tool Steel	ステンレス鋼 Stainless Steel
○	○	○	○

- 切削条件表はP150に記載
- Cutting conditions are recommended on page 150.

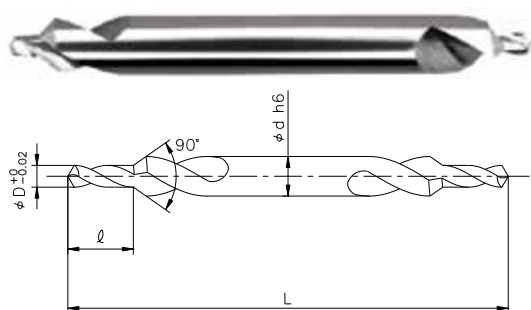
単位 [寸法: mm]
Unit [size: mm]

品番 Code No.	刃径 D Flute Diameter	刃長 ℓ Flute Length	全長 L Total Length	柄径 d Shank Diameter
KCDA-6003	0.3	0.3	60	3
KCDA-6004	0.4	0.5	60	3
KCDA-6005	0.5	0.6	60	3
KCDA-6008	0.8	1	60	3
KCDA-6010	1	1.3	60	4
KCDA-6012	1.2	1.5	60	4
KCDA-6015	1.5	1.9	60	4
KCDA-6020	2	2.6	60	6
KCDA-6020L	2	2.6	150	6
KCDA-6025	2.5	3.2	60	6
KCDA-6025L	2.5	3.2	150	6
KCDA-6030	3	3.9	70	8
KCDA-6030L	3	3.9	150	8

KCD-90

超硬センタードリル
Tungsten Carbide 2 Flutes Drill (Turbo Drill)

- 先端径、太径ともネジレ角30°
Twist Angle 30° at both Small Flute Diameter and Large Flute Diameter
- バリを抑制し高効率加工が可能
Possible to cut by High Efficiency without Bur



被削材 Workpiece					
一般構造鋼 General Structural Steel	炭素鋼 Carbon Steel	合金鋼・工具鋼 Alloy Steel Tool Steel	ステンレス鋼 Stainless Steel	アルミ合金 Aluminum Alloy	樹脂 Resin
○	○	○	○	○	○

- 切削条件表はP150に記載
- Cutting conditions are recommended on page 150.

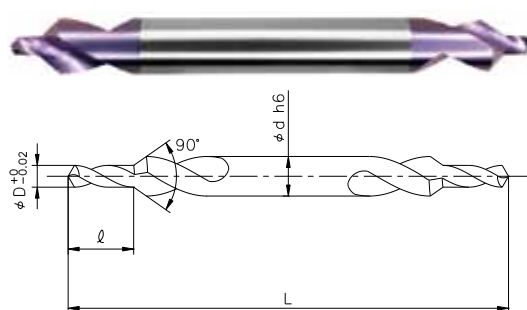
単位 [寸法:mm]
Unit [size:mm]

品番 Code No.	刃径 D Flute Diameter	刃長 ℓ Flute Length	全長 L Total Length	柄径 d Shank Diameter
KCD-9003	0.3	0.3	60	3
KCD-9004	0.4	0.5	60	3
KCD-9005	0.5	0.6	60	3
KCD-9008	0.8	1	60	3
KCD-9010	1	1.3	60	4
KCD-9012	1.2	1.5	60	4
KCD-9015	1.5	1.9	60	4
KCD-9020	2	2.6	60	6
KCD-9020L	2	2.6	150	6
KCD-9025	2.5	3.2	60	6
KCD-9025L	2.5	3.2	150	6
KCD-9030	3	3.9	70	8
KCD-9030L	3	3.9	150	8

KCDA-90

超硬センタードリル・TiA Nコーティング付
Tungsten Carbide 2 Flutes Drill (Turbo Drill)
TiA N Coating

- TiAlNコーティングを施しました
TiAlN coating is applied.
- 先端径、太径ともネジレ角30°
Twist Angle 30° at both Small Flute Diameter and Large Flute Diameter
- バリを抑制し高効率加工が可能
Possible to cut by High Efficiency without Bur



被削材 Workpiece			
一般構造鋼 General Structural Steel	炭素鋼 Carbon Steel	合金鋼・工具鋼 Alloy Steel Tool Steel	ステンレス鋼 Stainless Steel
○	○	○	○

- 切削条件表はP150に記載
- Cutting conditions are recommended on page 150.

単位 [寸法:mm]
Unit [size:mm]

品番 Code No.	刃径 D Flute Diameter	刃長 ℓ Flute Length	全長 L Total Length	柄径 d Shank Diameter
KCDA-9003	0.3	0.3	60	3
KCDA-9004	0.4	0.5	60	3
KCDA-9005	0.5	0.6	60	3
KCDA-9008	0.8	1	60	3
KCDA-9010	1	1.3	60	4
KCDA-9012	1.2	1.5	60	4
KCDA-9015	1.5	1.9	60	4
KCDA-9020	2	2.6	60	6
KCDA-9020L	2	2.6	150	6
KCDA-9025	2.5	3.2	60	6
KCDA-9025L	2.5	3.2	150	6
KCDA-9030	3	3.9	70	8
KCDA-9030L	3	3.9	150	8

KCD-60、KCD-90、KCDA-60、KCDA-90

切削条件参考

Referential Cutting Conditions

●TiAlNコーティング付のKCDAは下記条件の20%～30%アップを推奨いたします。

KCDA with TiAlN coating shall be recommended to increase 20%～30% on the following conditions.

被削材 Workpiece	炭素鋼・一般構造用鋼 Carbon Steel・ General Structural Steel SS・S55C		合金鋼・工具鋼 Alloy Steel・Tool Steel SCM・SKT・SKS・SKD		ステンレス鋼 Stainless Steel SUS303,SUS304,SUS416		鋳鉄 Cast iron FC・FCD		アルミニウム合金 Aluminum Alloy ADC・AC	
刃 径 Flute Diameter mm	回転数 Revolution min ⁻¹	送り速度 Feed mm/rev	回転数 Revolution min ⁻¹	送り速度 Feed mm/rev	回転数 Revolution min ⁻¹	送り速度 Feed mm/rev	回転数 Revolution min ⁻¹	送り速度 Feed mm/rev	回転数 Revolution min ⁻¹	送り速度 Feed mm/rev
0.3	40,000	0.01 ～0.03	32,000	0.005～0.02	25,000	0.005～0.02	40,000	0.01 ～0.03	55,000	0.01～0.03
0.4	33,500	0.015～0.04	26,000	0.01 ～0.03	20,000	0.01 ～0.03	33,500	0.015～0.04	46,000	0.02～0.05
0.5	27,000	0.02 ～0.05	21,000	0.015～0.04	16,000	0.015～0.04	27,000	0.02 ～0.05	37,000	0.02～0.06
0.6	21,000	0.02 ～0.06	16,000	0.02 ～0.05	13,000	0.02 ～0.05	21,000	0.02 ～0.06	29,000	0.01～0.07
0.7	18,000	0.025～0.07	14,000	0.02 ～0.06	10,800	0.02 ～0.06	18,000	0.025～0.07	25,000	0.03～0.08
0.8	16,000	0.03 ～0.08	12,500	0.025～0.07	10,000	0.025～0.07	16,000	0.03 ～0.08	22,000	0.01～0.09
0.9	15,500	0.03 ～0.09	12,000	0.03 ～0.08	9,500	0.03 ～0.08	15,500	0.03 ～0.09	21,000	0.05～0.1
1.0	15,000	0.05 ～0.1	11,500	0.04 ～0.1	9,000	0.04 ～0.1	15,000	0.05 ～0.1	20,500	0.05～0.1
1.2	12,500	0.05 ～0.1	10,000	0.04 ～0.1	7,800	0.04 ～0.1	12,500	0.05 ～0.1	17,500	0.05～0.12
1.5	10,800	0.05 ～0.12	8,500	0.04 ～0.1	6,500	0.04 ～0.1	10,800	0.05 ～0.12	15,000	0.06～0.14
2.0	8,200	0.06 ～0.14	6,400	0.06 ～0.12	4,800	0.06 ～0.12	8,200	0.06 ～0.14	11,500	0.08～0.15
2.5	6,400	0.08 ～0.15	5,000	0.08 ～0.14	4,000	0.08 ～0.14	6,400	0.08 ～0.15	9,000	0.1 ～0.18
3.0	5,500	0.1 ～0.18	4,200	0.08 ～0.15	3,200	0.08 ～0.15	5,500	0.1 ～0.18	7,600	0.1 ～0.2
備 考 Remarks	・回転数と送り速度は同じ割合で調整して下さい。・Adjust Revolution and Feed Speed at the same rate. ・切削油を使用して下さい。・Use Cutting Oil.									

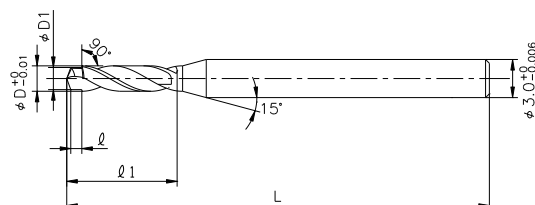
KXDS-2

超硬ドリル（交差穴加工のバリ抑制） Tungsten Carbide 2 Flutes Step Drill

- 一般鋼～アルミまで幅広い被削材が加工可能
A wide range of work materials can be machined from general steel to aluminum
- 先端を段付形状にすることで、バリを抑制し安定した加工が可能です
By making the tip stepped, burrs are suppressed and stable processing is possible



被削材 Workpiece				
一般構造鋼 General Structural Steel	炭素鋼 Carbon Steel	合金鋼・工具鋼 Alloy Steel Tool Steel	ステンレス鋼 Stainless Steel	アルミ合金 Aluminum Alloy
○	○	○	○	○



- 切削条件表はP153に記載
- Cutting conditions are recommended on page 153.

単位 [寸法: mm]
Unit [size: mm]

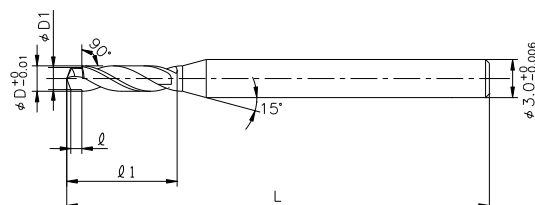
品番 Code No.	刃径 D Flute Diameter	刃径 D1 Flute Diameter	刃長 l Flute Length	溝長 l1 Groove length	全長 L Total Length	柄径 Shank Diameter
KXDS-2005	0.5	0.4	0.5	3	50	3
KXDS-2006	0.6	0.5	0.5	4	50	3
KXDS-2007	0.7	0.6	0.5	4	50	3
KXDS-2008	0.8	0.7	0.5	4	50	3
KXDS-2009	0.9	0.75	0.5	4	50	3
KXDS-2010	1	0.8	0.8	5	50	3
KXDS-2011	1.1	0.9	0.8	5	50	3
KXDS-2012	1.2	1	0.8	5	50	3
KXDS-2013	1.3	1.1	0.8	5	50	3
KXDS-2014	1.4	1.2	0.8	5	50	3
KXDS-2015	1.5	1.2	0.8	5	50	3
KXDS-2016	1.6	1.3	0.8	8	50	3
KXDS-2017	1.7	1.4	0.8	8	50	3
KXDS-2018	1.8	1.5	0.8	8	50	3
KXDS-2019	1.9	1.6	0.8	8	50	3
KXDS-2020	2	1.7	1	10	50	3
KXDS-2021	2.1	1.8	1	10	50	3
KXDS-2022	2.2	1.9	1	10	50	3
KXDS-2023	2.3	2	1	10	50	3
KXDS-2024	2.4	2.1	1	10	50	3
KXDS-2025	2.5	2.1	1	10	50	3
KXDS-2026	2.6	2.2	1	10	50	3
KXDS-2027	2.7	2.3	1	12	50	3
KXDS-2028	2.8	2.4	1	12	50	3
KXDS-2029	2.9	2.5	1	12	50	3
KXDS-2030	3	2.6	1	12	50	3
KXDS-2031	3.1	2.7	1.5	12	50	4
KXDS-2032	3.2	2.8	1.5	12	50	4
KXDS-2033	3.3	2.9	1.5	12	50	4
KXDS-2034	3.4	3	1.5	12	50	4

品番 Code No.	刃径 D Flute Diameter	刃径 D1 Flute Diameter	刃長 l Flute Length	溝長 l1 Groove length	全長 L Total Length	柄径 Shank Diameter
KXDS-2035	3.5	3.1	1.5	12	50	4
KXDS-2036	3.6	3.2	1.5	12	50	4
KXDS-2037	3.7	3.3	1.5	12	50	4
KXDS-2038	3.8	3.4	1.5	12	50	4
KXDS-2039	3.9	3.5	1.5	12	50	4
KXDS-2040	4	3.6	1.5	15	50	4
KXDS-2041	4.1	3.7	1.5	15	50	6
KXDS-2042	4.2	3.8	1.5	15	50	6
KXDS-2043	4.3	3.9	1.5	15	50	6
KXDS-2044	4.4	4	1.5	15	50	6
KXDS-2045	4.5	4.1	1.5	15	50	6
KXDS-2046	4.6	4.2	1.5	15	50	6
KXDS-2047	4.7	4.3	1.5	15	50	6
KXDS-2048	4.8	4.4	1.5	15	50	6
KXDS-2049	4.9	4.5	1.5	15	50	6
KXDS-2050	5	4.6	1.5	18	60	6
KXDS-2051	5.1	4.7	1.5	18	60	6
KXDS-2052	5.2	4.8	1.5	18	60	6
KXDS-2053	5.3	4.9	1.5	18	60	6
KXDS-2054	5.4	5	1.5	18	60	6
KXDS-2055	5.5	5.1	1.5	18	60	6
KXDS-2056	5.6	5.2	1.5	18	60	6
KXDS-2057	5.7	5.3	1.5	18	60	6
KXDS-2058	5.8	5.4	1.5	18	60	6
KXDS-2059	5.9	5.5	1.5	18	60	6
KXDS-2060	6	5.6	1.5	20	60	6

KXDR-2

超硬ドリル（交差穴加工のバリ抑制） Tungsten Carbide 2 Flutes Step Drill

- 一般鋼～アルミまで幅広い被削材が加工可能
A wide range of work materials can be machined from general steel to aluminum.
- 先端を段付形状にすることで、バリを抑制し安定した加工が可能です
By making the tip stepped, burrs are suppressed and stable processing is possible



被削材 Workpiece				
一般構造鋼 General Structural Steel	炭素鋼 Carbon Steel	合金鋼・工具鋼 Alloy Steel Tool Steel	ステンレス鋼 Stainless Steel	アルミ合金 Aluminum Alloy
○	○	○	○	○

- 切削条件表はP153に記載
- Cutting conditions are recommended on page 153.

単位 [寸法:mm]
Unit [size:mm]

品番 Code No.	刃径 D Flute Diameter	刃径 D1 Flute Diameter	刃長 l Flute Length	溝長 l1 Groove length	全長 L Total Length	柄径 Shank Diameter
KXDR-2005	0.5	0.4	0.5	6	50	3
KXDR-2006	0.6	0.5	0.5	7	50	3
KXDR-2007	0.7	0.6	0.5	8	50	3
KXDR-2008	0.8	0.7	0.5	8	50	3
KXDR-2009	0.9	0.75	0.5	8	50	3
KXDR-2010	1	0.8	0.8	10	50	3
KXDR-2011	1.1	0.9	0.8	10	50	3
KXDR-2012	1.2	1	0.8	10	50	3
KXDR-2013	1.3	1.1	0.8	10	50	3
KXDR-2014	1.4	1.2	0.8	10	50	3
KXDR-2015	1.5	1.2	0.8	10	50	3
KXDR-2016	1.6	1.3	0.8	16	50	3
KXDR-2017	1.7	1.4	0.8	16	50	3
KXDR-2018	1.8	1.5	0.8	16	50	3
KXDR-2019	1.9	1.6	0.8	16	50	3
KXDR-2020	2	1.7	1	20	60	3
KXDR-2021	2.1	1.8	1	20	60	3
KXDR-2022	2.2	1.9	1	20	60	3
KXDR-2023	2.3	2	1	20	60	3
KXDR-2024	2.4	2.1	1	20	60	3
KXDR-2025	2.5	2.1	1	22	60	3
KXDR-2026	2.6	2.2	1	22	60	3
KXDR-2027	2.7	2.3	1	25	60	3
KXDR-2028	2.8	2.4	1	25	60	3
KXDR-2029	2.9	2.5	1	25	60	3
KXDR-2030	3	2.6	1	25	60	3
KXDR-2031	3.1	2.7	1.5	25	60	4
KXDR-2032	3.2	2.8	1.5	25	60	4
KXDR-2033	3.3	2.9	1.5	25	60	4
KXDR-2034	3.4	3	1.5	25	60	4

品番 Code No.	刃径 D Flute Diameter	刃径 D1 Flute Diameter	刃長 l Flute Length	溝長 l1 Groove length	全長 L Total Length	柄径 Shank Diameter
KXDR-2035	3.5	3.1	1.5	25	60	4
KXDR-2036	3.6	3.2	1.5	25	60	4
KXDR-2037	3.7	3.3	1.5	25	60	4
KXDR-2038	3.8	3.4	1.5	25	60	4
KXDR-2039	3.9	3.5	1.5	25	60	4
KXDR-2040	4	3.6	1.5	28	70	4
KXDR-2041	4.1	3.7	1.5	28	70	6
KXDR-2042	4.2	3.8	1.5	28	70	6
KXDR-2043	4.3	3.9	1.5	28	70	6
KXDR-2044	4.4	4	1.5	28	70	6
KXDR-2045	4.5	4.1	1.5	28	70	6
KXDR-2046	4.6	4.2	1.5	28	70	6
KXDR-2047	4.7	4.3	1.5	28	70	6
KXDR-2048	4.8	4.4	1.5	28	70	6
KXDR-2049	4.9	4.5	1.5	28	70	6
KXDR-2050	5	4.6	1.5	30	70	6
KXDR-2051	5.1	4.7	1.5	30	70	6
KXDR-2052	5.2	4.8	1.5	30	70	6
KXDR-2053	5.3	4.9	1.5	30	70	6
KXDR-2054	5.4	5	1.5	30	70	6
KXDR-2055	5.5	5.1	1.5	30	70	6
KXDR-2056	5.6	5.2	1.5	30	70	6
KXDR-2057	5.7	5.3	1.5	30	70	6
KXDR-2058	5.8	5.4	1.5	30	70	6
KXDR-2059	5.9	5.5	1.5	30	70	6
KXDR-2060	6	5.6	1.5	35	80	6

KXDS-2

切削条件参考

Referential Cutting Conditions

被削材 Workpiece	炭素鋼・一般構造用鋼 Carbon Steel・ General Structural Steel SS・S55C		合金鋼・工具鋼 Alloy Steel・Tool Steel SCM・SKT・SKS・SKD		ステンレス鋼 Stainless Steel SUS303,SUS304,SUS416		アルミニウム合金 Aluminum Alloy ADC・AC	
刃 径 Flute Diameter mm	切削速度 Cutting Speed m/min	送り速度 Feed mm/rev	切削速度 Cutting Speed m/min	送り速度 Feed mm/rev	切削速度 Cutting Speed m/min	送り速度 Feed mm/rev	切削速度 Cutting Speed m/min	送り速度 Feed mm/rev
0.5~0.9	15~20	0.01~0.03	10~20	0.01~0.02	10~20	0.01~0.02	20~30	0.03~0.06
1.0~1.9	15~25	0.02~0.04	10~25	0.02~0.03	10~25	0.02~0.03	25~35	0.04~0.07
2.0~3.0	20~30	0.03~0.05	15~25	0.03~0.04	15~25	0.03~0.04	30~40	0.04~0.08
3.1~4.0	30~40	0.06~0.08	20~30	0.04~0.06	20~30	0.04~0.06	40~50	0.08~0.1
4.1~5.0	30~40	0.08~0.1	20~30	0.05~0.08	20~30	0.04~0.06	40~50	0.08~0.1
5.1~6.0	30~45	0.1~0.12	20~30	0.05~0.1	20~30	0.05~0.1	50~80	0.1 ~0.2
備 考 Remarks	・工具取付時の振れを最小に抑えてください。 ・切削油を使用して下さい。				・Minimize Run out on fixing tool. ・Use Cutting Oil.			

KXDR-2

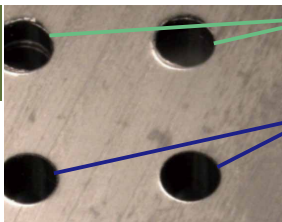
切削条件参考

Referential Cutting Conditions

被削材 Workpiece	炭素鋼・一般構造用鋼 Carbon Steel・ General Structural Steel SS・S55C		合金鋼・工具鋼 Alloy Steel・Tool Steel SCM・SKT・SKS・SKD		ステンレス鋼 Stainless Steel SUS303,SUS304,SUS416		アルミニウム合金 Aluminum Alloy ADC・AC	
刃 径 Flute Diameter mm	切削速度 Cutting Speed m/min	送り速度 Feed mm/rev	切削速度 Cutting Speed m/min	送り速度 Feed mm/rev	切削速度 Cutting Speed m/min	送り速度 Feed mm/rev	切削速度 Cutting Speed m/min	送り速度 Feed mm/rev
0.5~0.9	10~20	0.01~0.03	8~20	0.01~0.02	8~20	0.01~0.02	15~30	0.03~0.06
1.0~1.9	10~25	0.02~0.04	8~25	0.02~0.03	8~25	0.02~0.03	20~35	0.04~0.07
2.0~3.0	15~30	0.03~0.05	12~25	0.03~0.04	12~25	0.02~0.04	25~40	0.04~0.08
3.1~4.0	25~40	0.06~0.08	15~30	0.04~0.06	15~30	0.04~0.06	35~50	0.08~0.1
4.1~5.0	25~40	0.08~0.1	15~30	0.05~0.08	15~30	0.04~0.06	35~50	0.08~0.1
5.1~6.0	30~45	0.1 ~0.12	15~30	0.05~0.1	15~30	0.05~0.1	45~80	0.1 ~0.2
備 考 Remarks	・工具取付時の振れを最小に抑えてください。 ・切削油を使用して下さい。				・Minimize Run out on fixing tool. ・Use Cutting Oil.			

加工事例

Processing Example



超硬ドリル
抜けバリ有り

KXDS-2011
抜けバリほぼ無し

被削材 Workpiece	S50C
使用工具 Tools	KXDS-2011 φ1.1
回転数 (min ⁻¹)	5,800
送り (mm/rev)	0.03
加工深さ (mm)	5.0
ステップ (mm)	0.4

KDD-2

超硬段付ドリル (90° 面取刃付) Tungsten Carbide 2 Flutes Step Drill

- 先端径、太径ともネジレ角30°
Twist Angle 30° at both Small Flute Diameter and Large Flute Diameter
- 先端径φ0.5~φ6まで0.05とびにラインナップ
Line-upped φ0.5~φ6 at pitch 0.05



被削材 Workpiece				
一般構造鋼 General Structural Steel	炭素鋼 Carbon Steel	合金鋼・工具鋼 Alloy Steel Tool Steel	ステンレス鋼 Stainless Steel Ceramics	アルミ合金 Aluminum Alloy
○	○	○	○	○

- 切削条件表はP157に記載
- Cutting conditions are recommended on page 157.

単位 [寸法:mm]
Unit [size:mm]

品番 Code No.	刃径 D Flute Diameter	刃長 ℓ1 Flute Length	溝長 ℓ2 Groove length	全長 L Total Length	柄径 d Shank Diameter	適用ネジ Applicable Thread
KDD-205002	0.5	2	8	50	3	—
KDD-205005	0.5	5	12	50	3	—
KDD-205502	0.55	2	8	50	3	—
KDD-205505	0.55	5	12	50	3	—
KDD-206002	0.6	2	8	50	3	—
KDD-206005	0.6	5	12	50	3	—
KDD-206502	0.65	2	8	50	3	—
KDD-206505	0.65	5	12	50	3	—
KDD-207002	0.7	2	8	50	3	—
KDD-207005	0.7	5	12	50	3	—
KDD-207503	0.75	3	10	50	3	M1×0.25
KDD-207506	0.75	6	15	50	3	M1×0.25
KDD-208003	0.8	3	10	50	3	M1×0.2
KDD-208006	0.8	6	15	50	3	M1×0.2
KDD-208503	0.85	3	10	50	3	M1.1×0.25
KDD-208506	0.85	6	15	50	3	M1.1×0.25
KDD-209003	0.9	3	10	50	3	M1.1×0.2
KDD-209006	0.9	6	15	50	3	M1.1×0.2
KDD-209503	0.95	3	10	50	3	M1.2×0.25
KDD-209506	0.95	6	15	50	3	M1.2×0.25
KDD-210003	1	3	10	50	3	M1.2×0.2
KDD-210006	1	6	15	50	3	M1.2×0.2
KDD-210503	1.05	3	10	50	3	
KDD-210506	1.05	6	15	50	3	
KDD-211003	1.1	3	10	50	3	M1.4×0.3
KDD-211006	1.1	6	15	50	3	M1.4×0.3
KDD-211503	1.15	3	10	50	3	
KDD-211506	1.15	6	15	50	3	
KDD-212003	1.2	3	10	50	3	M1.4×0.2
KDD-212006	1.2	6	15	50	3	M1.4×0.2



品番 Code No.	刃径 D Flute Diameter	刃長 ℓ1 Flute Length	溝長 ℓ2 Groove length	全長 L Total Length	柄径 d Shank Diameter	適用ネジ Applicable Thread
KDD-212503	1.25	3	10	50	3	M1.6×0.35
KDD-212506	1.25	6	15	50	3	M1.6×0.35
KDD-213003	1.3	3	10	50	3	
KDD-213006	1.3	6	15	50	3	
KDD-213503	1.35	3	10	50	3	
KDD-213506	1.35	6	15	50	3	
KDD-214003	1.4	3	10	50	3	M1.6×0.2
KDD-214006	1.4	6	15	50	3	M1.7×0.3
KDD-214503	1.45	3	10	50	3	
KDD-214506	1.45	6	15	50	3	
KDD-215003	1.5	3	10	50	3	M1.7×0.2
KDD-215006	1.5	6	15	50	3	M1.7×0.2
KDD-215503	1.55	3	10	50	3	
KDD-215506	1.55	6	15	50	3	
KDD-216005	1.6	5	15	60	4	M1.8×0.2
KDD-216010	1.6	10	20	60	4	M1.8×0.2
KDD-216505	1.65	5	15	60	4	
KDD-216510	1.65	10	20	60	4	
KDD-217005	1.7	5	15	60	4	
KDD-217010	1.7	10	20	60	4	
KDD-217505	1.75	5	15	60	4	M2×0.25
KDD-217510	1.75	10	20	60	4	M2.2×0.45
KDD-218005	1.8	5	15	60	4	
KDD-218010	1.8	10	20	60	4	
KDD-218505	1.85	5	15	60	4	
KDD-218510	1.85	10	20	60	4	
KDD-219005	1.9	5	15	60	4	
KDD-219010	1.9	10	20	60	4	
KDD-219505	1.95	5	15	60	4	M2.2×0.25
KDD-219510	1.95	10	20	60	4	M2.3×0.35

KDD-2

品番 Code No.	刃径 D Flute Diameter	刃長 ℓ1 Flute Length	溝長 ℓ2 Groove length	全長 L Total Length	柄径 d Shank Diameter	適用ネジ Applicable Thread
KDD-220005	2	5	15	60	4	
KDD-220010	2	10	20	60	4	
KDD-220505	2.05	5	15	60	4	
KDD-220510	2.05	10	20	60	4	
KDD-221006	2.1	6	15	60	4	M2.5×0.45
KDD-221012	2.1	12	20	60	4	M2.5×0.45
KDD-221506	2.15	6	15	60	4	
KDD-221512	2.15	12	20	60	4	
KDD-222006	2.2	6	15	60	4	M2.5×0.35
KDD-222012	2.2	12	20	60	4	M2.6×0.45
KDD-222506	2.25	6	15	60	4	
KDD-222512	2.25	12	20	60	4	
KDD-223006	2.3	6	15	60	4	
KDD-223012	2.3	12	20	60	4	
KDD-223506	2.35	6	15	60	4	
KDD-223512	2.35	12	20	60	4	
KDD-224006	2.4	6	15	60	4	M2.6×0.35
KDD-224012	2.4	12	20	60	4	M2.6×0.35
KDD-224506	2.45	6	15	60	4	
KDD-224512	2.45	12	20	60	4	
KDD-225006	2.5	6	15	70	6	M3×0.5
KDD-225012	2.5	12	20	70	6	M3×0.5
KDD-225506	2.55	6	15	70	6	
KDD-225512	2.55	12	20	70	6	
KDD-226006	2.6	6	15	70	6	
KDD-226012	2.6	12	20	70	6	
KDD-226510	2.65	10	25	70	6	M3×0.35
KDD-226520	2.65	20	35	70	6	M3×0.35
KDD-227010	2.7	10	25	70	6	
KDD-227020	2.7	20	35	70	6	
KDD-227510	2.75	10	25	70	6	
KDD-227520	2.75	20	35	70	6	
KDD-228010	2.8	10	25	70	6	
KDD-228020	2.8	20	35	70	6	
KDD-228510	2.85	10	25	70	6	
KDD-228520	2.85	20	35	70	6	
KDD-229010	2.9	10	25	70	6	
KDD-229020	2.9	20	35	70	6	
KDD-229510	2.95	10	25	70	6	
KDD-229520	2.95	20	35	70	6	
KDD-230010	3	10	25	70	6	M3.5×0.6
KDD-230020	3	20	35	70	6	M3.5×0.6
KDD-230510	3.05	10	25	70	6	
KDD-230520	3.05	20	35	70	6	
KDD-231010	3.1	10	25	70	6	
KDD-231020	3.1	20	35	70	6	
KDD-231510	3.15	10	25	70	6	M3.5×0.35
KDD-231520	3.15	20	35	70	6	M3.5×0.35

品番 Code No.	刃径 D Flute Diameter	刃長 ℓ1 Flute Length	溝長 ℓ2 Groove length	全長 L Total Length	柄径 d Shank Diameter	適用ネジ Applicable Thread
KDD-232010	3.2	10	25	70	6	
KDD-232020	3.2	20	35	70	6	
KDD-232510	3.25	10	25	70	6	
KDD-232520	3.25	20	35	70	6	
KDD-233010	3.3	10	25	70	6	M4×0.7
KDD-233020	3.3	20	35	70	6	M4×0.7
KDD-233510	3.35	10	25	70	6	
KDD-233520	3.35	20	35	70	6	
KDD-234010	3.4	10	25	70	6	
KDD-234020	3.4	20	35	70	6	
KDD-234510	3.45	10	25	70	6	
KDD-234520	3.45	20	35	70	6	
KDD-235010	3.5	10	25	70	6	M4×0.5
KDD-235020	3.5	20	35	70	6	M4×0.5
KDD-235510	3.55	10	25	70	6	
KDD-235520	3.55	20	35	70	6	
KDD-236010	3.6	10	25	70	6	
KDD-236020	3.6	20	35	70	6	
KDD-236510	3.65	10	25	70	6	
KDD-236520	3.65	20	35	70	6	
KDD-237010	3.7	10	25	70	6	
KDD-237020	3.7	20	35	70	6	
KDD-237510	3.75	10	25	70	6	M4.5×0.75
KDD-237520	3.75	20	35	70	6	M4.5×0.75
KDD-238010	3.8	10	25	70	6	
KDD-238020	3.8	20	35	70	6	
KDD-238510	3.85	10	25	70	6	
KDD-238520	3.85	20	35	70	6	
KDD-239010	3.9	10	25	70	6	
KDD-239020	3.9	20	35	70	6	
KDD-239510	3.95	10	25	70	6	
KDD-239520	3.95	20	35	70	6	
KDD-240010	4	10	25	80	8	M4.5×0.5
KDD-240020	4	20	35	80	8	M4.5×0.5
KDD-240510	4.05	10	25	80	8	
KDD-240520	4.05	20	35	80	8	
KDD-241010	4.1	10	25	80	8	M5×0.9
KDD-241020	4.1	20	35	80	8	M5×0.9
KDD-241510	4.15	10	25	80	8	
KDD-241520	4.15	20	35	80	8	
KDD-242010	4.2	10	25	80	8	M5×0.8
KDD-242020	4.2	20	35	80	8	M5×0.8
KDD-242510	4.25	10	25	80	8	
KDD-242520	4.25	20	35	80	8	
KDD-243010	4.3	10	25	80	8	
KDD-243020	4.3	20	35	80	8	
KDD-243510	4.35	10	25	80	8	
KDD-243520	4.35	20	35	80	8	

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品番 Code No.	刃径 D Flute Diameter	刃長 ℓ1 Flute Length	溝長 ℓ2 Groove length	全長 L Total Length	柄径 d Shank Diameter	適用ネジ Applicable Thread
KDD-244010	4.4	10	25	80	8	
KDD-244020	4.4	20	35	80	8	
KDD-244510	4.45	10	25	80	8	
KDD-244520	4.45	20	35	80	8	
KDD-245010	4.5	10	25	80	8	M5×0.5
KDD-245020	4.5	20	35	80	8	M5×0.5
KDD-245510	4.55	10	25	80	8	
KDD-245520	4.55	20	35	80	8	
KDD-246010	4.6	10	25	80	8	M5.5×0.9
KDD-246020	4.6	20	35	80	8	M5.5×0.9
KDD-246510	4.65	10	25	80	8	
KDD-246520	4.65	20	35	80	8	
KDD-247010	4.7	10	25	80	8	
KDD-247020	4.7	20	35	80	8	
KDD-247510	4.75	10	25	80	8	M5.5×0.75
KDD-247520	4.75	20	35	80	8	M5.5×0.75
KDD-248010	4.8	10	25	80	8	
KDD-248020	4.8	20	35	80	8	
KDD-248510	4.85	10	25	80	8	
KDD-248520	4.85	20	35	80	8	
KDD-249010	4.9	10	25	80	8	
KDD-249020	4.9	20	35	80	8	
KDD-249510	4.95	10	25	80	8	
KDD-249520	4.95	20	35	80	8	
KDD-250015	5	15	30	80	8	M5.5×0.5
KDD-250025	5	25	40	80	8	M6×1
KDD-250515	5.05	15	30	80	8	
KDD-250525	5.05	25	40	80	8	
KDD-251015	5.1	15	30	80	8	
KDD-251025	5.1	25	40	80	8	
KDD-251515	5.15	15	30	80	8	
KDD-251525	5.15	25	40	80	8	
KDD-252015	5.2	15	30	80	8	
KDD-252025	5.2	25	40	80	8	
KDD-252515	5.25	15	30	80	8	M6×0.75
KDD-252525	5.25	25	40	80	8	M6×0.75
KDD-253015	5.3	15	30	80	8	
KDD-253025	5.3	25	40	80	8	
KDD-253515	5.35	15	30	80	8	
KDD-253525	5.35	25	40	80	8	
KDD-254015	5.4	15	30	80	8	
KDD-254025	5.4	25	40	80	8	
KDD-254515	5.45	15	30	80	8	
KDD-254525	5.45	25	40	80	8	
KDD-255015	5.5	15	30	80	8	M6×0.5
KDD-255025	5.5	25	40	80	8	M6×0.5
KDD-255515	5.55	15	30	80	8	
KDD-255525	5.55	25	40	80	8	

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KDD-2

切削条件参考

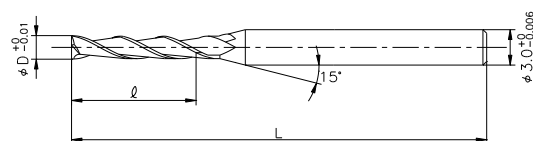
Referential Cutting Conditions

被削材 Workpiece	炭素鋼・一般構造用鋼 Carbon Steel・ General Structural Steel SS・S55C		合金鋼・工具鋼 Alloy Steel・Tool Steel SCM・SKT・SKS・SKD		ステンレス鋼 Stainless Steel SUS303,SUS304,SUS416		アルミニウム合金 Aluminum Alloy ADC・AC	
刃 径 Flute Diameter mm	切削速度 Cutting Speed m/min	送り速度 Feed mm/rev	切削速度 Cutting Speed m/min	送り速度 Feed mm/rev	切削速度 Cutting Speed m/min	送り速度 Feed mm/rev	切削速度 Cutting Speed m/min	送り速度 Feed mm/rev
0.5~0.95	15~30	0.01~0.02	10~20	0.007~0.015	6~15	0.001~0.005	40~60	0.06~0.15
1.0~1.95	25~40	0.02~0.04	10~20	0.01 ~0.02	10~20	0.005~0.02	60~80	0.1 ~0.2
2.0~2.95	25~40	0.04~0.06	15~25	0.02 ~0.04	20~30	0.01 ~0.03	60~80	0.1 ~0.2
3.0~3.95	30~40	0.06~0.08	20~30	0.04 ~0.06	20~30	0.03 ~0.05	60~80	0.1 ~0.2
4.0~4.95	30~40	0.08~0.1	20~30	0.05 ~0.08	20~30	0.04 ~0.06	60~80	0.1 ~0.2
5.0~6.0	30~45	0.1 ~0.12	20~30	0.05 ~0.1	20~30	0.05 ~0.1	80~100	0.2 ~0.3
備 考 Remarks	・工具取付時の振れを最小に抑えてください。 ・切削油を使用して下さい。 ・Minimize Run out on fixing tool. ・Use Cutting Oil.							

KMSE-2

超硬ミニチュアエンドミル
Tungsten Carbide Miniature Endmill

- 刃径をφ0.1～φ3まで0.01とびにラインナップ
Line-upped φ0.1～φ3 at pitch 0.01



被削材 Workpiece					
一般構造鋼 General Structural Steel	炭素鋼 Carbon Steel	合金鋼・工具鋼 Alloy Steel Tool Steel	プリハードン鋼 Pre-Harden Steel	鋳鉄 Cast Iron	アルミ合金 Aluminum Alloy
○	○	○	○	○	○

- 切削条件表はP162に記載
●Cutting conditions are recommended on page 162.

単位[寸法:mm]
Unit [size:mm]

品番 Code No.	刃径 D Flute Diameter	刃長 ℓ Flute Length	全長 L Total Length	柄径 Shank Diameter
KMSE-2010	0.1	0.2	40	3
KMSE-2011	0.11	0.3	40	3
KMSE-2012	0.12	0.3	40	3
KMSE-2013	0.13	0.3	40	3
KMSE-2014	0.14	0.3	40	3
KMSE-2015	0.15	0.3	40	3
KMSE-2016	0.16	0.3	40	3
KMSE-2017	0.17	0.3	40	3
KMSE-2018	0.18	0.3	40	3
KMSE-2019	0.19	0.3	40	3
KMSE-2020	0.2	0.4	40	3
KMSE-2021	0.21	0.5	40	3
KMSE-2022	0.22	0.5	40	3
KMSE-2023	0.23	0.5	40	3
KMSE-2024	0.24	0.5	40	3
KMSE-2025	0.25	0.5	40	3
KMSE-2026	0.26	0.8	40	3
KMSE-2027	0.27	0.8	40	3
KMSE-2028	0.28	0.8	40	3
KMSE-2029	0.29	0.8	40	3
KMSE-2030	0.3	1	40	3
KMSE-2031	0.31	1	40	3
KMSE-2032	0.32	1	40	3
KMSE-2033	0.33	1	40	3
KMSE-2034	0.34	1	40	3
KMSE-2035	0.35	1	40	3
KMSE-2036	0.36	1	40	3
KMSE-2037	0.37	1	40	3
KMSE-2038	0.38	1	40	3
KMSE-2039	0.39	1	40	3

品番 Code No.	刃径 D Flute Diameter	刃長 ℓ Flute Length	全長 L Total Length	柄径 Shank Diameter
KMSE-2040	0.4	1	40	3
KMSE-2041	0.41	1	40	3
KMSE-2042	0.42	1	40	3
KMSE-2043	0.43	1	40	3
KMSE-2044	0.44	1	40	3
KMSE-2045	0.45	1	40	3
KMSE-2046	0.46	1	40	3
KMSE-2047	0.47	1	40	3
KMSE-2048	0.48	1	40	3
KMSE-2049	0.49	1	40	3
KMSE-2050	0.5	1	40	3
KMSE-2051	0.51	1	40	3
KMSE-2052	0.52	1	40	3
KMSE-2053	0.53	1	40	3
KMSE-2054	0.54	1	40	3
KMSE-2055	0.55	1	40	3
KMSE-2056	0.56	1	40	3
KMSE-2057	0.57	1	40	3
KMSE-2058	0.58	1	40	3
KMSE-2059	0.59	1	40	3
KMSE-2060	0.6	2	40	3
KMSE-2061	0.61	2	40	3
KMSE-2062	0.62	2	40	3
KMSE-2063	0.63	2	40	3
KMSE-2064	0.64	2	40	3
KMSE-2065	0.65	2	40	3
KMSE-2066	0.66	2	40	3
KMSE-2067	0.67	2	40	3
KMSE-2068	0.68	2	40	3
KMSE-2069	0.69	2	40	3

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品番 Code No.	刃径 D Flute Diameter	刃長 ℓ Flute Length	全長 L Total Length	柄径 Shank Diameter
KMSE-2070	0.7	2	40	3
KMSE-2071	0.71	2	40	3
KMSE-2072	0.72	2	40	3
KMSE-2073	0.73	2	40	3
KMSE-2074	0.74	2	40	3
KMSE-2075	0.75	2	40	3
KMSE-2076	0.76	2	40	3
KMSE-2077	0.77	2	40	3
KMSE-2078	0.78	2	40	3
KMSE-2079	0.79	2	40	3
KMSE-2080	0.8	2.5	40	3
KMSE-2081	0.81	2.5	40	3
KMSE-2082	0.82	2.5	40	3
KMSE-2083	0.83	2.5	40	3
KMSE-2084	0.84	2.5	40	3
KMSE-2085	0.85	2.5	40	3
KMSE-2086	0.86	2.5	40	3
KMSE-2087	0.87	2.5	40	3
KMSE-2088	0.88	2.5	40	3
KMSE-2089	0.89	2.5	40	3
KMSE-2090	0.9	2.5	40	3
KMSE-2091	0.91	2.5	40	3
KMSE-2092	0.92	2.5	40	3
KMSE-2093	0.93	2.5	40	3
KMSE-2094	0.94	2.5	40	3
KMSE-2095	0.95	2.5	40	3
KMSE-2096	0.96	2.5	40	3
KMSE-2097	0.97	2.5	40	3
KMSE-2098	0.98	2.5	40	3
KMSE-2099	0.99	2.5	40	3
KMSE-2100	1	3	40	3
KMSE-2101	1.01	3	40	3
KMSE-2102	1.02	3	40	3
KMSE-2103	1.03	3	40	3
KMSE-2104	1.04	3	40	3
KMSE-2105	1.05	3	40	3
KMSE-2106	1.06	3	40	3
KMSE-2107	1.07	3	40	3
KMSE-2108	1.08	3	40	3
KMSE-2109	1.09	3	40	3
KMSE-2110	1.1	3	40	3
KMSE-2111	1.11	3	40	3
KMSE-2112	1.12	3	40	3
KMSE-2113	1.13	3	40	3
KMSE-2114	1.14	3	40	3
KMSE-2115	1.15	3	40	3
KMSE-2116	1.16	3	40	3
KMSE-2117	1.17	3	40	3

品番 Code No.	刃径 D Flute Diameter	刃長 ℓ Flute Length	全長 L Total Length	柄径 Shank Diameter
KMSE-2118	1.18	3	40	3
KMSE-2119	1.19	3	40	3
KMSE-2120	1.2	3	40	3
KMSE-2121	1.21	3	40	3
KMSE-2122	1.22	3	40	3
KMSE-2123	1.23	3	40	3
KMSE-2124	1.24	3	40	3
KMSE-2125	1.25	3	40	3
KMSE-2126	1.26	3	40	3
KMSE-2127	1.27	3	40	3
KMSE-2128	1.28	3	40	3
KMSE-2129	1.29	3	40	3
KMSE-2130	1.3	3	40	3
KMSE-2131	1.31	3	40	3
KMSE-2132	1.32	3	40	3
KMSE-2133	1.33	3	40	3
KMSE-2134	1.34	3	40	3
KMSE-2135	1.35	3	40	3
KMSE-2136	1.36	3	40	3
KMSE-2137	1.37	3	40	3
KMSE-2138	1.38	3	40	3
KMSE-2139	1.39	3	40	3
KMSE-2140	1.4	3	40	3
KMSE-2141	1.41	3	40	3
KMSE-2142	1.42	3	40	3
KMSE-2143	1.43	3	40	3
KMSE-2144	1.44	3	40	3
KMSE-2145	1.45	3	40	3
KMSE-2146	1.46	3	40	3
KMSE-2147	1.47	3	40	3
KMSE-2148	1.48	3	40	3
KMSE-2149	1.49	3	40	3
KMSE-2150	1.5	5	40	3
KMSE-2151	1.51	5	40	3
KMSE-2152	1.52	5	40	3
KMSE-2153	1.53	5	40	3
KMSE-2154	1.54	5	40	3
KMSE-2155	1.55	5	40	3
KMSE-2156	1.56	5	40	3
KMSE-2157	1.57	5	40	3
KMSE-2158	1.58	5	40	3
KMSE-2159	1.59	5	40	3
KMSE-2160	1.6	5	40	3
KMSE-2161	1.61	5	40	3
KMSE-2162	1.62	5	40	3
KMSE-2163	1.63	5	40	3
KMSE-2164	1.64	5	40	3
KMSE-2165	1.65	5	40	3

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品番 Code No.	刃径 D Flute Diameter	刃長 ℓ Flute Length	全長 L Total Length	柄径 Shank Diameter
KMSE-2166	1.66	5	40	3
KMSE-2167	1.67	5	40	3
KMSE-2168	1.68	5	40	3
KMSE-2169	1.69	5	40	3
KMSE-2170	1.7	5	40	3
KMSE-2171	1.71	5	40	3
KMSE-2172	1.72	5	40	3
KMSE-2173	1.73	5	40	3
KMSE-2174	1.74	5	40	3
KMSE-2175	1.75	5	40	3
KMSE-2176	1.76	5	40	3
KMSE-2177	1.77	5	40	3
KMSE-2178	1.78	5	40	3
KMSE-2179	1.79	5	40	3
KMSE-2180	1.8	5	40	3
KMSE-2181	1.81	5	40	3
KMSE-2182	1.82	5	40	3
KMSE-2183	1.83	5	40	3
KMSE-2184	1.84	5	40	3
KMSE-2185	1.85	5	40	3
KMSE-2186	1.86	5	40	3
KMSE-2187	1.87	5	40	3
KMSE-2188	1.88	5	40	3
KMSE-2189	1.89	5	40	3
KMSE-2190	1.9	5	40	3
KMSE-2191	1.91	5	40	3
KMSE-2192	1.92	5	40	3
KMSE-2193	1.93	5	40	3
KMSE-2194	1.94	5	40	3
KMSE-2195	1.95	5	40	3
KMSE-2196	1.96	5	40	3
KMSE-2197	1.97	5	40	3
KMSE-2198	1.98	5	40	3
KMSE-2199	1.99	5	40	3
KMSE-2200	2	6	40	3
KMSE-2201	2.01	6	40	3
KMSE-2202	2.02	6	40	3
KMSE-2203	2.03	6	40	3
KMSE-2204	2.04	6	40	3
KMSE-2205	2.05	6	40	3
KMSE-2206	2.06	6	40	3
KMSE-2207	2.07	6	40	3
KMSE-2208	2.08	6	40	3
KMSE-2209	2.09	6	40	3
KMSE-2210	2.1	6	40	3
KMSE-2211	2.11	6	40	3
KMSE-2212	2.12	6	40	3
KMSE-2213	2.13	6	40	3

品番 Code No.	刃径 D Flute Diameter	刃長 ℓ Flute Length	全長 L Total Length	柄径 Shank Diameter
KMSE-2214	2.14	6	40	3
KMSE-2215	2.15	6	40	3
KMSE-2216	2.16	6	40	3
KMSE-2217	2.17	6	40	3
KMSE-2218	2.18	6	40	3
KMSE-2219	2.19	6	40	3
KMSE-2220	2.2	6	40	3
KMSE-2221	2.21	6	40	3
KMSE-2222	2.22	6	40	3
KMSE-2223	2.23	6	40	3
KMSE-2224	2.24	6	40	3
KMSE-2225	2.25	6	40	3
KMSE-2226	2.26	6	40	3
KMSE-2227	2.27	6	40	3
KMSE-2228	2.28	6	40	3
KMSE-2229	2.29	6	40	3
KMSE-2230	2.3	6	40	3
KMSE-2231	2.31	6	40	3
KMSE-2232	2.32	6	40	3
KMSE-2233	2.33	6	40	3
KMSE-2234	2.34	6	40	3
KMSE-2235	2.35	6	40	3
KMSE-2236	2.36	6	40	3
KMSE-2237	2.37	6	40	3
KMSE-2238	2.38	6	40	3
KMSE-2239	2.39	6	40	3
KMSE-2240	2.4	6	40	3
KMSE-2241	2.41	6	40	3
KMSE-2242	2.42	6	40	3
KMSE-2243	2.43	6	40	3
KMSE-2244	2.44	6	40	3
KMSE-2245	2.45	6	40	3
KMSE-2246	2.46	6	40	3
KMSE-2247	2.47	6	40	3
KMSE-2248	2.48	6	40	3
KMSE-2249	2.49	6	40	3
KMSE-2250	2.5	8	40	3
KMSE-2251	2.51	8	40	3
KMSE-2252	2.52	8	40	3
KMSE-2253	2.53	8	40	3
KMSE-2254	2.54	8	40	3
KMSE-2255	2.55	8	40	3
KMSE-2256	2.56	8	40	3
KMSE-2257	2.57	8	40	3
KMSE-2258	2.58	8	40	3
KMSE-2259	2.59	8	40	3
KMSE-2260	2.6	8	40	3
KMSE-2261	2.61	8	40	3

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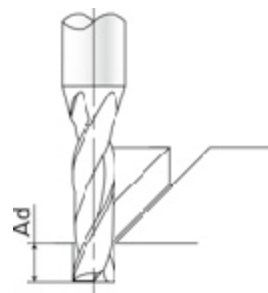
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切削条件参考

Referential Cutting Conditions

刃 径	切込み深さ Cutting Depth
Flute Diameter	Ad
$D < \phi 0.2$	0.08D
$\phi 0.2 \leq D < \phi 1.0$	0.10D
$\phi 1.0 \leq D$	0.30D

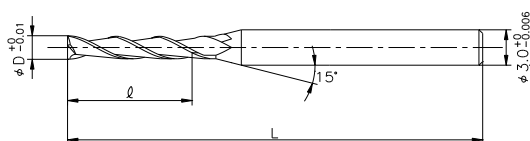


被削材 Workpiece	炭素鋼・一般構造用鋼 Carbon Steel・ General Structural Steel S55C・SS材		合金鋼・工具鋼 Alloy Steel・Tool Steel SCM・SKT・SKS・SKD		プリハードン鋼 Pre-Harden Steel HPM-1・NAK55・SKT		鋳 鉄 Cast iron FC・FCD	
刃 径 Flute Diameter mm	回転数 Revolution min ⁻¹	送り速度 Feed mm/min	回転数 Revolution min ⁻¹	送り速度 Feed mm/min	回転数 Revolution min ⁻¹	送り速度 Feed mm/min	回転数 Revolution min ⁻¹	送り速度 Feed mm/min
0.1 ~0.14	32,000	15	32,000	15	32,000	15	32,000	15
0.15~0.19	32,000	20	32,000	18	32,000	15	32,000	20
0.2 ~0.24	32,000	30	32,000	25	32,000	20	32,000	30
0.25~0.29	32,000	35	32,000	30	29,300	20	32,000	35
0.3 ~0.34	31,500	45	31,000	35	25,100	20	31,500	45
0.35~0.39	31,500	50	27,000	35	22,000	20	31,500	50
0.4 ~0.49	26,500	60	21,600	40	17,400	25	28,200	60
0.5 ~0.59	21,000	60	18,000	40	14,500	25	23,500	65
0.6 ~0.79	15,500	65	13,500	40	11,000	25	17,500	75
0.8 ~0.89	14,000	70	11,500	40	10,000	25	15,500	80
0.9 ~0.99	12,500	75	10,500	40	8,900	25	14,000	90
1 ~1.09	11,500	85	9,800	40	8,100	30	12,500	95
1.1 ~1.19	10,500	85	9,000	40	7,400	30	11,500	95
1.2 ~1.29	9,800	85	8,300	40	6,850	30	10,800	95
1.3 ~1.39	9,100	85	7,700	45	6,350	30	10,000	95
1.4 ~1.49	8,500	85	7,200	45	5,550	30	9,500	95
1.5 ~1.69	7,500	90	6,400	45	5,250	30	8,400	95
1.7 ~1.79	7,000	95	6,000	50	4,950	30	7,950	100
1.8 ~1.99	6,400	100	5,400	55	4,450	30	7,150	105
2 ~2.19	5,800	100	4,900	60	4,050	30	6,500	110
2.2 ~2.39	5,300	100	4,500	65	3,700	30	5,950	110
2.4 ~2.59	4,900	100	4,200	65	3,400	30	5,500	110
2.6 ~2.79	4,500	100	3,900	70	3,150	30	5,100	110
2.8 ~3	4,200	100	3,600	75	2,950	30	4,750	110
備 考 Remarks	・回転数と送り速度は同じ割合で調整して下さい。・ Adjust Revolution and Feed Speed at the same rate. ・切削油を使用して下さい。・ Use Cutting Oil.							

KMSEA-2

超硬ミニチュアエンドミル・TiA ℓ Nコーティング付
Tungsten Carbide Miniature Endmill TiA ℓ N Coating

- TiAlNコーティングを施しました
TiAlN coating is applied
- 刃径をφ0.1〜φ3まで0.01とびにラインナップ
Line-upped φ0.1〜φ3 at pitch 0.01



被削材 Workpiece					
一般構造鋼 General Structural Steel	炭素鋼 Carbon Steel	合金鋼・工具鋼 Alloy Steel Tool Steel	プリハードン鋼 Pre-Harden Steel	鋳鉄 Cast Iron	ステンレス鋼 Stainless Steel
◎	◎	◎	◎	◎	◎

- 切削条件表はP167に記載
- Cutting conditions are recommended on page 167.

単位[寸法:mm]
Unit [size:mm]

品番 Code No.	刃径 D Flute Diameter	刃長 ℓ Flute Length	全長 L Total Length	柄径 Shank Diameter
KMSEA-2010	0.1	0.2	50	3
KMSEA-2011	0.11	0.3	50	3
KMSEA-2012	0.12	0.3	50	3
KMSEA-2013	0.13	0.3	50	3
KMSEA-2014	0.14	0.3	50	3
KMSEA-2015	0.15	0.3	50	3
KMSEA-2016	0.16	0.3	50	3
KMSEA-2017	0.17	0.3	50	3
KMSEA-2018	0.18	0.3	50	3
KMSEA-2019	0.19	0.3	50	3
KMSEA-2020	0.2	0.4	50	3
KMSEA-2021	0.21	0.5	50	3
KMSEA-2022	0.22	0.5	50	3
KMSEA-2023	0.23	0.5	50	3
KMSEA-2024	0.24	0.5	50	3
KMSEA-2025	0.25	0.5	50	3
KMSEA-2026	0.26	0.8	50	3
KMSEA-2027	0.27	0.8	50	3
KMSEA-2028	0.28	0.8	50	3
KMSEA-2029	0.29	0.8	50	3
KMSEA-2030	0.3	1	50	3
KMSEA-2031	0.31	1	50	3
KMSEA-2032	0.32	1	50	3
KMSEA-2033	0.33	1	50	3
KMSEA-2034	0.34	1	50	3
KMSEA-2035	0.35	1	50	3
KMSEA-2036	0.36	1	50	3
KMSEA-2037	0.37	1	50	3
KMSEA-2038	0.38	1	50	3
KMSEA-2039	0.39	1	50	3

品番 Code No.	刃径 D Flute Diameter	刃長 ℓ Flute Length	全長 L Total Length	柄径 Shank Diameter
KMSEA-2040	0.4	1	50	3
KMSEA-2041	0.41	1	50	3
KMSEA-2042	0.42	1	50	3
KMSEA-2043	0.43	1	50	3
KMSEA-2044	0.44	1	50	3
KMSEA-2045	0.45	1	50	3
KMSEA-2046	0.46	1	50	3
KMSEA-2047	0.47	1	50	3
KMSEA-2048	0.48	1	50	3
KMSEA-2049	0.49	1	50	3
KMSEA-2050	0.5	1	50	3
KMSEA-2051	0.51	1	50	3
KMSEA-2052	0.52	1	50	3
KMSEA-2053	0.53	1	50	3
KMSEA-2054	0.54	1	50	3
KMSEA-2055	0.55	1	50	3
KMSEA-2056	0.56	1	50	3
KMSEA-2057	0.57	1	50	3
KMSEA-2058	0.58	1	50	3
KMSEA-2059	0.59	1	50	3
KMSEA-2060	0.6	2	50	3
KMSEA-2061	0.61	2	50	3
KMSEA-2062	0.62	2	50	3
KMSEA-2063	0.63	2	50	3
KMSEA-2064	0.64	2	50	3
KMSEA-2065	0.65	2	50	3
KMSEA-2066	0.66	2	50	3
KMSEA-2067	0.67	2	50	3
KMSEA-2068	0.68	2	50	3
KMSEA-2069	0.69	2	50	3

超硬
エンドミル

Carbide
Endmill

KMSEA-2

品番 Code No.	刃径 D Flute Diameter	刃長 ℓ Flute Length	全長 L Total Length	柄径 Shank Diameter
KMSEA-2070	0.7	2	50	3
KMSEA-2071	0.71	2	50	3
KMSEA-2072	0.72	2	50	3
KMSEA-2073	0.73	2	50	3
KMSEA-2074	0.74	2	50	3
KMSEA-2075	0.75	2	50	3
KMSEA-2076	0.76	2	50	3
KMSEA-2077	0.77	2	50	3
KMSEA-2078	0.78	2	50	3
KMSEA-2079	0.79	2	50	3
KMSEA-2080	0.8	2.5	50	3
KMSEA-2081	0.81	2.5	50	3
KMSEA-2082	0.82	2.5	50	3
KMSEA-2083	0.83	2.5	50	3
KMSEA-2084	0.84	2.5	50	3
KMSEA-2085	0.85	2.5	50	3
KMSEA-2086	0.86	2.5	50	3
KMSEA-2087	0.87	2.5	50	3
KMSEA-2088	0.88	2.5	50	3
KMSEA-2089	0.89	2.5	50	3
KMSEA-2090	0.9	2.5	50	3
KMSEA-2091	0.91	2.5	50	3
KMSEA-2092	0.92	2.5	50	3
KMSEA-2093	0.93	2.5	50	3
KMSEA-2094	0.94	2.5	50	3
KMSEA-2095	0.95	2.5	50	3
KMSEA-2096	0.96	2.5	50	3
KMSEA-2097	0.97	2.5	50	3
KMSEA-2098	0.98	2.5	50	3
KMSEA-2099	0.99	2.5	50	3
KMSEA-2100	1	3	50	3
KMSEA-2101	1.01	3	50	3
KMSEA-2102	1.02	3	50	3
KMSEA-2103	1.03	3	50	3
KMSEA-2104	1.04	3	50	3
KMSEA-2105	1.05	3	50	3
KMSEA-2106	1.06	3	50	3
KMSEA-2107	1.07	3	50	3
KMSEA-2108	1.08	3	50	3
KMSEA-2109	1.09	3	50	3
KMSEA-2110	1.1	3	50	3
KMSEA-2111	1.11	3	50	3
KMSEA-2112	1.12	3	50	3
KMSEA-2113	1.13	3	50	3
KMSEA-2114	1.14	3	50	3
KMSEA-2115	1.15	3	50	3
KMSEA-2116	1.16	3	50	3
KMSEA-2117	1.17	3	50	3

品番 Code No.	刃径 D Flute Diameter	刃長 ℓ Flute Length	全長 L Total Length	柄径 Shank Diameter
KMSEA-2118	1.18	3	50	3
KMSEA-2119	1.19	3	50	3
KMSEA-2120	1.2	3	50	3
KMSEA-2121	1.21	3	50	3
KMSEA-2122	1.22	3	50	3
KMSEA-2123	1.23	3	50	3
KMSEA-2124	1.24	3	50	3
KMSEA-2125	1.25	3	50	3
KMSEA-2126	1.26	3	50	3
KMSEA-2127	1.27	3	50	3
KMSEA-2128	1.28	3	50	3
KMSEA-2129	1.29	3	50	3
KMSEA-2130	1.3	3	50	3
KMSEA-2131	1.31	3	50	3
KMSEA-2132	1.32	3	50	3
KMSEA-2133	1.33	3	50	3
KMSEA-2134	1.34	3	50	3
KMSEA-2135	1.35	3	50	3
KMSEA-2136	1.36	3	50	3
KMSEA-2137	1.37	3	50	3
KMSEA-2138	1.38	3	50	3
KMSEA-2139	1.39	3	50	3
KMSEA-2140	1.4	3	50	3
KMSEA-2141	1.41	3	50	3
KMSEA-2142	1.42	3	50	3
KMSEA-2143	1.43	3	50	3
KMSEA-2144	1.44	3	50	3
KMSEA-2145	1.45	3	50	3
KMSEA-2146	1.46	3	50	3
KMSEA-2147	1.47	3	50	3
KMSEA-2148	1.48	3	50	3
KMSEA-2149	1.49	3	50	3
KMSEA-2150	1.5	5	50	3
KMSEA-2151	1.51	5	50	3
KMSEA-2152	1.52	5	50	3
KMSEA-2153	1.53	5	50	3
KMSEA-2154	1.54	5	50	3
KMSEA-2155	1.55	5	50	3
KMSEA-2156	1.56	5	50	3
KMSEA-2157	1.57	5	50	3
KMSEA-2158	1.58	5	50	3
KMSEA-2159	1.59	5	50	3
KMSEA-2160	1.6	5	50	3
KMSEA-2161	1.61	5	50	3
KMSEA-2162	1.62	5	50	3
KMSEA-2163	1.63	5	50	3
KMSEA-2164	1.64	5	50	3
KMSEA-2165	1.65	5	50	3

KMSEA-2

品番 Code No.	刃径 D Flute Diameter	刃長 ℓ Flute Length	全長 L Total Length	柄径 Shank Diameter
KMSEA-2166	1.66	5	50	3
KMSEA-2167	1.67	5	50	3
KMSEA-2168	1.68	5	50	3
KMSEA-2169	1.69	5	50	3
KMSEA-2170	1.7	5	50	3
KMSEA-2171	1.71	5	50	3
KMSEA-2172	1.72	5	50	3
KMSEA-2173	1.73	5	50	3
KMSEA-2174	1.74	5	50	3
KMSEA-2175	1.75	5	50	3
KMSEA-2176	1.76	5	50	3
KMSEA-2177	1.77	5	50	3
KMSEA-2178	1.78	5	50	3
KMSEA-2179	1.79	5	50	3
KMSEA-2180	1.8	5	50	3
KMSEA-2181	1.81	5	50	3
KMSEA-2182	1.82	5	50	3
KMSEA-2183	1.83	5	50	3
KMSEA-2184	1.84	5	50	3
KMSEA-2185	1.85	5	50	3
KMSEA-2186	1.86	5	50	3
KMSEA-2187	1.87	5	50	3
KMSEA-2188	1.88	5	50	3
KMSEA-2189	1.89	5	50	3
KMSEA-2190	1.9	5	50	3
KMSEA-2191	1.91	5	50	3
KMSEA-2192	1.92	5	50	3
KMSEA-2193	1.93	5	50	3
KMSEA-2194	1.94	5	50	3
KMSEA-2195	1.95	5	50	3
KMSEA-2196	1.96	5	50	3
KMSEA-2197	1.97	5	50	3
KMSEA-2198	1.98	5	50	3
KMSEA-2199	1.99	5	50	3
KMSEA-2200	2	6	50	3
KMSEA-2201	2.01	6	50	3
KMSEA-2202	2.02	6	50	3
KMSEA-2203	2.03	6	50	3
KMSEA-2204	2.04	6	50	3
KMSEA-2205	2.05	6	50	3
KMSEA-2206	2.06	6	50	3
KMSEA-2207	2.07	6	50	3
KMSEA-2208	2.08	6	50	3
KMSEA-2209	2.09	6	50	3
KMSEA-2210	2.1	6	50	3
KMSEA-2211	2.11	6	50	3
KMSEA-2212	2.12	6	50	3
KMSEA-2213	2.13	6	50	3

品番 Code No.	刃径 D Flute Diameter	刃長 ℓ Flute Length	全長 L Total Length	柄径 Shank Diameter
KMSEA-2214	2.14	6	50	3
KMSEA-2215	2.15	6	50	3
KMSEA-2216	2.16	6	50	3
KMSEA-2217	2.17	6	50	3
KMSEA-2218	2.18	6	50	3
KMSEA-2219	2.19	6	50	3
KMSEA-2220	2.2	6	50	3
KMSEA-2221	2.21	6	50	3
KMSEA-2222	2.22	6	50	3
KMSEA-2223	2.23	6	50	3
KMSEA-2224	2.24	6	50	3
KMSEA-2225	2.25	6	50	3
KMSEA-2226	2.26	6	50	3
KMSEA-2227	2.27	6	50	3
KMSEA-2228	2.28	6	50	3
KMSEA-2229	2.29	6	50	3
KMSEA-2230	2.3	6	50	3
KMSEA-2231	2.31	6	50	3
KMSEA-2232	2.32	6	50	3
KMSEA-2233	2.33	6	50	3
KMSEA-2234	2.34	6	50	3
KMSEA-2235	2.35	6	50	3
KMSEA-2236	2.36	6	50	3
KMSEA-2237	2.37	6	50	3
KMSEA-2238	2.38	6	50	3
KMSEA-2239	2.39	6	50	3
KMSEA-2240	2.4	6	50	3
KMSEA-2241	2.41	6	50	3
KMSEA-2242	2.42	6	50	3
KMSEA-2243	2.43	6	50	3
KMSEA-2244	2.44	6	50	3
KMSEA-2245	2.45	6	50	3
KMSEA-2246	2.46	6	50	3
KMSEA-2247	2.47	6	50	3
KMSEA-2248	2.48	6	50	3
KMSEA-2249	2.49	6	50	3
KMSEA-2250	2.5	8	50	3
KMSEA-2251	2.51	8	50	3
KMSEA-2252	2.52	8	50	3
KMSEA-2253	2.53	8	50	3
KMSEA-2254	2.54	8	50	3
KMSEA-2255	2.55	8	50	3
KMSEA-2256	2.56	8	50	3
KMSEA-2257	2.57	8	50	3
KMSEA-2258	2.58	8	50	3
KMSEA-2259	2.59	8	50	3
KMSEA-2260	2.6	8	50	3
KMSEA-2261	2.61	8	50	3

KMSEA-2

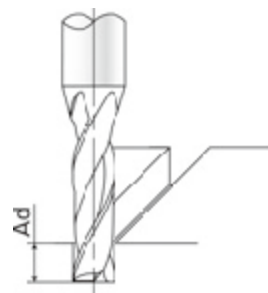
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KMSEA-2

切削条件参考

Referential Cutting Conditions

刃 径	切込み深さ Cutting Depth
Flute Diameter	Ad
$D < \phi 0.2$	0.05D
$\phi 0.2 \leq D < \phi 1.0$	0.1D
$\phi 1.0 \leq D$	0.3D

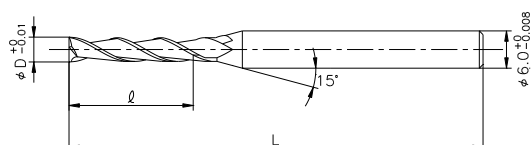


被削材 Workpiece	炭素鋼・一般構造用鋼 Carbon Steel・ General Structural Steel S55C・SS材		合金鋼・工具鋼 Alloy Steel・Tool Steel SCM・SKT・SKS・SKD		プリハードン鋼 Pre-Harden Steel HPM-1・NAK55・SKT		鋳 鉄 Cast iron FC・FCD	
刃 径 Flute Diameter mm	回転数 Revolution min ⁻¹	送り速度 Feed mm/min	回転数 Revolution min ⁻¹	送り速度 Feed mm/min	回転数 Revolution min ⁻¹	送り速度 Feed mm/min	回転数 Revolution min ⁻¹	送り速度 Feed mm/min
0.1 ~ 0.14	32,000	15	32,000	15	32,000	10	32,000	15
0.15 ~ 0.19	32,000	20	32,000	20	32,000	15	32,000	20
0.2 ~ 0.24	32,000	50	32,000	45	32,000	30	32,000	50
0.25 ~ 0.29	32,000	60	32,000	55	32,000	30	32,000	60
0.3 ~ 0.34	32,000	70	32,000	60	32,000	40	32,000	70
0.35 ~ 0.39	32,000	80	32,000	70	32,000	45	32,000	80
0.4 ~ 0.49	32,000	85	32,000	80	32,000	50	32,000	85
0.5 ~ 0.59	32,000	85	29,500	80	25,000	60	32,000	85
0.6 ~ 0.79	32,000	85	24,500	80	21,000	60	32,000	85
0.8 ~ 0.89	24,500	90	18,500	80	15,500	70	24,500	90
0.9 ~ 0.99	22,000	90	16,500	80	14,000	70	22,000	90
1 ~ 1.09	19,500	100	14,500	80	12,500	75	19,500	100
1.1 ~ 1.19	18,400	100	13,700	80	11,800	75	18,400	100
1.2 ~ 1.29	17,300	100	12,900	80	11,100	75	17,300	100
1.3 ~ 1.39	16,200	100	12,100	90	10,400	75	16,200	100
1.4 ~ 1.49	15,100	110	11,300	90	9,700	75	15,100	110
1.5 ~ 1.69	14,000	110	10,500	90	8,900	75	14,000	110
1.7 ~ 1.79	13,000	120	9,800	100	8,300	75	13,000	120
1.8 ~ 1.99	12,000	120	9,100	100	7,600	75	12,000	120
2 ~ 2.19	11,000	130	8,400	110	7,000	75	11,000	130
2.2 ~ 2.39	10,000	130	7,900	110	6,600	75	10,000	130
2.4 ~ 2.59	9,000	140	7,400	120	6,200	80	9,000	140
2.6 ~ 2.79	8,000	140	6,900	120	5,800	80	8,000	140
2.8 ~ 3	7,400	150	6,350	130	5,300	90	7,400	150
備 考 Remarks	・回転数と送り速度は同じ割合で調整して下さい。 ・切削油を使用して下さい。				・Adjust Revolution and Feed Speed at the same rate. ・Use Cutting Oil.			

KSE-2

超硬ソリッド2枚刃エンドミル Tungsten Carbide Miniature Endmill

- 刃径をφ3~φ6まで0.01とびにラインナップ
Line-upped φ3~φ6 at pitch 0.01



被削材 Workpiece					
一般構造鋼 General Structural Steel	炭素鋼 Carbon Steel	合金鋼・工具鋼 Alloy Steel Tool Steel	プリハードン鋼 Pre-Harden Steel	鋳鉄 Cast Iron	アルミ合金 Aluminum Alloy
○	○	○	○	○	○

- 切削条件表はP172に記載

- Cutting conditions are recommended on page 172.

単位 [寸法:mm]

Unit [size:mm]

品番 Code No.	刃径 D Flute Diameter	刃長 ℓ Flute Length	全長 L Total Length	柄径 Shank Diameter
KSE-2300	3	10	50	6
KSE-2301	3.01	10	50	6
KSE-2302	3.02	10	50	6
KSE-2303	3.03	10	50	6
KSE-2304	3.04	10	50	6
KSE-2305	3.05	10	50	6
KSE-2306	3.06	10	50	6
KSE-2307	3.07	10	50	6
KSE-2308	3.08	10	50	6
KSE-2309	3.09	10	50	6
KSE-2310	3.1	10	50	6
KSE-2311	3.11	10	50	6
KSE-2312	3.12	10	50	6
KSE-2313	3.13	10	50	6
KSE-2314	3.14	10	50	6
KSE-2315	3.15	10	50	6
KSE-2316	3.16	10	50	6
KSE-2317	3.17	10	50	6
KSE-2318	3.18	10	50	6
KSE-2319	3.19	10	50	6
KSE-2320	3.2	10	50	6
KSE-2321	3.21	10	50	6
KSE-2322	3.22	10	50	6
KSE-2323	3.23	10	50	6
KSE-2324	3.24	10	50	6
KSE-2325	3.25	10	50	6
KSE-2326	3.26	10	50	6
KSE-2327	3.27	10	50	6
KSE-2328	3.28	10	50	6
KSE-2329	3.29	10	50	6

品番 Code No.	刃径 D Flute Diameter	刃長 ℓ Flute Length	全長 L Total Length	柄径 Shank Diameter
KSE-2330	3.3	10	50	6
KSE-2331	3.31	10	50	6
KSE-2332	3.32	10	50	6
KSE-2333	3.33	10	50	6
KSE-2334	3.34	10	50	6
KSE-2335	3.35	10	50	6
KSE-2336	3.36	10	50	6
KSE-2337	3.37	10	50	6
KSE-2338	3.38	10	50	6
KSE-2339	3.39	10	50	6
KSE-2340	3.4	10	50	6
KSE-2341	3.41	10	50	6
KSE-2342	3.42	10	50	6
KSE-2343	3.43	10	50	6
KSE-2344	3.44	10	50	6
KSE-2345	3.45	10	50	6
KSE-2346	3.46	10	50	6
KSE-2347	3.47	10	50	6
KSE-2348	3.48	10	50	6
KSE-2349	3.49	10	50	6
KSE-2350	3.5	10	50	6
KSE-2351	3.51	10	50	6
KSE-2352	3.52	10	50	6
KSE-2353	3.53	10	50	6
KSE-2354	3.54	10	50	6
KSE-2355	3.55	10	50	6
KSE-2356	3.56	10	50	6
KSE-2357	3.57	10	50	6
KSE-2358	3.58	10	50	6
KSE-2359	3.59	10	50	6

KSE-2

品番 Code No.	刃径 D Flute Diameter	刃長 ℓ Flute Length	全長 L Total Length	柄径 Shank Diameter
KSE-2360	3.6	10	50	6
KSE-2361	3.61	10	50	6
KSE-2362	3.62	10	50	6
KSE-2363	3.63	10	50	6
KSE-2364	3.64	10	50	6
KSE-2365	3.65	10	50	6
KSE-2366	3.66	10	50	6
KSE-2367	3.67	10	50	6
KSE-2368	3.68	10	50	6
KSE-2369	3.69	10	50	6
KSE-2370	3.7	10	50	6
KSE-2371	3.71	10	50	6
KSE-2372	3.72	10	50	6
KSE-2373	3.73	10	50	6
KSE-2374	3.74	10	50	6
KSE-2375	3.75	10	50	6
KSE-2376	3.76	10	50	6
KSE-2377	3.77	10	50	6
KSE-2378	3.78	10	50	6
KSE-2379	3.79	10	50	6
KSE-2380	3.8	10	50	6
KSE-2381	3.81	10	50	6
KSE-2382	3.82	10	50	6
KSE-2383	3.83	10	50	6
KSE-2384	3.84	10	50	6
KSE-2385	3.85	10	50	6
KSE-2386	3.86	10	50	6
KSE-2387	3.87	10	50	6
KSE-2388	3.88	10	50	6
KSE-2389	3.89	10	50	6
KSE-2390	3.9	10	50	6
KSE-2391	3.91	10	50	6
KSE-2392	3.92	10	50	6
KSE-2393	3.93	10	50	6
KSE-2394	3.94	10	50	6
KSE-2395	3.95	10	50	6
KSE-2396	3.96	10	50	6
KSE-2397	3.97	10	50	6
KSE-2398	3.98	10	50	6
KSE-2399	3.99	10	50	6
KSE-2400	4	12	50	6
KSE-2401	4.01	12	50	6
KSE-2402	4.02	12	50	6
KSE-2403	4.03	12	50	6
KSE-2404	4.04	12	50	6
KSE-2405	4.05	12	50	6
KSE-2406	4.06	12	50	6
KSE-2407	4.07	12	50	6

品番 Code No.	刃径 D Flute Diameter	刃長 ℓ Flute Length	全長 L Total Length	柄径 Shank Diameter
KSE-2408	4.08	12	50	6
KSE-2409	4.09	12	50	6
KSE-2410	4.1	12	50	6
KSE-2411	4.11	12	50	6
KSE-2412	4.12	12	50	6
KSE-2413	4.13	12	50	6
KSE-2414	4.14	12	50	6
KSE-2415	4.15	12	50	6
KSE-2416	4.16	12	50	6
KSE-2417	4.17	12	50	6
KSE-2418	4.18	12	50	6
KSE-2419	4.19	12	50	6
KSE-2420	4.2	12	50	6
KSE-2421	4.21	12	50	6
KSE-2422	4.22	12	50	6
KSE-2423	4.23	12	50	6
KSE-2424	4.24	12	50	6
KSE-2425	4.25	12	50	6
KSE-2426	4.26	12	50	6
KSE-2427	4.27	12	50	6
KSE-2428	4.28	12	50	6
KSE-2429	4.29	12	50	6
KSE-2430	4.3	12	50	6
KSE-2431	4.31	12	50	6
KSE-2432	4.32	12	50	6
KSE-2433	4.33	12	50	6
KSE-2434	4.34	12	50	6
KSE-2435	4.35	12	50	6
KSE-2436	4.36	12	50	6
KSE-2437	4.37	12	50	6
KSE-2438	4.38	12	50	6
KSE-2439	4.39	12	50	6
KSE-2440	4.4	12	50	6
KSE-2441	4.41	12	50	6
KSE-2442	4.42	12	50	6
KSE-2443	4.43	12	50	6
KSE-2444	4.44	12	50	6
KSE-2445	4.45	12	50	6
KSE-2446	4.46	12	50	6
KSE-2447	4.47	12	50	6
KSE-2448	4.48	12	50	6
KSE-2449	4.49	12	50	6
KSE-2450	4.5	12	50	6
KSE-2451	4.51	12	50	6
KSE-2452	4.52	12	50	6
KSE-2453	4.53	12	50	6
KSE-2454	4.54	12	50	6
KSE-2455	4.55	12	50	6

KSE-2

品番 Code No.	刃径 D Flute Diameter	刃長 ℓ Flute Length	全長 L Total Length	柄径 Shank Diameter
KSE-2456	4.56	12	50	6
KSE-2457	4.57	12	50	6
KSE-2458	4.58	12	50	6
KSE-2459	4.59	12	50	6
KSE-2460	4.6	12	50	6
KSE-2461	4.61	12	50	6
KSE-2462	4.62	12	50	6
KSE-2463	4.63	12	50	6
KSE-2464	4.64	12	50	6
KSE-2465	4.65	12	50	6
KSE-2466	4.66	12	50	6
KSE-2467	4.67	12	50	6
KSE-2468	4.68	12	50	6
KSE-2469	4.69	12	50	6
KSE-2470	4.7	12	50	6
KSE-2471	4.71	12	50	6
KSE-2472	4.72	12	50	6
KSE-2473	4.73	12	50	6
KSE-2474	4.74	12	50	6
KSE-2475	4.75	12	50	6
KSE-2476	4.76	12	50	6
KSE-2477	4.77	12	50	6
KSE-2478	4.78	12	50	6
KSE-2479	4.79	12	50	6
KSE-2480	4.8	12	50	6
KSE-2481	4.81	12	50	6
KSE-2482	4.82	12	50	6
KSE-2483	4.83	12	50	6
KSE-2484	4.84	12	50	6
KSE-2485	4.85	12	50	6
KSE-2486	4.86	12	50	6
KSE-2487	4.87	12	50	6
KSE-2488	4.88	12	50	6
KSE-2489	4.89	12	50	6
KSE-2490	4.9	12	50	6
KSE-2491	4.91	12	50	6
KSE-2492	4.92	12	50	6
KSE-2493	4.93	12	50	6
KSE-2494	4.94	12	50	6
KSE-2495	4.95	12	50	6
KSE-2496	4.96	12	50	6
KSE-2497	4.97	12	50	6
KSE-2498	4.98	12	50	6
KSE-2499	4.99	12	50	6
KSE-2500	5	15	50	6
KSE-2501	5.01	15	50	6
KSE-2502	5.02	15	50	6
KSE-2503	5.03	15	50	6

品番 Code No.	刃径 D Flute Diameter	刃長 ℓ Flute Length	全長 L Total Length	柄径 Shank Diameter
KSE-2504	5.04	15	50	6
KSE-2505	5.05	15	50	6
KSE-2506	5.06	15	50	6
KSE-2507	5.07	15	50	6
KSE-2508	5.08	15	50	6
KSE-2509	5.09	15	50	6
KSE-2510	5.1	15	50	6
KSE-2511	5.11	15	50	6
KSE-2512	5.12	15	50	6
KSE-2513	5.13	15	50	6
KSE-2514	5.14	15	50	6
KSE-2515	5.15	15	50	6
KSE-2516	5.16	15	50	6
KSE-2517	5.17	15	50	6
KSE-2518	5.18	15	50	6
KSE-2519	5.19	15	50	6
KSE-2520	5.2	15	50	6
KSE-2521	5.21	15	50	6
KSE-2522	5.22	15	50	6
KSE-2523	5.23	15	50	6
KSE-2524	5.24	15	50	6
KSE-2525	5.25	15	50	6
KSE-2526	5.26	15	50	6
KSE-2527	5.27	15	50	6
KSE-2528	5.28	15	50	6
KSE-2529	5.29	15	50	6
KSE-2530	5.3	15	50	6
KSE-2531	5.31	15	50	6
KSE-2532	5.32	15	50	6
KSE-2533	5.33	15	50	6
KSE-2534	5.34	15	50	6
KSE-2535	5.35	15	50	6
KSE-2536	5.36	15	50	6
KSE-2537	5.37	15	50	6
KSE-2538	5.38	15	50	6
KSE-2539	5.39	15	50	6
KSE-2540	5.4	15	50	6
KSE-2541	5.41	15	50	6
KSE-2542	5.42	15	50	6
KSE-2543	5.43	15	50	6
KSE-2544	5.44	15	50	6
KSE-2545	5.45	15	50	6
KSE-2546	5.46	15	50	6
KSE-2547	5.47	15	50	6
KSE-2548	5.48	15	50	6
KSE-2549	5.49	15	50	6
KSE-2550	5.5	15	50	6
KSE-2551	5.51	15	50	6

KSE-2

品番 Code No.	刃径 D Flute Diameter	刃長 ℓ Flute Length	全長 L Total Length	柄径 Shank Diameter
KSE-2552	5.52	15	50	6
KSE-2553	5.53	15	50	6
KSE-2554	5.54	15	50	6
KSE-2555	5.55	15	50	6
KSE-2556	5.56	15	50	6
KSE-2557	5.57	15	50	6
KSE-2558	5.58	15	50	6
KSE-2559	5.59	15	50	6
KSE-2560	5.6	15	50	6
KSE-2561	5.61	15	50	6
KSE-2562	5.62	15	50	6
KSE-2563	5.63	15	50	6
KSE-2564	5.64	15	50	6
KSE-2565	5.65	15	50	6
KSE-2566	5.66	15	50	6
KSE-2567	5.67	15	50	6
KSE-2568	5.68	15	50	6
KSE-2569	5.69	15	50	6
KSE-2570	5.7	15	50	6
KSE-2571	5.71	15	50	6
KSE-2572	5.72	15	50	6
KSE-2573	5.73	15	50	6
KSE-2574	5.74	15	50	6
KSE-2575	5.75	15	50	6
KSE-2576	5.76	15	50	6
KSE-2577	5.77	15	50	6
KSE-2578	5.78	15	50	6
KSE-2579	5.79	15	50	6
KSE-2580	5.8	15	50	6
KSE-2581	5.81	15	50	6
KSE-2582	5.82	15	50	6
KSE-2583	5.83	15	50	6
KSE-2584	5.84	15	50	6
KSE-2585	5.85	15	50	6
KSE-2586	5.86	15	50	6
KSE-2587	5.87	15	50	6
KSE-2588	5.88	15	50	6
KSE-2589	5.89	15	50	6
KSE-2590	5.9	15	50	6
KSE-2591	5.91	15	50	6
KSE-2592	5.92	15	50	6
KSE-2593	5.93	15	50	6
KSE-2594	5.94	15	50	6
KSE-2595	5.95	15	50	6
KSE-2596	5.96	15	50	6
KSE-2597	5.97	15	50	6
KSE-2598	5.98	15	50	6
KSE-2599	5.99	15	50	6

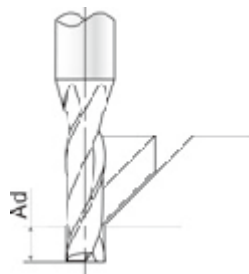
[illegible]

KSE-2

切削条件参考

Referential Cutting Conditions

刃 径	切込み深さ Cutting Depth
Flute Diameter	Ad
D	0.3D



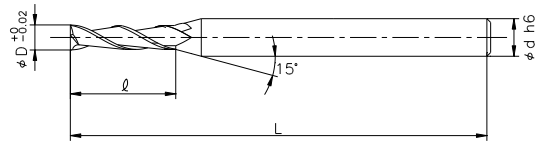
被削材 Workpiece	炭素鋼・一般構造用鋼 Carbon Steel・ General Structural Steel S55C・SS材		合金鋼・工具鋼 Alloy Steel・Tool Steel SCM・SKT・SKS・SKD		プリハードン鋼 Pre-Harden Steel HPM-1・NAK55・SKT		鋳 鉄 Cast iron FC・FCD	
刃 径 Flute Diameter mm	回転数 Revolution min ⁻¹	送り速度 Feed mm/min	回転数 Revolution min ⁻¹	送り速度 Feed mm/min	回転数 Revolution min ⁻¹	送り速度 Feed mm/min	回転数 Revolution min ⁻¹	送り速度 Feed m/min
φ3.00～φ3.50	4,200	100	3,600	80	3,000	30	4,800	150
φ3.51～φ4.00	3,200	100	2,700	80	2,200	30	3,600	150
φ4.01～φ4.50	2,800	100	2,400	80	2,000	30	3,200	150
φ4.51～φ5.00	2,500	100	2,150	80	1,750	30	2,850	160
φ5.01～φ5.50	2,250	100	1,950	80	1,600	30	2,600	160
φ5.51～φ6.00	2,100	100	1,800	80	1,500	30	2,400	180
備 考 Remarks	・回転数と送り速度は同じ割合で調整して下さい。 ・切削油を使用して下さい。							

・Adjust Revolution and Feed Speed at the same rate.
・Use Cutting Oil.

KSE-LS-2

超硬ソリッド2枚刃ロングシャンクエンドミル
Tungsten Carbide Long Shank Endmill

- 深位置加工用に全長を長くしました
Longer overall length for deep hole location machining



被削材 Workpiece					
一般構造鋼 General Structural Steel	炭素鋼 Caebon Steel	合金鋼・工具鋼 Alloy Steel Tool Steel	プリハードン鋼 Pre-Haeden Steel	铸铁 Cast Iron	アルミ合金 Aluminum Alloy
○	○	○	○	○	○

- 切削条件表はP174に記載
●Cutting conditions are recommended on page 174.

単位[寸法:mm]
Unit[size:mm]

[illegible][illegible]

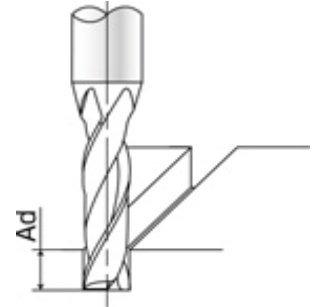
超硬エンドミル

Carbide
Endmill

KSE-LS-2

切削条件参考 Referential Cutting Conditions

刃 径	切込み深さ
Flute Diameter	Ad
D	0.3D

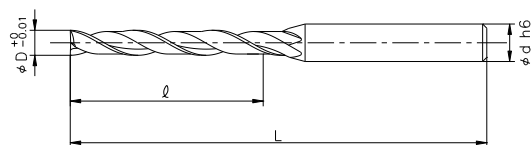


被削材 Workpiece	炭素鋼・一般構造用鋼 Carbon Steel・ General Structural Steel S55C・SS材		合金鋼・工具鋼 Alloy Steel・Tool Steel SCM・SKT・SKS・SKD		プリハードン鋼 Pre-Harden Steel HPM-1・NAK55・SKT		鋳 鉄 Cast iron FC・FCD	
刃 径 Flute Diameter mm	回転数 Revolution min ⁻¹	送り速度 Feed mm/min	回転数 Revolution min ⁻¹	送り速度 Feed mm/min	回転数 Revolution min ⁻¹	送り速度 Feed mm/min	回転数 Revolution min ⁻¹	送り速度 Feed mm/min
1	11,500	85	9,800	40	8,100	30	12,500	95
1.5	7,500	90	6,400	45	5,250	30	8,400	95
2	5,800	100	4,900	60	4,050	30	6,500	110
2.5	4,900	100	4,200	65	3,400	30	5,500	110
3	4,200	100	3,600	80	3,000	30	4,800	150
4	3,200	100	2,700	80	2,200	30	3,600	150
5	2,500	100	2,150	80	1,750	30	2,850	160
6	2,100	100	1,800	80	1,500	30	2,400	160
7	1,700	100	1,500	80	1,200	30	2,050	160
8	1,500	100	1,300	80	1,100	30	1,800	160
9	1,300	100	1,100	80	990	30	1,600	160
10	1,200	100	1,000	80	890	30	1,400	160
11	1,100	100	950	80	810	30	1,300	160
12	1,000	100	870	80	740	30	1,200	160
備 考 Remarks	・回転数と送り速度は同じ割合で調整して下さい。 ・切削油を使用して下さい。							

KSEL-2

超硬ロングエンドミル Tungsten Carbide 2 Flutes Long Endmill

- 刃径をφ0.1～φ6までラインナップ
Lineup of blade diameters from φ0.1 to φ6
- 刃長が刃径の4倍～最大16倍までラインナップ
Lineup of blade lengths from 4 times to a maximum of 16 times the blade diameter



被削材 Workpiece					
一般構造鋼 General Structural Steel	炭素鋼 Carbon Steel	合金鋼・工具鋼 Alloy Steel Tool Steel	プリハードン鋼 Pre-Harden Steel	鋳鉄 Cast Iron	アルミ合金 Aluminum Alloy
○	○	○	○	○	○

- 切削条件表はP179に記載
- Cutting conditions are recommended on page 179.

単位 [寸法:mm]
Unit [size:mm]

品番 Code No.	刃径 D Flute Diameter	刃長 ℓ Flute Length	全長 L Total Length	柄径 d Shank Diameter
KSEL-201003	0.1	0.3	40	3
KSEL-201004	0.1	0.4	40	3
KSEL-201005	0.1	0.5	40	3
KSEL-201006	0.1	0.6	40	3
KSEL-201007	0.1	0.7	40	3
KSEL-201008	0.1	0.8	40	3
KSEL-201010	0.1	1	40	3
KSEL-201012	0.1	1.2	40	3
KSEL-201015	0.1	1.5	40	3
KSEL-201505	0.15	0.5	40	3
KSEL-201510	0.15	1	40	3
KSEL-201515	0.15	1.5	40	3
KSEL-201520	0.15	2	40	3
KSEL-202006	0.2	0.6	40	3
KSEL-202010	0.2	1	40	3
KSEL-202015	0.2	1.5	40	3
KSEL-202020	0.2	2	40	3
KSEL-202025	0.2	2.5	40	3
KSEL-202510	0.25	1	40	3
KSEL-202520	0.25	2	40	3
KSEL-202525	0.25	2.5	40	3
KSEL-202530	0.25	3	40	3
KSEL-203015	0.3	1.5	40	3
KSEL-203020	0.3	2	40	3
KSEL-203030	0.3	3	40	3
KSEL-203040	0.3	4	40	3
KSEL-203520	0.35	2	40	3
KSEL-203530	0.35	3	40	3
KSEL-203540	0.35	4	40	3
KSEL-203550	0.35	5	40	3

品番 Code No.	刃径 D Flute Diameter	刃長 ℓ Flute Length	全長 L Total Length	柄径 d Shank Diameter
KSEL-204020	0.4	2	40	3
KSEL-204030	0.4	3	40	3
KSEL-204040	0.4	4	40	3
KSEL-204050	0.4	5	40	3
KSEL-204520	0.45	2	40	3
KSEL-204530	0.45	3	40	3
KSEL-204540	0.45	4	40	3
KSEL-204550	0.45	5	40	3
KSEL-204560	0.45	6	40	3
KSEL-205015	0.5	1.5	40	3
KSEL-205020	0.5	2	40	3
KSEL-205025	0.5	2.5	40	3
KSEL-205030	0.5	3	40	3
KSEL-205035	0.5	3.5	40	3
KSEL-205040	0.5	4	40	3
KSEL-205050	0.5	5	40	3
KSEL-205060	0.5	6	40	3
KSEL-205520	0.55	2	40	3
KSEL-205530	0.55	3	40	3
KSEL-205540	0.55	4	40	3
KSEL-205550	0.55	5	40	3
KSEL-205560	0.55	6	40	3
KSEL-206030	0.6	3	40	3
KSEL-206040	0.6	4	40	3
KSEL-206050	0.6	5	40	3
KSEL-206060	0.6	6	40	3
KSEL-206530	0.65	3	40	3
KSEL-206545	0.65	4.5	40	3
KSEL-206560	0.65	6	40	3
KSEL-206570	0.65	7	40	3

超硬
エンドミル

Carbide
Endmill

KSEL-2

品番 Code No.	刃径 D Flute Diameter	刃長 ℓ Flute Length	全長 L Total Length	柄径 d Shank Diameter
KSEL-207030	0.7	3	40	3
KSEL-207040	0.7	4	40	3
KSEL-207050	0.7	5	40	3
KSEL-207060	0.7	6	40	3
KSEL-207070	0.7	7	40	3
KSEL-207080	0.7	8	40	3
KSEL-207540	0.75	4	40	3
KSEL-207560	0.75	6	40	3
KSEL-207580	0.75	8	40	3
KSEL-207590	0.75	9	40	3
KSEL-208030	0.8	3	40	3
KSEL-208035	0.8	3.5	40	3
KSEL-208040	0.8	4	40	3
KSEL-208060	0.8	6	40	3
KSEL-208080	0.8	8	40	3
KSEL-208100	0.8	10	40	3
KSEL-208120	0.8	12	40	3
KSEL-208550	0.85	5	40	3
KSEL-208560	0.85	6	40	3
KSEL-208580	0.85	8	40	3
KSEL-208510	0.85	10	40	3
KSEL-209050	0.9	5	40	3
KSEL-209060	0.9	6	40	3
KSEL-209080	0.9	8	40	3
KSEL-209100	0.9	10	40	3
KSEL-209560	0.95	6	40	3
KSEL-209580	0.95	8	40	3
KSEL-209510	0.95	10	40	3
KSEL-209512	0.95	12	40	3
KSEL-210040	1	4	45	4
KSEL-210050	1	5	45	4
KSEL-210060	1	6	45	4
KSEL-210070	1	7	45	4
KSEL-210080	1	8	45	4
KSEL-210090	1	9	45	4
KSEL-210100	1	10	45	4
KSEL-210120	1	12	45	4
KSEL-210140	1	14	45	4
KSEL-210560	1.05	6	45	4
KSEL-210580	1.05	8	45	4
KSEL-210510	1.05	10	45	4
KSEL-210512	1.05	12	45	4
KSEL-211060	1.1	6	45	4
KSEL-211080	1.1	8	45	4
KSEL-211100	1.1	10	45	4
KSEL-211120	1.1	12	45	4
KSEL-211580	1.15	8	45	4
KSEL-211510	1.15	10	45	4

品番 Code No.	刃径 D Flute Diameter	刃長 ℓ Flute Length	全長 L Total Length	柄径 d Shank Diameter
KSEL-211512	1.15	12	45	4
KSEL-211514	1.15	14	45	4
KSEL-212060	1.2	6	45	4
KSEL-212080	1.2	8	45	4
KSEL-212100	1.2	10	45	4
KSEL-212120	1.2	12	45	4
KSEL-212140	1.2	14	45	4
KSEL-212580	1.25	8	45	4
KSEL-212510	1.25	10	45	4
KSEL-212512	1.25	12	45	4
KSEL-212514	1.25	14	45	4
KSEL-213060	1.3	6	45	4
KSEL-213080	1.3	8	45	4
KSEL-213100	1.3	10	45	4
KSEL-213120	1.3	12	45	4
KSEL-213150	1.3	15	45	4
KSEL-213580	1.35	8	45	4
KSEL-213510	1.35	10	45	4
KSEL-213512	1.35	12	45	4
KSEL-213515	1.35	15	45	4
KSEL-214060	1.4	6	45	4
KSEL-214080	1.4	8	45	4
KSEL-214100	1.4	10	45	4
KSEL-214120	1.4	12	45	4
KSEL-214140	1.4	14	45	4
KSEL-214160	1.4	16	45	4
KSEL-214580	1.45	8	45	4
KSEL-214512	1.45	12	45	4
KSEL-214515	1.45	15	50	4
KSEL-214518	1.45	18	55	4
KSEL-215060	1.5	6	45	4
KSEL-215080	1.5	8	45	4
KSEL-215100	1.5	10	45	4
KSEL-215120	1.5	12	45	4
KSEL-215150	1.5	15	50	4
KSEL-215180	1.5	18	55	4
KSEL-215200	1.5	20	60	4
KSEL-215580	1.55	8	45	4
KSEL-215512	1.55	12	45	4
KSEL-215516	1.55	16	50	4
KSEL-215520	1.55	20	60	4
KSEL-216080	1.6	8	45	4
KSEL-216100	1.6	10	45	4
KSEL-216120	1.6	12	45	4
KSEL-216160	1.6	16	50	4
KSEL-216200	1.6	20	60	4
KSEL-216580	1.65	8	45	4
KSEL-216512	1.65	12	45	4

KSEL-2

品番 Code No.	刃径 D Flute Diameter	刃長 ℓ Flute Length	全長 L Total Length	柄径 d Shank Diameter
KSEL-216516	1.65	16	50	4
KSEL-216520	1.65	20	60	4
KSEL-217080	1.7	8	45	4
KSEL-217100	1.7	10	45	4
KSEL-217120	1.7	12	45	4
KSEL-217150	1.7	15	50	4
KSEL-217170	1.7	17	50	4
KSEL-217210	1.7	21	60	4
KSEL-217510	1.75	10	45	4
KSEL-217515	1.75	15	50	4
KSEL-217518	1.75	18	55	4
KSEL-217521	1.75	21	60	4
KSEL-218080	1.8	8	45	4
KSEL-218100	1.8	10	45	4
KSEL-218120	1.8	12	45	4
KSEL-218150	1.8	15	50	4
KSEL-218180	1.8	18	55	4
KSEL-218220	1.8	22	60	4
KSEL-218510	1.85	10	45	4
KSEL-218515	1.85	15	50	4
KSEL-218518	1.85	18	55	4
KSEL-218522	1.85	22	60	4
KSEL-219080	1.9	8	45	4
KSEL-219100	1.9	10	45	4
KSEL-219120	1.9	12	45	4
KSEL-219150	1.9	15	50	4
KSEL-219190	1.9	19	55	4
KSEL-219220	1.9	22	60	4
KSEL-219510	1.95	10	45	4
KSEL-219515	1.95	15	50	4
KSEL-219520	1.95	20	60	4
KSEL-219524	1.95	24	60	4
KSEL-220080	2	8	45	4
KSEL-220100	2	10	45	4
KSEL-220120	2	12	45	4
KSEL-220150	2	15	50	4
KSEL-220170	2	17	55	4
KSEL-220200	2	20	60	4
KSEL-220220	2	22	60	4
KSEL-220240	2	24	60	4
KSEL-221100	2.1	10	45	4
KSEL-221150	2.1	15	50	4
KSEL-221200	2.1	20	60	4
KSEL-221250	2.1	25	60	4
KSEL-222100	2.2	10	45	4
KSEL-222150	2.2	15	50	4
KSEL-222200	2.2	20	60	4
KSEL-222250	2.2	25	60	4

品番 Code No.	刃径 D Flute Diameter	刃長 ℓ Flute Length	全長 L Total Length	柄径 d Shank Diameter
KSEL-223100	2.3	10	45	4
KSEL-223150	2.3	15	50	4
KSEL-223200	2.3	20	60	4
KSEL-223250	2.3	25	60	4
KSEL-224100	2.4	10	45	4
KSEL-224150	2.4	15	50	4
KSEL-224200	2.4	20	60	4
KSEL-224250	2.4	25	60	4
KSEL-225100	2.5	10	45	4
KSEL-225150	2.5	15	50	4
KSEL-225200	2.5	20	60	4
KSEL-225250	2.5	25	60	4
KSEL-225300	2.5	30	70	4
KSEL-226100	2.6	10	45	4
KSEL-226150	2.6	15	50	4
KSEL-226200	2.6	20	60	4
KSEL-226250	2.6	25	60	4
KSEL-226300	2.6	30	70	4
KSEL-227100	2.7	10	45	4
KSEL-227150	2.7	15	50	4
KSEL-227200	2.7	20	60	4
KSEL-227250	2.7	25	60	4
KSEL-227300	2.7	30	70	4
KSEL-228100	2.8	10	45	4
KSEL-228150	2.8	15	50	4
KSEL-228200	2.8	20	60	4
KSEL-228250	2.8	25	60	4
KSEL-228300	2.8	30	70	4
KSEL-229150	2.9	15	50	4
KSEL-229200	2.9	20	60	4
KSEL-229250	2.9	25	60	4
KSEL-229300	2.9	30	70	4
KSEL-230150	3	15	60	6
KSEL-230200	3	20	60	6
KSEL-230250	3	25	70	6
KSEL-230300	3	30	70	6
KSEL-230400	3	40	100	6
KSEL-230500	3	50	110	6
KSEL-231300	3.1	30	70	6
KSEL-232300	3.2	30	70	6
KSEL-233300	3.3	30	70	6
KSEL-234300	3.4	30	70	6
KSEL-235200	3.5	20	70	6
KSEL-235250	3.5	25	70	6
KSEL-235300	3.5	30	70	6
KSEL-235400	3.5	40	100	6
KSEL-235500	3.5	50	110	6
KSEL-236300	3.6	30	70	6

KSEL-2

品番 Code No.	刃径 D Flute Diameter	刃長 ℓ Flute Length	全長 L Total Length	柄径 d Shank Diameter
KSEL-237300	3.7	30	70	6
KSEL-238300	3.8	30	70	6
KSEL-239300	3.9	30	70	6
KSEL-240200	4	20	70	6
KSEL-240250	4	25	70	6
KSEL-240300	4	30	70	6
KSEL-240350	4	35	80	6
KSEL-240400	4	40	80	6
KSEL-240500	4	50	110	6
KSEL-240600	4	60	120	6
KSEL-241300	4.1	30	70	6
KSEL-242300	4.2	30	70	6
KSEL-243300	4.3	30	70	6
KSEL-244300	4.4	30	70	6
KSEL-245300	4.5	30	70	6
KSEL-245350	4.5	35	80	6
KSEL-245400	4.5	40	80	6
KSEL-246300	4.6	30	70	6
KSEL-247300	4.7	30	70	6
KSEL-248300	4.8	30	70	6
KSEL-249300	4.9	30	70	6
KSEL-250300	5	30	70	6
KSEL-250350	5	35	80	6
KSEL-250400	5	40	80	6
KSEL-250450	5	45	90	6
KSEL-250500	5	50	90	6
KSEL-250600	5	60	120	6
KSEL-250800	5	80	150	6
KSEL-251400	5.1	40	80	6
KSEL-252400	5.2	40	80	6
KSEL-253400	5.3	40	80	6
KSEL-254400	5.4	40	80	6
KSEL-255300	5.5	30	80	6
KSEL-255350	5.5	35	80	6
KSEL-255400	5.5	40	80	6
KSEL-255450	5.5	45	90	6
KSEL-255500	5.5	50	90	6
KSEL-256400	5.6	40	80	6
KSEL-257400	5.7	40	80	6
KSEL-258400	5.8	40	80	6
KSEL-259400	5.9	40	80	6
KSEL-260300	6	30	80	6
KSEL-260350	6	35	80	6
KSEL-260400	6	40	80	6
KSEL-260450	6	45	90	6
KSEL-260500	6	50	90	6
KSEL-260600	6	60	100	6
KSEL-260800	6	80	150	6

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KSEL-2

切削条件参考

Referential Cutting Conditions



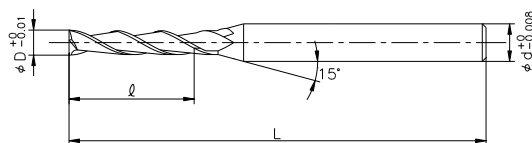
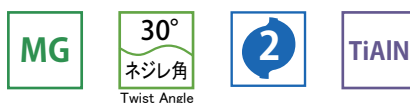
刃 径 Flute Diameter	切込み巾 Cutting Width	切込み深さ Cutting Depth
	Ar	Ad
$D < \phi 0.2$	0.05D	0.4D
$\phi 0.2 \leq D < \phi 1.0$	0.10D	0.4D
$\phi 1.0 \leq D$	0.10D	0.8D

被削材 Workpiece	炭素鋼・一般構造用鋼 Carbon Steel・ General Structural Steel S55C・SS材		合金鋼・工具鋼 Alloy Steel・Tool Steel SCM・SKT・SKS・SKD		プリハードン鋼 Pre-Harden Steel HPM-1・NAK55・SKT		鋳 鉄 Cast iron FC・FCD	
刃 径 Flute Diameter mm	回転数 Revolution min ⁻¹	送り速度 Feed mm/min	回転数 Revolution min ⁻¹	送り速度 Feed mm/min	回転数 Revolution min ⁻¹	送り速度 Feed mm/min	回転数 Revolution min ⁻¹	送り速度 Feed mm/min
0.1～0.2	32,000	15	32,000	15	32,000	15	32,000	15
0.3～0.4	19,000	20	19,000	20	19,000	20	19,000	20
0.5～0.6	13,000	25	13,000	25	10,000	20	13,000	25
0.7～0.8	9,600	30	9,600	30	7,400	20	9,600	30
0.9～1	7,500	40	7,500	40	5,800	25	7,500	40
1.1～1.2	6,200	40	6,200	40	4,800	25	6,200	40
1.3～1.4	5,300	40	5,300	40	4,100	30	5,300	40
1.5～1.6	4,600	40	4,600	40	3,600	30	4,600	40
1.7～1.8	4,100	40	4,100	40	3,200	30	4,100	40
1.9～2	3,700	40	3,700	40	2,800	30	3,700	40
2.1～2.2	3,300	50	3,300	50	2,600	35	3,300	50
2.3～2.4	3,000	50	3,000	50	2,400	35	3,000	50
2.5～2.6	2,800	55	2,800	55	2,200	40	2,800	55
2.7～2.8	2,600	55	2,600	55	2,000	40	2,600	55
2.9～3	2,500	55	2,500	55	1,900	40	2,500	60
3.1～3.5	2,100	55	2,000	55	1,600	40	2,200	60
3.6～4	1,750	55	1,550	50	1,250	40	1,950	80
4.1～4.5	1,550	55	1,400	50	1,100	40	1,700	80
4.6～5	1,400	55	1,250	50	1,000	40	1,550	80
5.1～5.5	1,200	55	1,150	50	920	40	1,400	80
5.6～6	1,100	55	1,050	50	845	40	1,300	80
備 考 Remarks	・回転数と送り速度は同じ割合で調整して下さい。・Adjust Revolution and Feed Speed at the same rate. ・刃長により回転数、送り速度を調整して下さい。・Adjust Revolution and Feed Speed according to Flute Length. ・切削油を使用して下さい。・Use Cutting Oil.							

KSEA-2

超硬ソリッド2枚刃エンドミル・TiAlNコーティング付
Tungsten Carbide 2 Flutes Solid Endmill TiAlN Coating

- TiAlNコーティングを施しました
TiAlN coating is applied
- 刃長が刃径の1倍～最大10倍までラインナップ
Lineup of blade lengths from 1 to maximum
10 times the blade diameter



被削材 Workpiece					
一般構造鋼 General Structural Steel	炭素鋼 Caebon Steel	合金鋼・工具鋼 Alloy Steel Tool Steel	ブリード鋼 Pre-Harden Steel	鋳鉄 Cast Iron	ステンレス鋼 Stainless Steel
					

- 切削条件表はP181に記載
●Cutting conditions are recommended on page 181.

単位[寸法:mm]
Unit [size:mm]

品 番 Code No.	刃径 D Flute Diameter	刃長 ℓ Flute Length	全長 L Total Length	柄径 d Shank Diameter
KSEA-210010	1	1	50	4
KSEA-210020	1	2	50	4
KSEA-210030	1	3	50	4
KSEA-210040	1	4	50	4
KSEA-210050	1	5	50	4
KSEA-210060	1	6	50	4
KSEA-210070	1	7	50	4
KSEA-210080	1	8	50	4
KSEA-210090	1	9	50	4
KSEA-210100	1	10	50	4
KSEA-215020	1.5	2	50	4
KSEA-215040	1.5	4	50	4
KSEA-215060	1.5	6	50	4
KSEA-215080	1.5	8	50	4
KSEA-215100	1.5	10	50	4
KSEA-215120	1.5	12	50	4
KSEA-215150	1.5	15	50	4
KSEA-220020	2	2	50	4
KSEA-220040	2	4	50	4
KSEA-220060	2	6	50	4
KSEA-220080	2	8	50	4
KSEA-220100	2	10	50	4
KSEA-220120	2	12	50	4
KSEA-220140	2	14	50	4
KSEA-220160	2	16	60	4
KSEA-220180	2	18	60	4
KSEA-220200	2	20	60	4
KSEA-230030	3	3	50	6
KSEA-230060	3	6	50	6
KSEA-230090	3	9	50	6

[illegible]

KSEA-2

切削条件参考

Referential Cutting Conditions

刃 径 Flute Diameter	切込み巾 Cutting Width	切込み深さ Cutting Depth
	Ar	Ad
D	0.1D	0.8D

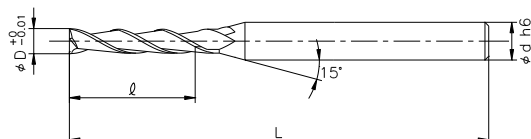


被削材 Workpiece	炭素鋼・一般構造用鋼 Carbon Steel・ General Structural Steel S55C・SS材		合金鋼・工具鋼 Alloy Steel・Tool Steel SCM・SKT・SKS・SKD		プリハードン鋼 Pre-Harden Steel HPM-1・NAK55・SKT		鋳 鉄 Cast iron FC・FCD	
刃 径 Flute Diameter mm	回転数 Revolution min ⁻¹	送り速度 Feed mm/min	回転数 Revolution min ⁻¹	送り速度 Feed mm/min	回転数 Revolution min ⁻¹	送り速度 Feed mm/min	回転数 Revolution min ⁻¹	送り速度 Feed mm/min
1	12,500	45	11,000	40	8,900	30	12,500	45
1.5	8,000	55	7,000	50	5,500	40	8,000	55
2	6,300	60	5,500	55	4,400	45	6,300	60
3	4,200	80	3,700	70	2,900	60	4,200	80
4	3,200	90	3,000	80	2,300	65	3,200	90
備 考 Remarks	・回転数と送り速度は同じ割合で調整して下さい。・ Adjust Revolution and Feed Speed at the same rate. ・刃長により回転数、送り速度を調整して下さい。・ Adjust Revolution and Feed Speed according to Flute Length. (上記は5D程度の条件) ・切削油を使用して下さい。・ Use Cutting Oil. The above list is shown in case of the cutting conditions of around 5D.							

Carbide

超硬2枚刃エンドミル・TiCNコーティング付
Tungsten Carbide 2 Flutes Endmill TiCN Coating

- TiCNコーティングを施しました
TiCN coating is applied
- 汎用タイプの2枚刃エンドミルです
2 flute endmill of general purpose



被削材 Workpiece					
一般構造鋼 General Structural Steel	炭素鋼 Caebon Steel	合金鋼・工具鋼 Alloy Steel Tool Steel	プリハードン鋼 Pre-Haeden Steel	铸铁 Cast Iron	ステンレス鋼 Stainless Steel
					

- 切削条件表はP183、184に記載
●Cutting conditions are recommended on page 183、184.

単位[寸法:mm]
Unit[size:mm]

品番 Code No.	刃径 D Flute Diameter	刃長 ℓ Flute Length	全長 L Total Length	柄径 d Shank Diameter
KSET-201002	0.1	0.2	40	3
KSET-202005	0.2	0.5	40	3
KSET-203010	0.3	1	40	3
KSET-204010	0.4	1	40	3
KSET-205015	0.5	1.5	40	3
KSET-206020	0.6	2	40	3
KSET-207020	0.7	2	40	3
KSET-208025	0.8	2.5	40	3
KSET-209030	0.9	3	40	3
KSET-210030	1	3	40	4
KSET-211030	1.1	3	40	4
KSET-212030	1.2	3	40	4
KSET-213030	1.3	3	40	4
KSET-214030	1.4	3	40	4
KSET-215040	1.5	4	40	4
KSET-216040	1.6	4	40	4
KSET-217040	1.7	4	40	4
KSET-218040	1.8	4	40	4
KSET-219040	1.9	4	40	4
KSET-220060	2	6	45	4
KSET-221060	2.1	6	45	4
KSET-222060	2.2	6	45	4
KSET-223060	2.3	6	45	4
KSET-224060	2.4	6	45	4
KSET-225080	2.5	8	45	4
KSET-226080	2.6	8	45	4
KSET-227080	2.7	8	45	4
KSET-228080	2.8	8	45	4
KSET-229080	2.9	8	45	4
KSET-230080	3	8	45	6

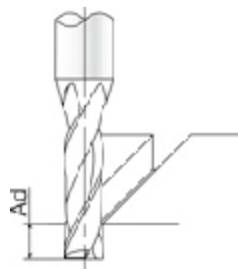
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KSET-2

切削条件参考

Referential Cutting Conditions

刃 径	切込み深さ
Flute Diameter	Ad
$D < \phi 0.2$	0.05D
$\phi 0.2 \leq D < \phi 1.0$	0.1D
$\phi 1.0 \leq D$	0.3D



被削材 Workpiece	炭素鋼・一般構造用鋼 Carbon Steel・ General Structural Steel S55C・SS材		合金鋼・工具鋼 Alloy Steel・Tool Steel SCM・SKT・SKS・SKD		プリハードン鋼 Pre-Harden Steel HPM-1・NAK55・SKT	
刃 径 Flute Diameter mm	回転数 Revolution min ⁻¹	送り速度 Feed mm/min	回転数 Revolution min ⁻¹	送り速度 Feed mm/min	回転数 Revolution min ⁻¹	送り速度 Feed mm/min
0.1	32,000	20	32,000	20	32,000	15
0.2	32,000	30	32,000	30	32,000	25
0.3	32,000	35	32,000	35	31,500	25
0.4	32,000	60	31,500	50	24,000	45
0.5	31,500	80	25,500	60	19,000	45
0.6	26,500	100	21,000	60	16,000	45
0.7	22,700	100	18,000	60	13,500	45
0.8	20,000	100	16,000	75	12,000	50
0.9	18,000	100	14,100	75	10,600	50
1	16,000	100	12,700	95	9,500	50
1.1	14,500	100	11,500	95	8,600	55
1.2	13,200	100	10,500	95	7,900	55
1.3	12,200	100	9,800	95	7,300	55
1.4	11,300	100	9,000	95	6,800	55
1.5	10,500	100	8,500	95	6,300	55
1.6	10,000	100	8,000	100	5,900	55
1.7	9,300	100	7,500	100	5,600	55
1.8	8,800	100	7,000	105	5,300	55
1.9	8,400	100	6,700	105	5,000	55
2	8,000	135	6,300	110	4,700	55
2.1	7,500	135	6,000	110	4,500	55
2.2	7,200	140	5,800	115	4,300	55
2.3	6,900	145	5,500	115	4,100	55
2.4	6,600	145	5,300	120	3,900	55
2.5	6,300	150	5,100	120	3,800	55
2.6	6,100	155	4,900	120	3,600	55
2.7	5,900	160	4,700	125	3,500	55
2.8	5,700	160	4,500	125	3,400	55
2.9	5,500	165	4,400	125	3,300	55
3	5,300	170	4,200	125	3,200	55
3.5	4,500	170	3,600	125	2,700	55
4	4,000	170	3,200	125	2,300	60

KSET-2

切削条件参考

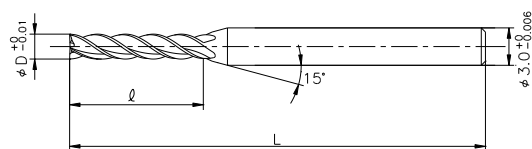
Referential Cutting Conditions

被削材 Workpiece	炭素鋼・一般構造用鋼 Carbon Steel・ General Structural Steel S55C・SS材		合金鋼・工具鋼 Alloy Steel・Tool Steel SCM・SKT・SKS・SKD		プリハードン鋼 Pre-Harden Steel HPM-1・NAK55・SKT	
刃 径 Flute Diameter mm	回転数 Revolution min ⁻¹	送り速度 Feed mm/min	回転数 Revolution min ⁻¹	送り速度 Feed mm/min	回転数 Revolution min ⁻¹	送り速度 Feed mm/min
4.5	3,500	170	2,800	125	2,100	60
5	3,200	170	2,500	125	1,900	60
5.5	2,900	170	2,300	125	1,700	60
6	2,600	170	2,100	125	1,600	60
備 考 Remarks	・回転数と送り速度は同じ割合で調整して下さい。・Adjust Revolution and Feed Speed at the same rate. ・切削油を使用して下さい。・Use Cutting Oil.					

KMSEA-4

超硬ミニチュア4枚刃エンドミル・TiA ℓ Nコーティング付
Tungsten Carbide Miniature 4 Flutes Solid Endmill TiA ℓ N Coating

- TiAlNコーティングを施しました
TiAlN coating is applied
- 刃径を $\phi 0.5 \sim \phi 3$ まで0.1とびにラインナップ
Line-uped $\Phi 0.5 \sim \Phi 3$ at pitch 0.1



被削材 Workpiece					
一般構造鋼 General Structural Steel	炭素鋼 Caebon Steel	合金鋼・工具鋼 Alloy Steel Tool Steel	プリハートン鋼 Pre-Haerton Steel	铸铁 Cast Iron	ステンレス鋼 Stainless Steel
					

- 切削条件表はP186に記載
●Cutting conditions are recommended on page 186.

単位[寸法:mm]
Unit[size:mm]

品番 Code No.	刃径 D Flute Diameter	刃長 ℓ Flute Length	全長 L Total Length	柄径 d Shank Diameter
KMSEA-4050	0.5	1	60	3
KMSEA-4060	0.6	2	60	3
KMSEA-4070	0.7	2	60	3
KMSEA-4080	0.8	2.5	60	3
KMSEA-4090	0.9	2.5	60	3
KMSEA-4100	1	3	60	3
KMSEA-4110	1.1	3	60	3
KMSEA-4120	1.2	3	60	3
KMSEA-4130	1.3	3	60	3
KMSEA-4140	1.4	3	60	3
KMSEA-4150	1.5	3	60	3
KMSEA-4160	1.6	3	60	3
KMSEA-4170	1.7	3	60	3
KMSEA-4180	1.8	3	60	3
KMSEA-4190	1.9	3	60	3
KMSEA-4200	2	6	60	3
KMSEA-4210	2.1	6	60	3
KMSEA-4220	2.2	6	60	3
KMSEA-4230	2.3	6	60	3
KMSEA-4240	2.4	6	60	3
KMSEA-4250	2.5	8	60	3
KMSEA-4260	2.6	8	60	3
KMSEA-4270	2.7	8	60	3
KMSEA-4280	2.8	8	60	3
KMSEA-4290	2.9	8	60	3
KMSEA-4300	3	8	60	3

[illegible]

超硬エンドミル

Carbide
Endoill®

KMSEA-4

切削条件参考

Referential Cutting Conditions



刃 径 Flute Diameter	切込み巾 Cutting Width	切込み深さ Cutting Depth
	Ar	Ad
$D < \phi 0.8$	0.05D	0.4D
$\phi 0.8 \leq D < \phi 1$	0.1D	0.4D
$\phi 1 \leq D$	0.1D	0.8D

被削材 Workpiece	炭素鋼・一般構造用鋼 Carbon Steel・ General Structural Steel S55C・SS材		合金鋼・工具鋼 Alloy Steel・Tool Steel SCM・SKT・SKS・SKD		プリハードン鋼 Pre-Harden Steel HPM-1・NAK55・SKT		鋳 鉄 Cast iron FC・FCD	
刃 径 Flute Diameter mm	回転数 Revolution min ⁻¹	送り速度 Feed mm/min	回転数 Revolution min ⁻¹	送り速度 Feed mm/min	回転数 Revolution min ⁻¹	送り速度 Feed mm/min	回転数 Revolution min ⁻¹	送り速度 Feed mm/min
0.5～0.7	26,000	160	20,000	170	16,500	135	26,000	160
0.8～0.9	22,000	170	16,500	170	14,000	135	22,000	170
1 ～1.1	18,400	180	13,700	170	11,800	135	18,400	180
1.2～1.3	16,200	200	12,100	170	10,400	135	16,200	200
1.4～1.5	14,000	210	10,500	170	8,900	135	14,000	210
1.6～1.7	13,000	220	9,800	170	8,300	135	13,000	220
1.8～1.9	12,000	220	9,100	170	7,600	135	12,000	220
2 ～2.1	11,000	240	8,400	180	7,000	135	11,000	240
2.2～2.3	10,000	240	7,900	180	6,600	135	10,000	240
2.4～2.5	9,000	250	7,400	200	6,200	150	9,000	250
2.6～2.7	8,000	250	6,900	200	5,800	150	8,000	250
2.8～3.0	7,400	270	6,350	210	5,300	160	7,400	270
備 考 Remarks	・回転数と送り速度は同じ割合で調整して下さい。・Adjust Revolution and Feed Speed at the same rate. ・切削油を使用して下さい。・Use Cutting Oil.							

KRE-2

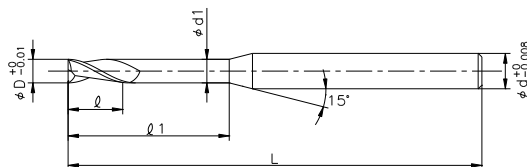
超硬リブ用エンドミル Tungsten Carbide Long Neck Endmill

■刃径φ0.2～φ6まで0.1とびにラインナップ

Line-upped φ0.2～φ6 at pitch 0.1

■深彫り加工などに最適です

Suitable for deep processing



被削材 Workpiece					
一般構造鋼 General Structural Steel	炭素鋼 Carbon Steel	合金鋼・工具鋼 Alloy Steel Tool Steel	プリハートン鋼 Pre-Harden Steel	鋳鉄 Cast Iron	アルミ合金 Aluminum Alloy
○	○	○	○	○	○

●切削条件表はP192に記載

●Cutting conditions are recommended on page 192.

単位 [寸法:mm]

Unit [size:mm]

品番 Code No.	刃径 D Flute Diameter	有効長 ℓ1 Effective Length	刃長 ℓ Flute Length	首下径 d1 Neck Diameter	全長 L Total Length	柄径 d Shank Diameter
KRE-202005	0.2	0.5	0.3	0.18	40	4
KRE-202010	0.2	1	0.3	0.18	40	4
KRE-202015	0.2	1.5	0.3	0.18	40	4
KRE-202020	0.2	2	0.3	0.18	40	4
KRE-202030	0.2	3	0.3	0.18	40	4
KRE-202040	0.2	4	0.3	0.18	40	4
KRE-202050	0.2	5	0.3	0.18	40	4
KRE-203010	0.3	1	0.4	0.28	40	4
KRE-203020	0.3	2	0.4	0.28	40	4
KRE-203030	0.3	3	0.4	0.28	40	4
KRE-203040	0.3	4	0.4	0.28	40	4
KRE-203060	0.3	6	0.4	0.28	50	4
KRE-203080	0.3	8	0.4	0.28	50	4
KRE-203100	0.3	10	0.4	0.28	50	4
KRE-204020	0.4	2	0.6	0.37	40	4
KRE-204030	0.4	3	0.6	0.37	40	4
KRE-204040	0.4	4	0.6	0.37	40	4
KRE-204060	0.4	6	0.6	0.37	50	4
KRE-204080	0.4	8	0.6	0.37	50	4
KRE-204100	0.4	10	0.6	0.37	50	4
KRE-205020	0.5	2	0.7	0.46	40	4
KRE-205040	0.5	4	0.7	0.46	40	4
KRE-205060	0.5	6	0.7	0.46	50	4
KRE-205080	0.5	8	0.7	0.46	50	4
KRE-205100	0.5	10	0.7	0.46	50	4
KRE-205120	0.5	12	0.7	0.46	50	4
KRE-205160	0.5	16	0.7	0.46	60	4
KRE-205200	0.5	20	0.7	0.46	60	4
KRE-206020	0.6	2	0.9	0.56	40	4
KRE-206040	0.6	4	0.9	0.56	40	4

品番 Code No.	刃径 D Flute Diameter	有効長 ℓ1 Effective Length	刃長 ℓ Flute Length	首下径 d1 Neck Diameter	全長 L Total Length	柄径 d Shank Diameter
KRE-206060	0.6	6	0.9	0.56	50	4
KRE-206080	0.6	8	0.9	0.56	50	4
KRE-206100	0.6	10	0.9	0.56	50	4
KRE-206120	0.6	12	0.9	0.56	50	4
KRE-206160	0.6	16	0.9	0.56	60	4
KRE-206200	0.6	20	0.9	0.56	60	4
KRE-207020	0.7	2	1	0.66	40	4
KRE-207040	0.7	4	1	0.66	40	4
KRE-207060	0.7	6	1	0.66	50	4
KRE-207080	0.7	8	1	0.66	50	4
KRE-207100	0.7	10	1	0.66	50	4
KRE-207120	0.7	12	1	0.66	50	4
KRE-207160	0.7	16	1	0.66	60	4
KRE-207200	0.7	20	1	0.66	60	4
KRE-208040	0.8	4	1.2	0.76	40	4
KRE-208060	0.8	6	1.2	0.76	50	4
KRE-208080	0.8	8	1.2	0.76	50	4
KRE-208100	0.8	10	1.2	0.76	50	4
KRE-208120	0.8	12	1.2	0.76	50	4
KRE-208160	0.8	16	1.2	0.76	60	4
KRE-208200	0.8	20	1.2	0.76	60	4
KRE-209060	0.9	6	1.4	0.86	50	4
KRE-209080	0.9	8	1.4	0.86	50	4
KRE-209100	0.9	10	1.4	0.86	50	4
KRE-209120	0.9	12	1.4	0.86	50	4
KRE-209160	0.9	16	1.4	0.86	60	4
KRE-209200	0.9	20	1.4	0.86	60	4
KRE-210060	1	6	1.5	0.95	50	4
KRE-210080	1	8	1.5	0.95	50	4
KRE-210100	1	10	1.5	0.95	50	4

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Endmill

KRE-2

品番 Code No.	刃径 D Flute Diameter	有効長 ℓ1 Effective Length	刃長 ℓ Flute Length	首下径 d1 Neck Diameter	全長 L Total Length	柄径 d Shank Diameter
KRE-210120	1	12	1.5	0.95	50	4
KRE-210160	1	16	1.5	0.95	60	4
KRE-210200	1	20	1.5	0.95	60	4
KRE-210250	1	25	1.5	0.95	70	4
KRE-210300	1	30	1.5	0.95	70	4
KRE-211060	1.1	6	1.6	1.05	50	4
KRE-211120	1.1	12	1.6	1.05	50	4
KRE-211160	1.1	16	1.6	1.05	60	4
KRE-211200	1.1	20	1.6	1.05	60	4
KRE-211300	1.1	30	1.6	1.05	70	4
KRE-212060	1.2	6	1.8	1.15	50	4
KRE-212120	1.2	12	1.8	1.15	50	4
KRE-212160	1.2	16	1.8	1.15	60	4
KRE-212200	1.2	20	1.8	1.15	60	4
KRE-212300	1.2	30	1.8	1.15	70	4
KRE-213060	1.3	6	1.9	1.25	50	4
KRE-213120	1.3	12	1.9	1.25	50	4
KRE-213160	1.3	16	1.9	1.25	60	4
KRE-213200	1.3	20	1.9	1.25	60	4
KRE-213300	1.3	30	1.9	1.25	70	4
KRE-214060	1.4	6	2.1	1.35	50	4
KRE-214120	1.4	12	2.1	1.35	50	4
KRE-214160	1.4	16	2.1	1.35	60	4
KRE-214200	1.4	20	2.1	1.35	60	4
KRE-214300	1.4	30	2.1	1.35	70	4
KRE-215100	1.5	10	2.3	1.45	50	4
KRE-215120	1.5	12	2.3	1.45	50	4
KRE-215160	1.5	16	2.3	1.45	60	4
KRE-215200	1.5	20	2.3	1.45	60	4
KRE-215250	1.5	25	2.3	1.45	70	4
KRE-215300	1.5	30	2.3	1.45	70	4
KRE-216100	1.6	10	2.4	1.55	50	4
KRE-216160	1.6	16	2.4	1.55	60	4
KRE-216200	1.6	20	2.4	1.55	60	4
KRE-216300	1.6	30	2.4	1.55	70	4
KRE-217100	1.7	10	2.5	1.65	50	4
KRE-217160	1.7	16	2.5	1.65	60	4
KRE-217200	1.7	20	2.5	1.65	60	4
KRE-217300	1.7	30	2.5	1.65	70	4
KRE-218100	1.8	10	2.7	1.75	50	4
KRE-218160	1.8	16	2.7	1.75	60	4
KRE-218200	1.8	20	2.7	1.75	60	4
KRE-218300	1.8	30	2.7	1.75	70	4
KRE-219100	1.9	10	2.8	1.85	50	4
KRE-219160	1.9	16	2.8	1.85	60	4
KRE-219200	1.9	20	2.8	1.85	60	4
KRE-219300	1.9	30	2.8	1.85	70	4
KRE-220100	2	10	3	1.94	50	4

品番 Code No.	刃径 D Flute Diameter	有効長 ℓ1 Effective Length	刃長 ℓ Flute Length	首下径 d1 Neck Diameter	全長 L Total Length	柄径 d Shank Diameter
KRE-220120	2	12	3	1.94	50	4
KRE-220140	2	14	3	1.94	50	4
KRE-220160	2	16	3	1.94	60	4
KRE-220180	2	18	3	1.94	60	4
KRE-220200	2	20	3	1.94	60	4
KRE-220250	2	25	3	1.94	70	4
KRE-220300	2	30	3	1.94	70	4
KRE-220350	2	35	3	1.94	80	4
KRE-220400	2	40	3	1.94	80	4
KRE-221120	2.1	12	3.1	2.04	50	4
KRE-221160	2.1	16	3.1	2.04	60	4
KRE-221200	2.1	20	3.1	2.04	60	4
KRE-221300	2.1	30	3.1	2.04	70	4
KRE-222120	2.2	12	3.3	2.14	50	4
KRE-222160	2.2	16	3.3	2.14	60	4
KRE-222200	2.2	20	3.3	2.14	60	4
KRE-222300	2.2	30	3.3	2.14	70	4
KRE-223120	2.3	12	3.4	2.24	50	4
KRE-223160	2.3	16	3.4	2.24	60	4
KRE-223200	2.3	20	3.4	2.24	60	4
KRE-223300	2.3	30	3.4	2.24	70	4
KRE-224120	2.4	12	3.6	2.34	50	4
KRE-224160	2.4	16	3.6	2.34	60	4
KRE-224200	2.4	20	3.6	2.34	60	4
KRE-224300	2.4	30	3.6	2.34	70	4
KRE-225120	2.5	12	3.7	2.4	50	4
KRE-225160	2.5	16	3.7	2.4	60	4
KRE-225200	2.5	20	3.7	2.4	60	4
KRE-225300	2.5	30	3.7	2.4	70	4
KRE-225400	2.5	40	3.7	2.4	80	4
KRE-226120	2.6	12	3.9	2.5	50	4
KRE-226160	2.6	16	3.9	2.5	60	4
KRE-226200	2.6	20	3.9	2.5	60	4
KRE-226300	2.6	30	3.9	2.5	70	4
KRE-226400	2.6	40	3.9	2.5	80	4
KRE-227120	2.7	12	4	2.6	50	4
KRE-227160	2.7	16	4	2.6	60	4
KRE-227200	2.7	20	4	2.6	60	4
KRE-227300	2.7	30	4	2.6	70	4
KRE-227400	2.7	40	4	2.6	80	4
KRE-228120	2.8	12	4.2	2.7	50	4
KRE-228160	2.8	16	4.2	2.7	60	4
KRE-228200	2.8	20	4.2	2.7	60	4
KRE-228300	2.8	30	4.2	2.7	70	4
KRE-228400	2.8	40	4.2	2.7	80	4
KRE-229120	2.9	12	4.3	2.8	50	4
KRE-229160	2.9	16	4.3	2.8	60	4
KRE-229200	2.9	20	4.3	2.8	60	4

KRE-2

品番 Code No.	刃径 D Flute Diameter	有効長 ℓ1 Effective Length	刃長 ℓ Flute Length	首下径 d1 Neck Diameter	全長 L Total Length	柄径 d Shank Diameter
KRE-229300	2.9	30	4.3	2.8	70	4
KRE-229400	2.9	40	4.3	2.8	80	4
KRE-230120	3	12	4.5	2.9	50	6
KRE-230160	3	16	4.5	2.9	60	6
KRE-230200	3	20	4.5	2.9	60	6
KRE-230250	3	25	4.5	2.9	70	6
KRE-230300	3	30	4.5	2.9	70	6
KRE-230350	3	35	4.5	2.9	80	6
KRE-230400	3	40	4.5	2.9	80	6
KRE-230450	3	45	4.5	2.9	100	6
KRE-230500	3	50	4.5	2.9	100	6
KRE-231200	3.1	20	4.6	3	60	6
KRE-231250	3.1	25	4.6	3	70	6
KRE-231300	3.1	30	4.6	3	70	6
KRE-231400	3.1	40	4.6	3	80	6
KRE-231500	3.1	50	4.6	3	100	6
KRE-232200	3.2	20	4.8	3.1	60	6
KRE-232250	3.2	25	4.8	3.1	70	6
KRE-232300	3.2	30	4.8	3.1	70	6
KRE-232400	3.2	40	4.8	3.1	80	6
KRE-232500	3.2	50	4.8	3.1	100	6
KRE-233200	3.3	20	4.9	3.2	60	6
KRE-233250	3.3	25	4.9	3.2	70	6
KRE-233300	3.3	30	4.9	3.2	70	6
KRE-233400	3.3	40	4.9	3.2	80	6
KRE-233500	3.3	50	4.9	3.2	100	6
KRE-234200	3.4	20	5.1	3.3	60	6
KRE-234250	3.4	25	5.1	3.3	70	6
KRE-234300	3.4	30	5.1	3.3	70	6
KRE-234400	3.4	40	5.1	3.3	80	6
KRE-234500	3.4	50	5.1	3.3	100	6
KRE-235200	3.5	20	5.2	3.35	60	6
KRE-235250	3.5	25	5.2	3.35	70	6
KRE-235300	3.5	30	5.2	3.35	70	6
KRE-235400	3.5	40	5.2	3.35	80	6
KRE-235500	3.5	50	5.2	3.35	100	6
KRE-236200	3.6	20	5.4	3.45	60	6
KRE-236250	3.6	25	5.4	3.45	70	6
KRE-236300	3.6	30	5.4	3.45	70	6
KRE-236400	3.6	40	5.4	3.45	80	6
KRE-236500	3.6	50	5.4	3.45	100	6
KRE-237200	3.7	20	5.5	3.55	60	6
KRE-237250	3.7	25	5.5	3.55	70	6
KRE-237300	3.7	30	5.5	3.55	70	6
KRE-237400	3.7	40	5.5	3.55	80	6
KRE-237500	3.7	50	5.5	3.55	100	6
KRE-238200	3.8	20	5.7	3.65	60	6
KRE-238250	3.8	25	5.7	3.65	70	6

品番 Code No.	刃径 D Flute Diameter	有効長 ℓ1 Effective Length	刃長 ℓ Flute Length	首下径 d1 Neck Diameter	全長 L Total Length	柄径 d Shank Diameter
KRE-238300	3.8	30	5.7	3.65	70	6
KRE-238400	3.8	40	5.7	3.65	80	6
KRE-238500	3.8	50	5.7	3.65	100	6
KRE-239200	3.9	20	5.8	3.75	60	6
KRE-239250	3.9	25	5.8	3.75	70	6
KRE-239300	3.9	30	5.8	3.75	70	6
KRE-239400	3.9	40	5.8	3.75	80	6
KRE-239500	3.9	50	5.8	3.75	100	6
KRE-240200	4	20	6	3.8	60	6
KRE-240250	4	25	6	3.8	70	6
KRE-240300	4	30	6	3.8	70	6
KRE-240350	4	35	6	3.8	80	6
KRE-240400	4	40	6	3.8	80	6
KRE-240500	4	50	6	3.8	100	6
KRE-240600	4	60	6	3.8	120	6
KRE-241200	4.1	20	6.1	3.9	60	6
KRE-241250	4.1	25	6.1	3.9	70	6
KRE-241300	4.1	30	6.1	3.9	70	6
KRE-241400	4.1	40	6.1	3.9	80	6
KRE-241500	4.1	50	6.1	3.9	100	6
KRE-242200	4.2	20	6.3	4	60	6
KRE-242250	4.2	25	6.3	4	70	6
KRE-242300	4.2	30	6.3	4	70	6
KRE-242400	4.2	40	6.3	4	80	6
KRE-242500	4.2	50	6.3	4	100	6
KRE-243200	4.3	20	6.4	4.1	60	6
KRE-243250	4.3	25	6.4	4.1	70	6
KRE-243300	4.3	30	6.4	4.1	70	6
KRE-243400	4.3	40	6.4	4.1	80	6
KRE-243500	4.3	50	6.4	4.1	100	6
KRE-244200	4.4	20	6.6	4.2	60	6
KRE-244250	4.4	25	6.6	4.2	70	6
KRE-244300	4.4	30	6.6	4.2	70	6
KRE-244400	4.4	40	6.6	4.2	80	6
KRE-244500	4.4	50	6.6	4.2	100	6
KRE-245200	4.5	20	6.7	4.3	60	6
KRE-245250	4.5	25	6.7	4.3	70	6
KRE-245300	4.5	30	6.7	4.3	70	6
KRE-245400	4.5	40	6.7	4.3	80	6
KRE-245500	4.5	50	6.7	4.3	100	6
KRE-246200	4.6	20	6.9	4.4	60	6
KRE-246250	4.6	25	6.9	4.4	70	6
KRE-246300	4.6	30	6.9	4.4	70	6
KRE-246400	4.6	40	6.9	4.4	80	6
KRE-246500	4.6	50	6.9	4.4	100	6
KRE-247200	4.7	20	7	4.5	60	6
KRE-247250	4.7	25	7	4.5	70	6
KRE-247300	4.7	30	7	4.5	70	6

KRE-2

品番 Code No.	刃径 D Flute Diameter	有効長 ℓ1 Effective Length	刃長 ℓ Flute Length	首下径 d1 Neck Diameter	全長 L Total Length	柄径 d Shank Diameter
KRE-247400	4.7	40	7	4.5	80	6
KRE-247500	4.7	50	7	4.5	100	6
KRE-248200	4.8	20	7.2	4.6	60	6
KRE-248250	4.8	25	7.2	4.6	70	6
KRE-248300	4.8	30	7.2	4.6	70	6
KRE-248400	4.8	40	7.2	4.6	80	6
KRE-248500	4.8	50	7.2	4.6	100	6
KRE-249200	4.9	20	7.3	4.7	60	6
KRE-249250	4.9	25	7.3	4.7	70	6
KRE-249300	4.9	30	7.3	4.7	70	6
KRE-249400	4.9	40	7.3	4.7	80	6
KRE-249500	4.9	50	7.3	4.7	100	6
KRE-250200	5	20	7.5	4.8	60	6
KRE-250250	5	25	7.5	4.8	70	6
KRE-250300	5	30	7.5	4.8	70	6
KRE-250350	5	35	7.5	4.8	80	6
KRE-250400	5	40	7.5	4.8	80	6
KRE-250500	5	50	7.5	4.8	100	6
KRE-250600	5	60	7.5	4.8	120	6
KRE-251200	5.1	20	7.6	4.9	60	6
KRE-251300	5.1	30	7.6	4.9	70	6
KRE-251400	5.1	40	7.6	4.9	80	6
KRE-251500	5.1	50	7.6	4.9	100	6
KRE-251600	5.1	60	7.6	4.9	120	6
KRE-252200	5.2	20	7.8	5	60	6
KRE-252300	5.2	30	7.8	5	70	6
KRE-252400	5.2	40	7.8	5	80	6
KRE-252500	5.2	50	7.8	5	100	6
KRE-252600	5.2	60	7.8	5	120	6
KRE-253200	5.3	20	7.9	5.1	60	6
KRE-253300	5.3	30	7.9	5.1	70	6
KRE-253400	5.3	40	7.9	5.1	80	6
KRE-253500	5.3	50	7.9	5.1	100	6
KRE-253600	5.3	60	7.9	5.1	120	6
KRE-254200	5.4	20	8.1	5.2	60	6
KRE-254300	5.4	30	8.1	5.2	70	6
KRE-254400	5.4	40	8.1	5.2	80	6
KRE-254500	5.4	50	8.1	5.2	100	6
KRE-254600	5.4	60	8.1	5.2	120	6
KRE-255200	5.5	20	8.2	5.3	60	6
KRE-255300	5.5	30	8.2	5.3	70	6
KRE-255400	5.5	40	8.2	5.3	80	6
KRE-255500	5.5	50	8.2	5.3	100	6
KRE-255600	5.5	60	8.2	5.3	120	6
KRE-256200	5.6	20	8.4	5.4	60	6
KRE-256300	5.6	30	8.4	5.4	70	6
KRE-256400	5.6	40	8.4	5.4	80	6
KRE-256500	5.6	50	8.4	5.4	100	6

[illegible]

KREOH-2

超硬油穴付リブ用エンドミル
Tungsten Carbide Long Neck Endmill

- 切粉の排出性を向上させる事が可能です
Chip evacuation can be improved
- 耐溶着性に効果があります
Effective in welding resistance
- 深彫り加工などに最適です
Suitable for deep processing

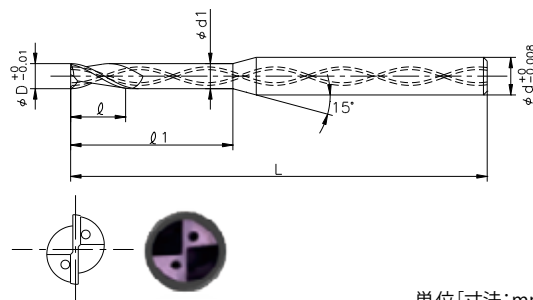


被削材 Workpiece					
一般構造鋼 General Structural Steel	炭素鋼 Carbon Steel	合金鋼・工具鋼 Alloy Steel Tool Steel	プリハードン鋼 Pre-Harden Steel	鋳鉄 Cast Iron	アルミ合金 Aluminum Alloy
○	○	○	○	○	○

●切削条件表はP192に記載

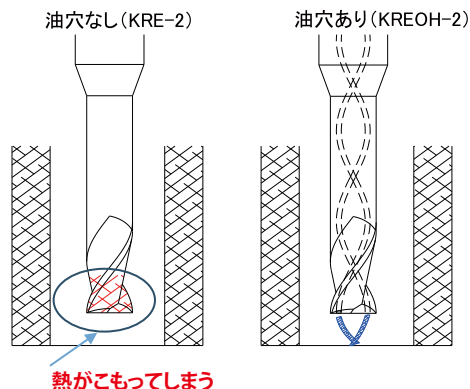
●Cutting conditions are recommended on page 192.

品番 Code No.	刃径 D Flute Diameter	有効長 ℓ1 Effective Length	刃長 ℓ Flute Length	首下径 d1 Neck Diameter	全長 L Total Length	柄径 d Shank Diameter
KREOH-220060	2	6	3	1.94	50	4
KREOH-220080	2	8	3	1.94	50	4
KREOH-220100	2	10	3	1.94	50	4
KREOH-220120	2	12	3	1.94	50	4
KREOH-220140	2	14	3	1.94	50	4
KREOH-220160	2	16	3	1.94	60	4
KREOH-220180	2	18	3	1.94	60	4
KREOH-220200	2	20	3	1.94	60	4
KREOH-225120	2.5	12	3.7	2.4	50	4
KREOH-225160	2.5	16	3.7	2.4	60	4
KREOH-225200	2.5	20	3.7	2.4	60	4
KREOH-230080	3	8	4.5	2.9	50	4
KREOH-230100	3	10	4.5	2.9	50	4
KREOH-230120	3	12	4.5	2.9	50	4
KREOH-230160	3	16	4.5	2.9	60	4
KREOH-230200	3	20	4.5	2.9	60	4
KREOH-230250	3	25	4.5	2.9	70	4
KREOH-230300	3	30	4.5	2.9	70	4



単位 [寸法: mm]
Unit [size: mm]

品番 Code No.	刃径 D Flute Diameter	有効長 ℓ1 Effective Length	刃長 ℓ Flute Length	首下径 d1 Neck Diameter	全長 L Total Length	柄径 d Shank Diameter
KREOH-240150	4	15	6	3.8	60	6
KREOH-240200	4	20	6	3.8	60	6
KREOH-240250	4	25	6	3.8	70	6
KREOH-240300	4	30	6	3.8	70	6
KREOH-240350	4	35	6	3.8	80	6
KREOH-240400	4	40	6	3.8	80	6
KREOH-250150	5	15	7.5	4.8	60	6
KREOH-250200	5	20	7.5	4.8	60	6
KREOH-250250	5	25	7.5	4.8	70	6
KREOH-250300	5	30	7.5	4.8	70	6
KREOH-250350	5	35	7.5	4.8	80	6
KREOH-250400	5	40	7.5	4.8	80	6
KREOH-250500	5	50	7.5	4.8	100	6
KREOH-260200	6	20	9	5.8	60	6
KREOH-260300	6	30	9	5.8	70	6
KREOH-260400	6	40	9	5.8	80	6
KREOH-260500	6	50	9	5.8	100	6
KREOH-260600	6	60	9	5.8	120	6



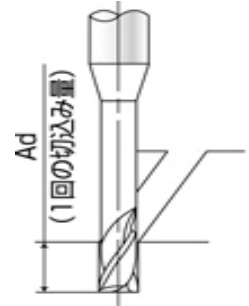
POINT

- 工具を冷却する事により、劣化と破損を抑えられます
- 切粉の排出性を向上させる事が可能です
- 耐溶着性に効果があります
- 送り速度を向上させる事ができます

KRE-2、KREOH-2

切削条件参考

Referential Cutting Conditions



- 油穴付のKRE-OHは下記条件の10～30%アップを推奨いたします。
KRE-OH with oil hole is recommended to be increased by 10% to 30% of the following conditions.

被削材 Workpiece	炭素鋼・一般構造用鋼 arbon Steel・General Structural Steel S55C・SS材			合金鋼・工具鋼 Alloy Steel・Tool Steel SCM・SKT・SKS・SKD			プリハードン鋼 Pre-Harden Steel HPM-1・NAK55・SKT		
刃 径 Flute Diameter mm	回転数 Revolution min ⁻¹	送り速度 Feed mm/min	Ad	回転数 Revolution min ⁻¹	送り速度 Feed mm/min	Ad	回転数 Revolution min ⁻¹	送り速度 Feed mm/min	Ad
0.2	32,000	15～ 30	0.003～0.006	32,000	15～ 30	0.003～0.006	32,000	15～ 30	0.003～0.006
0.3	32,000	20～ 50	0.003～0.009	32,000	20～ 50	0.003～0.009	31,000	20～ 50	0.003～0.009
0.4	32,000	50～120	0.003～0.012	31,500	50～120	0.003～0.012	22,000	50～120	0.003～0.012
0.5	32,000	140～250	0.003～0.018	25,500	140～250	0.003～0.018	18,000	140～250	0.003～0.018
0.6	26,500	160～300	0.006～0.025	21,000	160～300	0.006～0.025	15,000	160～300	0.006～0.025
0.7	22,500	160～350	0.02 ～0.04	18,000	160～350	0.02 ～0.04	13,500	160～350	0.02 ～0.04
0.8	20,000	160～400	0.02 ～0.05	15,900	160～400	0.02 ～0.05	11,500	160～400	0.02 ～0.05
0.9	17,500	180～450	0.02 ～0.05	14,000	180～450	0.02 ～0.05	10,500	180～450	0.02 ～0.05
1	16,000	180～500	0.02 ～0.05	12,700	180～500	0.02 ～0.05	9,550	180～500	0.02 ～0.05
1.1～1.4	12,800	180～500	0.02 ～0.08	10,500	180～500	0.02 ～0.08	8,500	180～500	0.02 ～0.08
1.5	10,500	200～600	0.03 ～0.1	8,400	200～600	0.03 ～0.1	6,000	200～600	0.03 ～0.1
1.6～1.9	9,500	200～600	0.03 ～0.12	7,500	200～600	0.03 ～0.12	5,400	200～600	0.03 ～0.12
2	8,000	200～600	0.05 ～0.15	6,400	200～600	0.05 ～0.15	4,800	200～600	0.05 ～0.15
2.1～2.4	7,200	200～600	0.05 ～0.15	5,600	200～600	0.05 ～0.15	4,200	200～600	0.05 ～0.15
2.5	6,500	200～600	0.05 ～0.2	5,200	200～600	0.05 ～0.2	3,800	200～600	0.05 ～0.2
2.6～2.9	5,800	200～600	0.05 ～0.2	4,600	200～600	0.05 ～0.2	3,500	200～600	0.05 ～0.2
3	5,000	200～600	0.05 ～0.25	4,200	200～600	0.05 ～0.25	3,150	200～600	0.05 ～0.25
3.1～3.4	4,600	200～600	0.05 ～0.25	3,800	200～600	0.05 ～0.25	3,000	200～600	0.05 ～0.25
3.5	4,500	200～600	0.05 ～0.3	3,600	200～600	0.05 ～0.3	2,800	200～600	0.05 ～0.3
3.6～3.9	4,400	200～600	0.05 ～0.3	3,500	200～600	0.05 ～0.3	2,600	200～600	0.05 ～0.3
4	4,200	150～500	0.05 ～0.4	3,300	150～500	0.05 ～0.4	2,500	150～500	0.05 ～0.4
4.1～4.4	4,200	150～500	0.05 ～0.4	3,300	150～500	0.05 ～0.4	2,500	150～500	0.05 ～0.4
4.5	4,000	150～500	0.05 ～0.4	3,200	150～500	0.05 ～0.4	2,400	150～500	0.05 ～0.4
4.6～4.9	3,800	150～500	0.05 ～0.4	3,000	150～500	0.05 ～0.4	2,200	150～500	0.05 ～0.4
5	3,600	150～500	0.05 ～0.5	2,800	150～500	0.05 ～0.5	2,100	150～500	0.05 ～0.5
5.1～5.4	3,600	150～500	0.05 ～0.5	2,800	150～500	0.05 ～0.5	2,100	150～500	0.05 ～0.5
5.5	3,400	150～500	0.05 ～0.5	2,600	150～500	0.05 ～0.5	2,000	150～500	0.05 ～0.5
5.6～5.9	3,200	150～500	0.05 ～0.5	2,500	150～500	0.05 ～0.5	2,000	150～500	0.05 ～0.5
6	3,200	150～500	0.05 ～0.5	2,500	150～500	0.05 ～0.5	2,000	150～500	0.05 ～0.5
備 考 Remarks	- 有効長により回転数、送り速度を調整して下さい。 - 回転数と送り速度は同じ割合で調整して下さい。 - 切削油を使用して下さい。 - Adjust Revolution and Feed Speed according to Effective Length. - Adjust Revolution and Feed Speed at the same rate. - Use Cutting Oil.								

超硬エンドミル

Carbide Endmill

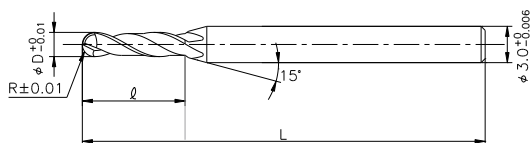
■小径サイズで揃えていますので超精密加工に最適です
Best for ultra-precise processing due to small size

MG

30°
ネジレ角
Twist Angle

2

R



被削材 Workpiece					
一般構造鋼 General Structural Steel	炭素鋼 Caebon Steel	合金鋼・工具鋼 Alloy Steel Tool Steel	プリハードン鋼 Pre-Haeden Steel	鑄鉄 Cast Iron	アルミ合金 Aluminum Alloy
○	○		○	○	○

- 切削条件表はP194に記載
●Cutting conditions are recommended on page 194.

単位[寸法:mm]
Unit[size:mm]

品番 Code No.	R	刃径 D Flute Diameter	刃長 ℓ Flute Length	全長 L Total Length	柄径 Shank Diameter
KMBE-2R0100	R0.1	0.2	0.4	40	3
KMBE-2R0125	R0.125	0.25	0.5	40	3
KMBE-2R0150	R0.15	0.3	1	40	3
KMBE-2R0175	R0.175	0.35	1	40	3
KMBE-2R0200	R0.2	0.4	1	40	3
KMBE-2R0250	R0.25	0.5	1	40	3
KMBE-2R0300	R0.3	0.6	2	40	3
KMBE-2R0350	R0.35	0.7	2	40	3
KMBE-2R0400	R0.4	0.8	2.5	40	3
KMBE-2R0450	R0.45	0.9	2.5	40	3
KMBE-2R0500	R0.5	1	3	40	3
KMBE-2R0550	R0.55	1.1	3	40	3
KMBE-2R0600	R0.6	1.2	3	40	3
KMBE-2R0650	R0.65	1.3	3	40	3
KMBE-2R0700	R0.7	1.4	3	40	3
KMBE-2R0750	R0.75	1.5	5	40	3
KMBE-2R0800	R0.8	1.6	5	40	3
KMBE-2R0850	R0.85	1.7	5	40	3
KMBE-2R0900	R0.9	1.8	5	40	3
KMBE-2R0950	R0.95	1.9	5	40	3
KMBE-2R1000	R1	2	6	40	3
KMBE-2R1050	R1.05	2.1	6	40	3
KMBE-2R1100	R1.1	2.2	6	40	3
KMBE-2R1150	R1.15	2.3	6	40	3
KMBE-2R1200	R1.2	2.4	6	40	3
KMBE-2R1250	R1.25	2.5	8	40	3
KMBE-2R1300	R1.3	2.6	8	40	3
KMBE-2R1350	R1.35	2.7	8	40	3
KMBE-2R1400	R1.4	2.8	8	40	3
KMBE-2R1450	R1.45	2.9	8	40	3

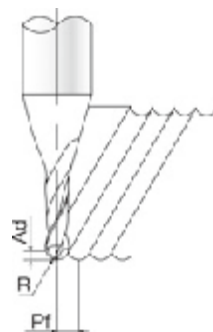
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KMBE-2

切削条件参考

Referential Cutting Conditions

R	切込み深さ Cutting Depth	ピックフィード Pick Feed
	Ad	Pf
R < 0.4	0.05D	0.2D
0.4 ≤ R	0.10D	0.2D

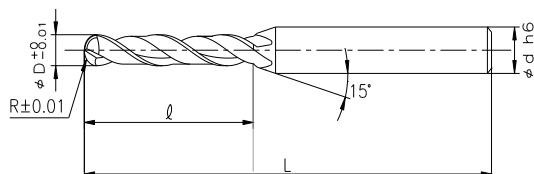


被削材 Workpiece	炭素鋼・一般構造用鋼 Carbon Steel・ General Structural Steel S55C・SS材		合金鋼・工具鋼 Alloy Steel・Tool Steel SCM・SKT・SKS・SKD		プリハードン鋼 Pre-Harden Steel HPM-1・NAK55・SKT		鋳 鉄 Cast iron FC・FCD	
R Flute Diameter mm	回転数 Revolution min ⁻¹	送り速度 Feed mm/min	回転数 Revolution min ⁻¹	送り速度 Feed mm/min	回転数 Revolution min ⁻¹	送り速度 Feed mm/min	回転数 Revolution min ⁻¹	送り速度 Feed mm/min
R0.1	32,000	65	32,000	45	29,200	15	32,000	65
R0.15	32,000	75	29,200	50	19,500	20	32,000	75
R0.2	27,400	95	22,000	50	15,000	20	27,400	95
R0.25	26,300	100	21,900	55	14,600	20	26,300	100
R0.3	21,900	105	18,500	60	12,200	25	21,900	110
R0.4	16,500	105	11,500	60	9,900	30	16,500	110
R0.5	13,000	105	9,500	60	7,950	30	13,000	110
R0.6	11,000	105	7,950	65	6,600	30	11,000	115
R0.7	9,500	110	6,800	65	5,650	30	9,500	120
R0.8	8,350	115	5,950	70	4,950	30	8,350	125
R0.9	7,400	115	5,300	75	4,400	35	7,400	130
R1	6,650	115	4,750	80	3,950	40	6,650	135
R1.1	6,050	120	4,300	85	3,600	40	6,050	140
R1.2	5,550	120	3,950	85	3,300	40	5,550	140
R1.3	5,100	120	3,650	85	3,050	40	5,100	140
R1.4	4,750	125	3,400	90	2,800	40	4,750	140
R1.5	4,450	130	3,150	90	2,650	40	4,450	140
備 考 Remarks	• 回転数と送り速度は同じ割合で調整して下さい。 • ピックフィードは要求品質に合わせて調整して下さい。 • 切削油を使用して下さい。 • Adjust Revolution and Feed Speed at the same rate. • Adjust Pick Feed according to Required Quality. • Use Cutting Oil.							

KLB-2

超硬ロングボールエンドミル
Tungsten Carbide Long Ball Endmill

- 刃長が刃径の3倍～最大12倍までラインナップ
Line-upped flute length 3 times to max 12
times of flute diameter



被削材 Workpiece					
一般構造鋼 General Structural Steel	炭素鋼 Caebon Steel	合金鋼・工具鋼 Alloy Steel Tool Steel	プリハードン鋼 Pre-Haerden Steel	铸铁 Cast Iron	アルミ合金 Aluminum Alloy
○	○		○	○	○

- 切削条件表はP196に記載
●Cutting conditions are recommended on page 196.

単位[寸法:mm]
Unit[size:mm]

品番 Code No.	R	刃径 D Flute Diameter	刃長 ℓ Flute Length	全長 L Total Length	柄径 Shank Diameter
KLB-2R01010	R0.1	0.2	1	40	3
KLB-2R01015	R0.1	0.2	1.5	40	3
KLB-2R01020	R0.1	0.2	2	40	3
KLB-2R02020	R0.2	0.4	2	40	3
KLB-2R02030	R0.2	0.4	3	40	3
KLB-2R02040	R0.2	0.4	4	40	3
KLB-2R03040	R0.3	0.6	4	40	3
KLB-2R03060	R0.3	0.6	6	40	3
KLB-2R03080	R0.3	0.6	8	40	3
KLB-2R03100	R0.3	0.6	10	40	3
KLB-2R04040	R0.4	0.8	4	40	3
KLB-2R04060	R0.4	0.8	6	40	3
KLB-2R04080	R0.4	0.8	8	40	3
KLB-2R04100	R0.4	0.8	10	40	3
KLB-2R05040	R0.5	1	4	45	4
KLB-2R05060	R0.5	1	6	45	4
KLB-2R05080	R0.5	1	8	45	4
KLB-2R05100	R0.5	1	10	45	4
KLB-2R10060	R1	2	6	45	4
KLB-2R10080	R1	2	8	45	4
KLB-2R10100	R1	2	10	45	4
KLB-2R10120	R1	2	12	45	4
KLB-2R10150	R1	2	15	50	4
KLB-2R10200	R1	2	20	60	4
KLB-2R15150	R1.5	3	15	70	6
KLB-2R15200	R1.5	3	20	70	6
KLB-2R15250	R1.5	3	25	80	6
KLB-2R15300	R1.5	3	30	80	6
KLB-2R20150	R2	4	15	70	6
KLB-2R20200	R2	4	20	80	6

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超硬エンドミル

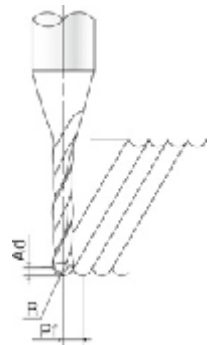
Carbide
Fodexill

KLB-2

切削条件参考

Referential Cutting Conditions

R	切込み深さ Cutting Depth	ピックフィード Pick Feed
	Ad	Pf
$R < 0.5$	0.02D	0.1D
$0.5 \leq R$	0.04D	0.1D

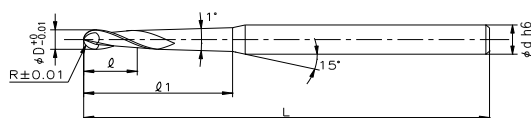


被削材 Workpiece	炭素鋼・一般構造用鋼 Carbon Steel・ General Structural Steel S55C・SS材		合金鋼・工具鋼 Alloy Steel・Tool Steel SCM・SKT・SKS・SKD		プリハードン鋼 Pre-Harden Steel HPM-1・NAK55・SKT		鋳 鉄 Cast iron FC・FCD	
R Flute Diameter mm	回転数 Revolution min ⁻¹	送り速度 Feed mm/min	回転数 Revolution min ⁻¹	送り速度 Feed mm/min	回転数 Revolution min ⁻¹	送り速度 Feed mm/min	回転数 Revolution min ⁻¹	送り速度 Feed mm/min
R0.1	32,000	25	32,000	20	32,000	10	32,000	25
R0.2	32,000	43	23,000	26	19,800	15	32,000	45
R0.3	18,500	43	13,100	26	11,300	15	18,500	45
R0.4	14,500	43	10,200	26	8,800	15	14,500	45
R0.5	13,000	43	9,500	26	7,950	15	13,000	45
R1	6,650	46	4,750	35	3,950	20	6,650	55
R1.5	4,450	55	3,150	40	2,650	20	4,450	60
R2	4,450	55	3,150	40	2,650	20	4,450	60
R3	4,450	55	3,150	40	2,650	20	4,450	60
備 考 Remarks	• 回転数と送り速度は同じ割合で調整して下さい。 • ピックフィードは要求品質に合わせて調整して下さい。 • 刃長により回転数、送り速度を調整して下さい。 • 切削油を使用して下さい。 • Adjust Revolution and Feed Speed at the same rate. • Adjust Pick Feed according to Required Quality. • Adjust Revolution and Feed Speed according to Flute Length. • Use Cutting Oil.							

KTBL-2

超硬テーパネックボールエンドミル
Tungsten Carbide Taper Neck Ball Endmill

- 首部をテーパーにして有効長を長くしました
Long effective length with taper neck
- 深彫り加工などに最適です
Suitable for deep processing



被削材 Workpiece					
一般構造鋼 General Structural Steel	炭素鋼 Caebon Steel	合金鋼・工具鋼 Alloy Steel Tool Steel	プリハートン鋼 Pre-Haerton Steel	铸铁 Cast Iron	アルミ合金 Aluminum Alloy
○	○		○	○	○

- 切削条件表はP198に記載
●Cutting conditions are recommended on page 198.

単位[寸法:mm]
Unit[size:mm]

品番 Code No.	R	刃径 D Flute Diameter	有効長 ℓ1 Effective Length	刃長 ℓ Flute Length	全長 L Total Length	柄径 d Shank Diameter
KTBL-2R0110	R0.1	0.2	10	0.4	100	6
KTBL-2R0120	R0.1	0.2	20	0.4	100	6
KTBL-2R0151	R0.15	0.3	10	0.6	100	6
KTBL-2R0152	R0.15	0.3	20	0.6	100	6
KTBL-2R0210	R0.2	0.4	10	0.8	100	6
KTBL-2R0220	R0.2	0.4	20	0.8	100	6
KTBL-2R0251	R0.25	0.5	10	1	100	6
KTBL-2R0252	R0.25	0.5	20	1	100	6
KTBL-2R0310	R0.3	0.6	10	1.5	100	6
KTBL-2R0320	R0.3	0.6	20	1.5	100	6
KTBL-2R0410	R0.4	0.8	10	2	100	6
KTBL-2R0420	R0.4	0.8	20	2	100	6
KTBL-2R0530	R0.5	1	30	3	100	6
KTBL-2R0540	R0.5	1	40	3	100	6
KTBL-2R1040	R1	2	40	6	110	6
KTBL-2R1050	R1	2	50	6	110	6
KTBL-2R1540	R1.5	3	40	9	120	6
KTBL-2R1550	R1.5	3	50	9	120	6
KTBL-2R2040	R2	4	40	10	120	6
KTBL-2R2050	R2	4	50	10	120	6
KTBL-2R2060	R2	4	60	10	120	6
KTBL-2R2540	R2.5	5	40	12	120	6
KTBL-2R2550	R2.5	5	50	12	120	6
KTBL-2R2560	R2.5	5	60	12	120	6
KTBL-2R3040	R3	6	40	14	120	8
KTBL-2R3050	R3	6	50	14	120	8
KTBL-2R3060	R3	6	60	14	120	8

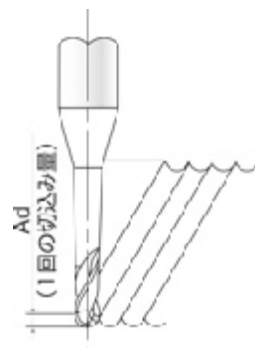
[illegible]

KTBL-2

切削条件参考

Referential Cutting Conditions

R	切込み深さ Cutting Depth	ピックフィード Pick Feed
	Ad	Pf
$R < 0.5$	0.05D	0.10D
$0.5 \leq R$	0.08D	0.15D



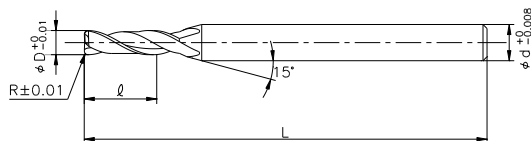
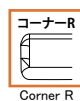
被削材 Workpiece	炭素鋼・一般構造用鋼 Carbon Steel・ General Structural Steel S55C・SS材		合金鋼・工具鋼 Alloy Steel・Tool Steel SCM・SKT・SKS・SKD		プリハードン鋼 Pre-Harden Steel HPM-1・NAK55・SKT		鋳鉄 Cast iron FC・FCD	
R Flute Diameter mm	回転数 Revolution min ⁻¹	送り速度 Feed mm/min	回転数 Revolution min ⁻¹	送り速度 Feed mm/min	回転数 Revolution min ⁻¹	送り速度 Feed mm/min	回転数 Revolution min ⁻¹	送り速度 Feed mm/min
R0.1	32,000	32	32,000	20	29,200	10	32,000	32
R0.15	32,000	38	29,200	24	19,500	12	32,000	38
R0.2	27,400	48	22,000	24	15,000	12	27,400	48
R0.25	26,300	50	21,800	28	14,600	14	26,300	50
R0.3	21,900	52	18,500	32	12,200	16	21,900	56
R0.4	16,500	52	11,500	32	10,000	16	16,500	56
R0.5	13,000	52	9,500	32	7,950	16	13,000	56
R1	6,650	56	4,750	40	3,950	20	6,650	64
R1.5	6,000	56	4,500	40	3,750	20	6,000	64
R2	5,300	52	4,300	32	3,600	16	5,300	56
R2.5	5,100	52	3,650	32	3,050	16	5,100	56
R3	4,450	52	3,150	32	2,650	16	4,450	56
備考 Remarks	- 有効長により回転数、送り速度を調整して下さい。 - ピックフィードは要求品質に合わせて調整して下さい。 - 切削油を使用して下さい。							

- Adjust Revolution and Feed Speed according to Effective Length.
- Adjust Pick Feed according to Required Quality.
- Use Cutting Oil.

KSER-2

超硬2枚刃コーナーR付エンドミル Tungsten Carbide 2 Flutes Corner R Endmill

■刃長が刃径の1倍～最大10倍までのコーナーR付エンドミルです
Line-upped flute length 1 times to max 10 times of flute diameter



被削材 Workpiece					
一般構造鋼 General Structural Steel	炭素鋼 Carbon Steel	合金鋼・工具鋼 Alloy Steel Tool Steel	プリハードン鋼 Pre-Harden Steel	鋳鉄 Cast Iron	アルミ合金 Aluminum Alloy
○	○	○	○	○	○

●切削条件表はP202に記載

●Cutting conditions are recommended on page 202.

単位[寸法:mm]

Unit [size:mm]

品番 Code No.	刃径 D Flute Diameter	コーナー R Corner R	刃長 ℓ Flute Length	全長 L Total Length	柄径 d Shank Diameter
KSER-210005010	1	R0.05	1	50	4
KSER-210005020	1	R0.05	2	50	4
KSER-210005030	1	R0.05	3	50	4
KSER-210005040	1	R0.05	4	50	4
KSER-210005050	1	R0.05	5	50	4
KSER-210005060	1	R0.05	6	50	4
KSER-210005070	1	R0.05	7	50	4
KSER-210005080	1	R0.05	8	50	4
KSER-210005090	1	R0.05	9	50	4
KSER-210005100	1	R0.05	10	50	4
KSER-210010010	1	R0.1	1	50	4
KSER-210010020	1	R0.1	2	50	4
KSER-210010030	1	R0.1	3	50	4
KSER-210010040	1	R0.1	4	50	4
KSER-210010050	1	R0.1	5	50	4
KSER-210010060	1	R0.1	6	50	4
KSER-210010070	1	R0.1	7	50	4
KSER-210010080	1	R0.1	8	50	4
KSER-210010090	1	R0.1	9	50	4
KSER-210010100	1	R0.1	10	50	4
KSER-210020010	1	R0.2	1	50	4
KSER-210020020	1	R0.2	2	50	4
KSER-210020030	1	R0.2	3	50	4
KSER-210020040	1	R0.2	4	50	4
KSER-210020050	1	R0.2	5	50	4
KSER-210020060	1	R0.2	6	50	4
KSER-210020070	1	R0.2	7	50	4
KSER-210020080	1	R0.2	8	50	4
KSER-210020090	1	R0.2	9	50	4
KSER-210020100	1	R0.2	10	50	4

品番 Code No.	刃径 D Flute Diameter	コーナー R Corner R	刃長 ℓ Flute Length	全長 L Total Length	柄径 d Shank Diameter
KSER-210030010	1	R0.3	1	50	4
KSER-210030020	1	R0.3	2	50	4
KSER-210030030	1	R0.3	3	50	4
KSER-210030040	1	R0.3	4	50	4
KSER-210030050	1	R0.3	5	50	4
KSER-210030060	1	R0.3	6	50	4
KSER-210030070	1	R0.3	7	50	4
KSER-210030080	1	R0.3	8	50	4
KSER-210030090	1	R0.3	9	50	4
KSER-210030100	1	R0.3	10	50	4
KSER-215005020	1.5	R0.05	2	50	4
KSER-215005040	1.5	R0.05	4	50	4
KSER-215005060	1.5	R0.05	6	50	4
KSER-215005080	1.5	R0.05	8	50	4
KSER-215005100	1.5	R0.05	10	50	4
KSER-215005120	1.5	R0.05	12	50	4
KSER-215005150	1.5	R0.05	15	50	4
KSER-215010020	1.5	R0.1	2	50	4
KSER-215010040	1.5	R0.1	4	50	4
KSER-215010060	1.5	R0.1	6	50	4
KSER-215010080	1.5	R0.1	8	50	4
KSER-215010100	1.5	R0.1	10	50	4
KSER-215010120	1.5	R0.1	12	50	4
KSER-215010150	1.5	R0.1	15	50	4
KSER-215020020	1.5	R0.2	2	50	4
KSER-215020040	1.5	R0.2	4	50	4
KSER-215020060	1.5	R0.2	6	50	4
KSER-215020080	1.5	R0.2	8	50	4
KSER-215020100	1.5	R0.2	10	50	4
KSER-215020120	1.5	R0.2	12	50	4

超硬エンドミル

Carbide Endmill

KSER-2

品番 Code No.	刃径 D Flute Diameter	コーナーR Corner R	刃長 ℓ Flute Length	全長 L Total Length	柄径 d Shank Diameter
KSER-215020150	1.5	R0.2	15	50	4
KSER-215030020	1.5	R0.3	2	50	4
KSER-215030040	1.5	R0.3	4	50	4
KSER-215030060	1.5	R0.3	6	50	4
KSER-215030080	1.5	R0.3	8	50	4
KSER-215030100	1.5	R0.3	10	50	4
KSER-215030120	1.5	R0.3	12	50	4
KSER-215030150	1.5	R0.3	15	50	4
KSER-215050020	1.5	R0.5	2	50	4
KSER-215050040	1.5	R0.5	4	50	4
KSER-215050060	1.5	R0.5	6	50	4
KSER-215050080	1.5	R0.5	8	50	4
KSER-215050100	1.5	R0.5	10	50	4
KSER-215050120	1.5	R0.5	12	50	4
KSER-215050150	1.5	R0.5	15	50	4
KSER-220005020	2	R0.05	2	50	4
KSER-220005040	2	R0.05	4	50	4
KSER-220005060	2	R0.05	6	50	4
KSER-220005080	2	R0.05	8	50	4
KSER-220005100	2	R0.05	10	50	4
KSER-220005120	2	R0.05	12	50	4
KSER-220005140	2	R0.05	14	50	4
KSER-220005160	2	R0.05	16	60	4
KSER-220005180	2	R0.05	18	60	4
KSER-220005200	2	R0.05	20	60	4
KSER-220010020	2	R0.1	2	50	4
KSER-220010040	2	R0.1	4	50	4
KSER-220010060	2	R0.1	6	50	4
KSER-220010080	2	R0.1	8	50	4
KSER-220010100	2	R0.1	10	50	4
KSER-220010120	2	R0.1	12	50	4
KSER-220010140	2	R0.1	14	50	4
KSER-220010160	2	R0.1	16	60	4
KSER-220010180	2	R0.1	18	60	4
KSER-220010200	2	R0.1	20	60	4
KSER-220020020	2	R0.2	2	50	4
KSER-220020040	2	R0.2	4	50	4
KSER-220020060	2	R0.2	6	50	4
KSER-220020080	2	R0.2	8	50	4
KSER-220020100	2	R0.2	10	50	4
KSER-220020120	2	R0.2	12	50	4
KSER-220020140	2	R0.2	14	50	4
KSER-220020160	2	R0.2	16	60	4
KSER-220020180	2	R0.2	18	60	4
KSER-220020200	2	R0.2	20	60	4
KSER-220030020	2	R0.3	2	50	4
KSER-220030040	2	R0.3	4	50	4
KSER-220030060	2	R0.3	6	50	4

品番 Code No.	刃径 D Flute Diameter	コーナーR Corner R	刃長 ℓ Flute Length	全長 L Total Length	柄径 d Shank Diameter
KSER-220030080	2	R0.3	8	50	4
KSER-220030100	2	R0.3	10	50	4
KSER-220030120	2	R0.3	12	50	4
KSER-220030140	2	R0.3	14	50	4
KSER-220030160	2	R0.3	16	60	4
KSER-220030180	2	R0.3	18	60	4
KSER-220030200	2	R0.3	20	60	4
KSER-220050020	2	R0.5	2	50	4
KSER-220050040	2	R0.5	4	50	4
KSER-220050060	2	R0.5	6	50	4
KSER-220050080	2	R0.5	8	50	4
KSER-220050100	2	R0.5	10	50	4
KSER-220050120	2	R0.5	12	50	4
KSER-220050140	2	R0.5	14	50	4
KSER-220050160	2	R0.5	16	60	4
KSER-220050180	2	R0.5	18	60	4
KSER-220050200	2	R0.5	20	60	4
KSER-230005030	3	R0.05	3	50	6
KSER-230005060	3	R0.05	6	50	6
KSER-230005090	3	R0.05	9	50	6
KSER-230005120	3	R0.05	12	50	6
KSER-230005150	3	R0.05	15	60	6
KSER-230005180	3	R0.05	18	60	6
KSER-230005210	3	R0.05	21	60	6
KSER-230005250	3	R0.05	25	70	6
KSER-230005300	3	R0.05	30	70	6
KSER-230010030	3	R0.1	3	50	6
KSER-230010060	3	R0.1	6	50	6
KSER-230010090	3	R0.1	9	50	6
KSER-230010120	3	R0.1	12	50	6
KSER-230010150	3	R0.1	15	60	6
KSER-230010180	3	R0.1	18	60	6
KSER-230010210	3	R0.1	21	60	6
KSER-230010250	3	R0.1	25	70	6
KSER-230010300	3	R0.1	30	70	6
KSER-230020030	3	R0.2	3	50	6
KSER-230020060	3	R0.2	6	50	6
KSER-230020090	3	R0.2	9	50	6
KSER-230020120	3	R0.2	12	50	6
KSER-230020150	3	R0.2	15	60	6
KSER-230020180	3	R0.2	18	60	6
KSER-230020210	3	R0.2	21	60	6
KSER-230020250	3	R0.2	25	70	6
KSER-230020300	3	R0.2	30	70	6
KSER-230030030	3	R0.3	3	50	6
KSER-230030060	3	R0.3	6	50	6
KSER-230030090	3	R0.3	9	50	6
KSER-230030120	3	R0.3	12	50	6

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品番 Code No.	刃径 D Flute Diameter	コーナー R Corner R	刃長 ℓ Flute Length	全長 L Total Length	柄径 d Shank Diameter
KSER-230030150	3	R0.3	15	60	6
KSER-230030180	3	R0.3	18	60	6
KSER-230030210	3	R0.3	21	60	6
KSER-230030250	3	R0.3	25	70	6
KSER-230030300	3	R0.3	30	70	6
KSER-230050030	3	R0.5	3	50	6
KSER-230050060	3	R0.5	6	50	6
KSER-230050090	3	R0.5	9	50	6
KSER-230050120	3	R0.5	12	50	6
KSER-230050150	3	R0.5	15	60	6
KSER-230050180	3	R0.5	18	60	6
KSER-230050210	3	R0.5	21	60	6
KSER-230050250	3	R0.5	25	70	6
KSER-230050300	3	R0.5	30	70	6
KSER-230100030	3	R1	3	50	6
KSER-230100060	3	R1	6	50	6
KSER-230100090	3	R1	9	50	6
KSER-230100120	3	R1	12	50	6
KSER-230100150	3	R1	15	60	6
KSER-230100180	3	R1	18	60	6
KSER-230100210	3	R1	21	60	6
KSER-230100250	3	R1	25	70	6
KSER-230100300	3	R1	30	70	6
KSER-240005040	4	R0.05	4	50	6
KSER-240005080	4	R0.05	8	50	6
KSER-240005120	4	R0.05	12	50	6
KSER-240005160	4	R0.05	16	60	6
KSER-240005200	4	R0.05	20	60	6
KSER-240005250	4	R0.05	25	70	6
KSER-240005300	4	R0.05	30	70	6
KSER-240005350	4	R0.05	35	80	6
KSER-240005400	4	R0.05	40	80	6
KSER-240010040	4	R0.1	4	50	6
KSER-240010080	4	R0.1	8	50	6
KSER-240010120	4	R0.1	12	50	6
KSER-240010160	4	R0.1	16	60	6
KSER-240010200	4	R0.1	20	60	6
KSER-240010250	4	R0.1	25	70	6
KSER-240010300	4	R0.1	30	70	6
KSER-240010350	4	R0.1	35	80	6
KSER-240010400	4	R0.1	40	80	6
KSER-240020040	4	R0.2	4	50	6
KSER-240020080	4	R0.2	8	50	6
KSER-240020120	4	R0.2	12	50	6
KSER-240020160	4	R0.2	16	60	6
KSER-240020200	4	R0.2	20	60	6
KSER-240020250	4	R0.2	25	70	6
KSER-240020300	4	R0.2	30	70	6

KSER-2

切削条件参考

Referential Cutting Conditions

刃 径 Flute Diameter	切込み巾 Cutting Width	切込み深さ Cutting Depth
	Ar	Ad
$\phi 1 \leq D$	0.1D	0.8D



被削材 Workpiece	炭素鋼・一般構造用鋼 Carbon Steel・ General Structural Steel S55C・SS 材		合金鋼・工具鋼 Alloy Steel・Tool Steel SCM・SKT・SKS・SKD		プリハードン鋼 Pre-Harden Steel HPM-1・NAK55・SKT		鋳 鉄 Cast iron FC・FCD	
刃 径 Flute Diameter mm	回転数 Revolution min ⁻¹	送り速度 Feed mm/min	回転数 Revolution min ⁻¹	送り速度 Feed mm/min	回転数 Revolution min ⁻¹	送り速度 Feed mm/min	回転数 Revolution min ⁻¹	送り速度 Feed mm/min
1	13,500	50	11,500	45	8,600	35	13,500	50
1.5	8,700	65	7,500	55	6,000	45	8,700	65
2	6,800	70	5,900	60	4,700	50	6,800	70
3	4,600	90	4,000	75	3,200	65	4,600	90
4	3,500	100	3,200	90	2,500	70	3,500	100
備 考 Remarks	• 回転数と送り速度は同じ割合で調整して下さい。 • 刃長により回転数、送り速度を調整して下さい。 (上記は 5D 程度の条件) • 切削油を使用して下さい。 • Adjust Revolution and Feed Speed at the same rate. • Adjust Revolution and Feed Speed according to Flute Length . The above list is shown in case of the cutting conditions of around 5D. • Use Cutting Oil.							

KSR-2

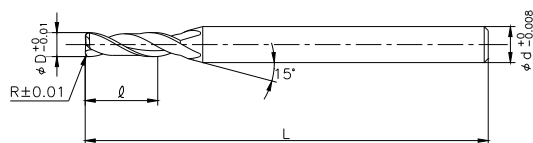
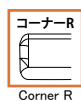
超硬2枚刃コーナーR付エンドミル Tungsten Carbide 2 Flutes Corner R Endmill

■コーナーRを用途に合わせてきめ細かく揃えました

Line-uped various sizes according to the use

■刃径をφ1～φ6まで0.1とびにラインナップ

Line-uped φ1～φ6 at pitch 0.1



被削材 Workpiece					
一般構造鋼 General Structural Steel	炭素鋼 Carbon Steel	合金鋼・工具鋼 Alloy Steel Tool Steel	プリハードン鋼 Pre-Harden Steel	鋳鉄 Cast Iron	アルミ合金 Aluminum Alloy
○	○	○	○	○	○

●切削条件表はP209に記載

●Cutting conditions are recommended on page 209.

単位 [寸法:mm]

Unit [size:mm]

品番 Code No.	刃径 D Flute Diameter	コーナー R Corner R	刃長 ℓ Flute Length	全長 L Total Length	柄径 d Shank Diameter
KSR-210010R	1	R0.1	3	40	4
KSR-210015R	1	R0.15	3	40	4
KSR-210020R	1	R0.2	3	40	4
KSR-210025R	1	R0.25	3	40	4
KSR-210030R	1	R0.3	3	40	4
KSR-211010R	1.1	R0.1	3	40	4
KSR-211015R	1.1	R0.15	3	40	4
KSR-211020R	1.1	R0.2	3	40	4
KSR-211025R	1.1	R0.25	3	40	4
KSR-211030R	1.1	R0.3	3	40	4
KSR-212010R	1.2	R0.1	3	40	4
KSR-212015R	1.2	R0.15	3	40	4
KSR-212020R	1.2	R0.2	3	40	4
KSR-212025R	1.2	R0.25	3	40	4
KSR-212030R	1.2	R0.3	3	40	4
KSR-213010R	1.3	R0.1	3	40	4
KSR-213015R	1.3	R0.15	3	40	4
KSR-213020R	1.3	R0.2	3	40	4
KSR-213025R	1.3	R0.25	3	40	4
KSR-213030R	1.3	R0.3	3	40	4
KSR-214010R	1.4	R0.1	3	40	4
KSR-214015R	1.4	R0.15	3	40	4
KSR-214020R	1.4	R0.2	3	40	4
KSR-214025R	1.4	R0.25	3	40	4
KSR-214030R	1.4	R0.3	3	40	4
KSR-215010R	1.5	R0.1	4	40	4
KSR-215015R	1.5	R0.15	4	40	4
KSR-215020R	1.5	R0.2	4	40	4
KSR-215025R	1.5	R0.25	4	40	4
KSR-215030R	1.5	R0.3	4	40	4

品番 Code No.	刃径 D Flute Diameter	コーナー R Corner R	刃長 ℓ Flute Length	全長 L Total Length	柄径 d Shank Diameter
KSR-216010R	1.6	R0.1	4	40	4
KSR-216015R	1.6	R0.15	4	40	4
KSR-216020R	1.6	R0.2	4	40	4
KSR-216025R	1.6	R0.25	4	40	4
KSR-216030R	1.6	R0.3	4	40	4
KSR-217010R	1.7	R0.1	4	40	4
KSR-217015R	1.7	R0.15	4	40	4
KSR-217020R	1.7	R0.2	4	40	4
KSR-217025R	1.7	R0.25	4	40	4
KSR-217030R	1.7	R0.3	4	40	4
KSR-218010R	1.8	R0.1	4	40	4
KSR-218015R	1.8	R0.15	4	40	4
KSR-218020R	1.8	R0.2	4	40	4
KSR-218025R	1.8	R0.25	4	40	4
KSR-218030R	1.8	R0.3	4	40	4
KSR-219010R	1.9	R0.1	4	40	4
KSR-219015R	1.9	R0.15	4	40	4
KSR-219020R	1.9	R0.2	4	40	4
KSR-219025R	1.9	R0.25	4	40	4
KSR-219030R	1.9	R0.3	4	40	4
KSR-220010R	2	R0.1	6	40	4
KSR-220015R	2	R0.15	6	40	4
KSR-220020R	2	R0.2	6	40	4
KSR-220025R	2	R0.25	6	40	4
KSR-220030R	2	R0.3	6	40	4
KSR-220035R	2	R0.35	6	40	4
KSR-220040R	2	R0.4	6	40	4
KSR-220045R	2	R0.45	6	40	4
KSR-220050R	2	R0.5	6	40	4
KSR-221010R	2.1	R0.1	6	40	4

超硬エンドミル

Carbide Endmill

KSR-2

品番 Code No.	刃径 D Flute Diameter	コーナー R Corner R	刃長 ℓ Flute Length	全長 L Total Length	柄径 d Shank Diameter
KSR-221015R	2.1	R0.15	6	40	4
KSR-221020R	2.1	R0.2	6	40	4
KSR-221025R	2.1	R0.25	6	40	4
KSR-221030R	2.1	R0.3	6	40	4
KSR-221035R	2.1	R0.35	6	40	4
KSR-221040R	2.1	R0.4	6	40	4
KSR-221050R	2.1	R0.5	6	40	4
KSR-222010R	2.2	R0.1	6	40	4
KSR-222015R	2.2	R0.15	6	40	4
KSR-222020R	2.2	R0.2	6	40	4
KSR-222025R	2.2	R0.25	6	40	4
KSR-222030R	2.2	R0.3	6	40	4
KSR-222035R	2.2	R0.35	6	40	4
KSR-222040R	2.2	R0.4	6	40	4
KSR-222050R	2.2	R0.5	6	40	4
KSR-223010R	2.3	R0.1	6	40	4
KSR-223015R	2.3	R0.15	6	40	4
KSR-223020R	2.3	R0.2	6	40	4
KSR-223025R	2.3	R0.25	6	40	4
KSR-223030R	2.3	R0.3	6	40	4
KSR-223035R	2.3	R0.35	6	40	4
KSR-223040R	2.3	R0.4	6	40	4
KSR-223050R	2.3	R0.5	6	40	4
KSR-224010R	2.4	R0.1	6	40	4
KSR-224015R	2.4	R0.15	6	40	4
KSR-224020R	2.4	R0.2	6	40	4
KSR-224025R	2.4	R0.25	6	40	4
KSR-224030R	2.4	R0.3	6	40	4
KSR-224035R	2.4	R0.35	6	40	4
KSR-224040R	2.4	R0.4	6	40	4
KSR-224050R	2.4	R0.5	6	40	4
KSR-225010R	2.5	R0.1	8	40	4
KSR-225015R	2.5	R0.15	8	40	4
KSR-225020R	2.5	R0.2	8	40	4
KSR-225025R	2.5	R0.25	8	40	4
KSR-225030R	2.5	R0.3	8	40	4
KSR-225035R	2.5	R0.35	8	40	4
KSR-225040R	2.5	R0.4	8	40	4
KSR-225045R	2.5	R0.45	8	40	4
KSR-225050R	2.5	R0.5	8	40	4
KSR-226010R	2.6	R0.1	8	40	4
KSR-226015R	2.6	R0.15	8	40	4
KSR-226020R	2.6	R0.2	8	40	4
KSR-226025R	2.6	R0.25	8	40	4
KSR-226030R	2.6	R0.3	8	40	4
KSR-226035R	2.6	R0.35	8	40	4
KSR-226040R	2.6	R0.4	8	40	4
KSR-226050R	2.6	R0.5	8	40	4

品番 Code No.	刃径 D Flute Diameter	コーナー R Corner R	刃長 ℓ Flute Length	全長 L Total Length	柄径 d Shank Diameter
KSR-227010R	2.7	R0.1	8	40	4
KSR-227015R	2.7	R0.15	8	40	4
KSR-227020R	2.7	R0.2	8	40	4
KSR-227025R	2.7	R0.25	8	40	4
KSR-227030R	2.7	R0.3	8	40	4
KSR-227035R	2.7	R0.35	8	40	4
KSR-227040R	2.7	R0.4	8	40	4
KSR-227050R	2.7	R0.5	8	40	4
KSR-228010R	2.8	R0.1	8	40	4
KSR-228015R	2.8	R0.15	8	40	4
KSR-228020R	2.8	R0.2	8	40	4
KSR-228025R	2.8	R0.25	8	40	4
KSR-228030R	2.8	R0.3	8	40	4
KSR-228035R	2.8	R0.35	8	40	4
KSR-228040R	2.8	R0.4	8	40	4
KSR-228050R	2.8	R0.5	8	40	4
KSR-229010R	2.9	R0.1	8	40	4
KSR-229015R	2.9	R0.15	8	40	4
KSR-229020R	2.9	R0.2	8	40	4
KSR-229025R	2.9	R0.25	8	40	4
KSR-229030R	2.9	R0.3	8	40	4
KSR-229035R	2.9	R0.35	8	40	4
KSR-229040R	2.9	R0.4	8	40	4
KSR-229050R	2.9	R0.5	8	40	4
KSR-230010R	3	R0.1	8	45	6
KSR-230015R	3	R0.15	8	45	6
KSR-230020R	3	R0.2	8	45	6
KSR-230025R	3	R0.25	8	45	6
KSR-230030R	3	R0.3	8	45	6
KSR-230035R	3	R0.35	8	45	6
KSR-230040R	3	R0.4	8	45	6
KSR-230045R	3	R0.45	8	45	6
KSR-230050R	3	R0.5	8	45	6
KSR-230075R	3	R0.75	8	45	6
KSR-230100R	3	R1	8	45	6
KSR-231010R	3.1	R0.1	8	45	6
KSR-231015R	3.1	R0.15	8	45	6
KSR-231020R	3.1	R0.2	8	45	6
KSR-231025R	3.1	R0.25	8	45	6
KSR-231030R	3.1	R0.3	8	45	6
KSR-231035R	3.1	R0.35	8	45	6
KSR-231040R	3.1	R0.4	8	45	6
KSR-231050R	3.1	R0.5	8	45	6
KSR-231075R	3.1	R0.75	8	45	6
KSR-231100R	3.1	R1	8	45	6
KSR-232010R	3.2	R0.1	8	45	6
KSR-232015R	3.2	R0.15	8	45	6
KSR-232020R	3.2	R0.2	8	45	6

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品番 Code No.	刃径 D Flute Diameter	コーナーR Corner R	刃長 ℓ Flute Length	全長 L Total Length	柄径 d Shank Diameter
KSR-232025R	3.2	R0.25	8	45	6
KSR-232030R	3.2	R0.3	8	45	6
KSR-232035R	3.2	R0.35	8	45	6
KSR-232040R	3.2	R0.4	8	45	6
KSR-232050R	3.2	R0.5	8	45	6
KSR-232075R	3.2	R0.75	8	45	6
KSR-232100R	3.2	R1	8	45	6
KSR-233010R	3.3	R0.1	8	45	6
KSR-233015R	3.3	R0.15	8	45	6
KSR-233020R	3.3	R0.2	8	45	6
KSR-233025R	3.3	R0.25	8	45	6
KSR-233030R	3.3	R0.3	8	45	6
KSR-233035R	3.3	R0.35	8	45	6
KSR-233040R	3.3	R0.4	8	45	6
KSR-233050R	3.3	R0.5	8	45	6
KSR-233075R	3.3	R0.75	8	45	6
KSR-233100R	3.3	R1	8	45	6
KSR-234010R	3.4	R0.1	8	45	6
KSR-234015R	3.4	R0.15	8	45	6
KSR-234020R	3.4	R0.2	8	45	6
KSR-234025R	3.4	R0.25	8	45	6
KSR-234030R	3.4	R0.3	8	45	6
KSR-234035R	3.4	R0.35	8	45	6
KSR-234040R	3.4	R0.4	8	45	6
KSR-234050R	3.4	R0.5	8	45	6
KSR-234075R	3.4	R0.75	8	45	6
KSR-234100R	3.4	R1	8	45	6
KSR-235010R	3.5	R0.1	8	45	6
KSR-235015R	3.5	R0.15	8	45	6
KSR-235020R	3.5	R0.2	8	45	6
KSR-235025R	3.5	R0.25	8	45	6
KSR-235030R	3.5	R0.3	8	45	6
KSR-235035R	3.5	R0.35	8	45	6
KSR-235040R	3.5	R0.4	8	45	6
KSR-235050R	3.5	R0.5	8	45	6
KSR-235075R	3.5	R0.75	8	45	6
KSR-235100R	3.5	R1	8	45	6
KSR-236010R	3.6	R0.1	8	45	6
KSR-236015R	3.6	R0.15	8	45	6
KSR-236020R	3.6	R0.2	8	45	6
KSR-236025R	3.6	R0.25	8	45	6
KSR-236030R	3.6	R0.3	8	45	6
KSR-236035R	3.6	R0.35	8	45	6
KSR-236040R	3.6	R0.4	8	45	6
KSR-236050R	3.6	R0.5	8	45	6
KSR-236075R	3.6	R0.75	8	45	6
KSR-236100R	3.6	R1	8	45	6
KSR-237010R	3.7	R0.1	8	45	6

品番 Code No.	刃径 D Flute Diameter	コーナーR Corner R	刃長 ℓ Flute Length	全長 L Total Length	柄径 d Shank Diameter
KSR-237015R	3.7	R0.15	8	45	6
KSR-237020R	3.7	R0.2	8	45	6
KSR-237025R	3.7	R0.25	8	45	6
KSR-237030R	3.7	R0.3	8	45	6
KSR-237035R	3.7	R0.35	8	45	6
KSR-237040R	3.7	R0.4	8	45	6
KSR-237050R	3.7	R0.5	8	45	6
KSR-237075R	3.7	R0.75	8	45	6
KSR-237100R	3.7	R1	8	45	6
KSR-238010R	3.8	R0.1	8	45	6
KSR-238015R	3.8	R0.15	8	45	6
KSR-238020R	3.8	R0.2	8	45	6
KSR-238025R	3.8	R0.25	8	45	6
KSR-238030R	3.8	R0.3	8	45	6
KSR-238035R	3.8	R0.35	8	45	6
KSR-238040R	3.8	R0.4	8	45	6
KSR-238050R	3.8	R0.5	8	45	6
KSR-238075R	3.8	R0.75	8	45	6
KSR-238100R	3.8	R1	8	45	6
KSR-239010R	3.9	R0.1	8	45	6
KSR-239015R	3.9	R0.15	8	45	6
KSR-239020R	3.9	R0.2	8	45	6
KSR-239025R	3.9	R0.25	8	45	6
KSR-239030R	3.9	R0.3	8	45	6
KSR-239035R	3.9	R0.35	8	45	6
KSR-239040R	3.9	R0.4	8	45	6
KSR-239050R	3.9	R0.5	8	45	6
KSR-239075R	3.9	R0.75	8	45	6
KSR-239100R	3.9	R1	8	45	6
KSR-240010R	4	R0.1	11	45	6
KSR-240015R	4	R0.15	11	45	6
KSR-240020R	4	R0.2	11	45	6
KSR-240025R	4	R0.25	11	45	6
KSR-240030R	4	R0.3	11	45	6
KSR-240035R	4	R0.35	11	45	6
KSR-240040R	4	R0.4	11	45	6
KSR-240045R	4	R0.45	11	45	6
KSR-240050R	4	R0.5	11	45	6
KSR-240075R	4	R0.75	11	45	6
KSR-240100R	4	R1	11	45	6
KSR-241010R	4.1	R0.1	11	45	6
KSR-241015R	4.1	R0.15	11	45	6
KSR-241020R	4.1	R0.2	11	45	6
KSR-241025R	4.1	R0.25	11	45	6
KSR-241030R	4.1	R0.3	11	45	6
KSR-241035R	4.1	R0.35	11	45	6
KSR-241040R	4.1	R0.4	11	45	6
KSR-241050R	4.1	R0.5	11	45	6

KSR-2

品番 Code No.	刃径 D Flute Diameter	コーナー R Corner R	刃長 ℓ Flute Length	全長 L Total Length	柄径 d Shank Diameter
KSR-241075R	4.1	R0.75	11	45	6
KSR-241100R	4.1	R1	11	45	6
KSR-242010R	4.2	R0.1	11	45	6
KSR-242015R	4.2	R0.15	11	45	6
KSR-242020R	4.2	R0.2	11	45	6
KSR-242025R	4.2	R0.25	11	45	6
KSR-242030R	4.2	R0.3	11	45	6
KSR-242035R	4.2	R0.35	11	45	6
KSR-242040R	4.2	R0.4	11	45	6
KSR-242050R	4.2	R0.5	11	45	6
KSR-242075R	4.2	R0.75	11	45	6
KSR-242100R	4.2	R1	11	45	6
KSR-243010R	4.3	R0.1	11	45	6
KSR-243015R	4.3	R0.15	11	45	6
KSR-243020R	4.3	R0.2	11	45	6
KSR-243025R	4.3	R0.25	11	45	6
KSR-243030R	4.3	R0.3	11	45	6
KSR-243035R	4.3	R0.35	11	45	6
KSR-243040R	4.3	R0.4	11	45	6
KSR-243050R	4.3	R0.5	11	45	6
KSR-243075R	4.3	R0.75	11	45	6
KSR-243100R	4.3	R1	11	45	6
KSR-244010R	4.4	R0.1	11	45	6
KSR-244015R	4.4	R0.15	11	45	6
KSR-244020R	4.4	R0.2	11	45	6
KSR-244025R	4.4	R0.25	11	45	6
KSR-244030R	4.4	R0.3	11	45	6
KSR-244035R	4.4	R0.35	11	45	6
KSR-244040R	4.4	R0.4	11	45	6
KSR-244050R	4.4	R0.5	11	45	6
KSR-244075R	4.4	R0.75	11	45	6
KSR-244100R	4.4	R1	11	45	6
KSR-245010R	4.5	R0.1	11	45	6
KSR-245015R	4.5	R0.15	11	45	6
KSR-245020R	4.5	R0.2	11	45	6
KSR-245025R	4.5	R0.25	11	45	6
KSR-245030R	4.5	R0.3	11	45	6
KSR-245035R	4.5	R0.35	11	45	6
KSR-245040R	4.5	R0.4	11	45	6
KSR-245050R	4.5	R0.5	11	45	6
KSR-245075R	4.5	R0.75	11	45	6
KSR-245100R	4.5	R1	11	45	6
KSR-246010R	4.6	R0.1	11	45	6
KSR-246015R	4.6	R0.15	11	45	6
KSR-246020R	4.6	R0.2	11	45	6
KSR-246025R	4.6	R0.25	11	45	6
KSR-246030R	4.6	R0.3	11	45	6
KSR-246035R	4.6	R0.35	11	45	6

品番 Code No.	刃径 D Flute Diameter	コーナー R Corner R	刃長 ℓ Flute Length	全長 L Total Length	柄径 d Shank Diameter
KSR-246040R	4.6	R0.4	11	45	6
KSR-246050R	4.6	R0.5	11	45	6
KSR-246075R	4.6	R0.75	11	45	6
KSR-246100R	4.6	R1	11	45	6
KSR-247010R	4.7	R0.1	11	45	6
KSR-247015R	4.7	R0.15	11	45	6
KSR-247020R	4.7	R0.2	11	45	6
KSR-247025R	4.7	R0.25	11	45	6
KSR-247030R	4.7	R0.3	11	45	6
KSR-247035R	4.7	R0.35	11	45	6
KSR-247040R	4.7	R0.4	11	45	6
KSR-247050R	4.7	R0.5	11	45	6
KSR-247075R	4.7	R0.75	11	45	6
KSR-247100R	4.7	R1	11	45	6
KSR-248010R	4.8	R0.1	11	45	6
KSR-248015R	4.8	R0.15	11	45	6
KSR-248020R	4.8	R0.2	11	45	6
KSR-248025R	4.8	R0.25	11	45	6
KSR-248030R	4.8	R0.3	11	45	6
KSR-248035R	4.8	R0.35	11	45	6
KSR-248040R	4.8	R0.4	11	45	6
KSR-248050R	4.8	R0.5	11	45	6
KSR-248075R	4.8	R0.75	11	45	6
KSR-248100R	4.8	R1	11	45	6
KSR-249010R	4.9	R0.1	11	45	6
KSR-249015R	4.9	R0.15	11	45	6
KSR-249020R	4.9	R0.2	11	45	6
KSR-249025R	4.9	R0.25	11	45	6
KSR-249030R	4.9	R0.3	11	45	6
KSR-249035R	4.9	R0.35	11	45	6
KSR-249040R	4.9	R0.4	11	45	6
KSR-249050R	4.9	R0.5	11	45	6
KSR-249075R	4.9	R0.75	11	45	6
KSR-249100R	4.9	R1	11	45	6
KSR-250010R	5	R0.1	13	50	6
KSR-250015R	5	R0.15	13	50	6
KSR-250020R	5	R0.2	13	50	6
KSR-250025R	5	R0.25	13	50	6
KSR-250030R	5	R0.3	13	50	6
KSR-250035R	5	R0.35	13	50	6
KSR-250040R	5	R0.4	13	50	6
KSR-250050R	5	R0.5	13	50	6
KSR-250075R	5	R0.75	13	50	6
KSR-250100R	5	R1	13	50	6
KSR-250125R	5	R1.25	13	50	6
KSR-250150R	5	R1.5	13	50	6
KSR-251010R	5.1	R0.1	13	50	6
KSR-251015R	5.1	R0.15	13	50	6

KSR-2

品番 Code No.	刃径 D Flute Diameter	コーナー R Corner R	刃長 ℓ Flute Length	全長 L Total Length	柄径 d Shank Diameter
KSR-251020R	5.1	R0.2	13	50	6
KSR-251025R	5.1	R0.25	13	50	6
KSR-251030R	5.1	R0.3	13	50	6
KSR-251035R	5.1	R0.35	13	50	6
KSR-251040R	5.1	R0.4	13	50	6
KSR-251050R	5.1	R0.5	13	50	6
KSR-251075R	5.1	R0.75	13	50	6
KSR-251100R	5.1	R1	13	50	6
KSR-251125R	5.1	R1.25	13	50	6
KSR-251150R	5.1	R1.5	13	50	6
KSR-252010R	5.2	R0.1	13	50	6
KSR-252015R	5.2	R0.15	13	50	6
KSR-252020R	5.2	R0.2	13	50	6
KSR-252025R	5.2	R0.25	13	50	6
KSR-252030R	5.2	R0.3	13	50	6
KSR-252035R	5.2	R0.35	13	50	6
KSR-252040R	5.2	R0.4	13	50	6
KSR-252050R	5.2	R0.5	13	50	6
KSR-252075R	5.2	R0.75	13	50	6
KSR-252100R	5.2	R1	13	50	6
KSR-252125R	5.2	R1.25	13	50	6
KSR-252150R	5.2	R1.5	13	50	6
KSR-253010R	5.3	R0.1	13	50	6
KSR-253015R	5.3	R0.15	13	50	6
KSR-253020R	5.3	R0.2	13	50	6
KSR-253025R	5.3	R0.25	13	50	6
KSR-253030R	5.3	R0.3	13	50	6
KSR-253035R	5.3	R0.35	13	50	6
KSR-253040R	5.3	R0.4	13	50	6
KSR-253050R	5.3	R0.5	13	50	6
KSR-253075R	5.3	R0.75	13	50	6
KSR-253100R	5.3	R1	13	50	6
KSR-253125R	5.3	R1.25	13	50	6
KSR-253150R	5.3	R1.5	13	50	6
KSR-254010R	5.4	R0.1	13	50	6
KSR-254015R	5.4	R0.15	13	50	6
KSR-254020R	5.4	R0.2	13	50	6
KSR-254025R	5.4	R0.25	13	50	6
KSR-254030R	5.4	R0.3	13	50	6
KSR-254035R	5.4	R0.35	13	50	6
KSR-254040R	5.4	R0.4	13	50	6
KSR-254050R	5.4	R0.5	13	50	6
KSR-254075R	5.4	R0.75	13	50	6
KSR-254100R	5.4	R1	13	50	6
KSR-254125R	5.4	R1.25	13	50	6
KSR-254150R	5.4	R1.5	13	50	6
KSR-255010R	5.5	R0.1	13	50	6
KSR-255015R	5.5	R0.15	13	50	6

品番 Code No.	刃径 D Flute Diameter	コーナー R Corner R	刃長 ℓ Flute Length	全長 L Total Length	柄径 d Shank Diameter
KSR-255020R	5.5	R0.2	13	50	6
KSR-255025R	5.5	R0.25	13	50	6
KSR-255030R	5.5	R0.3	13	50	6
KSR-255035R	5.5	R0.35	13	50	6
KSR-255040R	5.5	R0.4	13	50	6
KSR-255050R	5.5	R0.5	13	50	6
KSR-255075R	5.5	R0.75	13	50	6
KSR-255100R	5.5	R1	13	50	6
KSR-255125R	5.5	R1.25	13	50	6
KSR-255150R	5.5	R1.5	13	50	6
KSR-256010R	5.6	R0.1	13	50	6
KSR-256015R	5.6	R0.15	13	50	6
KSR-256020R	5.6	R0.2	13	50	6
KSR-256025R	5.6	R0.25	13	50	6
KSR-256030R	5.6	R0.3	13	50	6
KSR-256035R	5.6	R0.35	13	50	6
KSR-256040R	5.6	R0.4	13	50	6
KSR-256050R	5.6	R0.5	13	50	6
KSR-256075R	5.6	R0.75	13	50	6
KSR-256100R	5.6	R1	13	50	6
KSR-256125R	5.6	R1.25	13	50	6
KSR-256150R	5.6	R1.5	13	50	6
KSR-257010R	5.7	R0.1	13	50	6
KSR-257015R	5.7	R0.15	13	50	6
KSR-257020R	5.7	R0.2	13	50	6
KSR-257025R	5.7	R0.25	13	50	6
KSR-257030R	5.7	R0.3	13	50	6
KSR-257035R	5.7	R0.35	13	50	6
KSR-257040R	5.7	R0.4	13	50	6
KSR-257050R	5.7	R0.5	13	50	6
KSR-257075R	5.7	R0.75	13	50	6
KSR-257100R	5.7	R1	13	50	6
KSR-257125R	5.7	R1.25	13	50	6
KSR-257150R	5.7	R1.5	13	50	6
KSR-258010R	5.8	R0.1	13	50	6
KSR-258015R	5.8	R0.15	13	50	6
KSR-258020R	5.8	R0.2	13	50	6
KSR-258025R	5.8	R0.25	13	50	6
KSR-258030R	5.8	R0.3	13	50	6
KSR-258035R	5.8	R0.35	13	50	6
KSR-258040R	5.8	R0.4	13	50	6
KSR-258050R	5.8	R0.5	13	50	6
KSR-258075R	5.8	R0.75	13	50	6
KSR-258100R	5.8	R1	13	50	6
KSR-258125R	5.8	R1.25	13	50	6
KSR-258150R	5.8	R1.5	13	50	6
KSR-259010R	5.9	R0.1	13	50	6
KSR-259015R	5.9	R0.15	13	50	6

KSR-2

KSR-2

切削条件参考

Referential Cutting Conditions

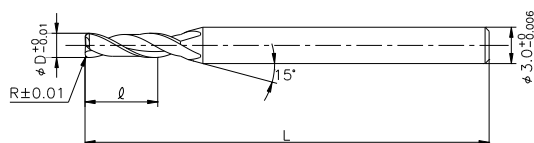


被削材 Workpiece	炭素鋼・一般構造用鋼 Carbon Steel・ General Structural Steel S55C・SS材		合金鋼・工具鋼 Alloy Steel・Tool Steel SCM・SKT・SKS・SKD		プリハードン鋼 Pre-Harden Steel HPM-1・NAK55・SKT	
刃 径 Flute Diameter mm	回転数 Revolution min ⁻¹	送り速度 Feed mm/min	回転数 Revolution min ⁻¹	送り速度 Feed mm/min	回転数 Revolution min ⁻¹	送り速度 Feed mm/min
1	16,000	70	12,700	65	9,500	35
1.5	10,500	70	8,500	65	6,300	35
2	8,000	95	6,300	75	4,700	35
2.5	6,300	105	5,100	85	3,800	35
3	5,300	120	4,200	90	3,200	35
4	4,000	120	3,200	90	2,300	40
6	2,600	120	2,100	90	1,600	40
備 考 Remarks	・回転数と送り速度は同じ割合で調整して下さい。・Adjust Revolution and Feed Speed at the same rate. ・切削油を使用して下さい。・Use Cutting Oil.					

超硬エンドミル

Carbide

- MG 30°
ネジレ角
Twist Angle 2 コーナーR
Corner R TiAIN



●切削条件表はP211に記載
●Cutting conditions are recommended on page 211.

単位[寸法:mm]
Unit[size:mm]

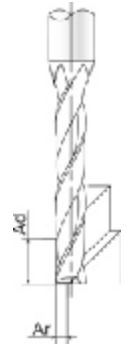
[illegible]

KSRA-2

切削条件参考

Referential Cutting Conditions

刃 径 Flute Diameter	切込み巾 Cutting Width	切込み深さ Cutting Depth
	Ar	Ad
$D < \phi 1$	0.1D	0.4D
$\phi 1 \leq D$	0.1D	1.5D



被削材 Workpiece	炭素鋼・一般構造用鋼 Carbon Steel・ General Structural Steel S55C・SS材		合金鋼・工具鋼 Alloy Steel・Tool Steel SCM・SKT・SKS・SKD		プリハードン鋼 Pre-Harden Steel HPM-1・NAK55・SKT		鋳 鉄 Cast iron FC・FCD	
刃 径 Flute Diameter mm	回転数 Revolution min ⁻¹	送り速度 Feed mm/min	回転数 Revolution min ⁻¹	送り速度 Feed mm/min	回転数 Revolution min ⁻¹	送り速度 Feed mm/min	回転数 Revolution min ⁻¹	送り速度 Feed mm/min
0.5	32,000	115	29,500	115	25,000	80	32,000	115
0.6	32,000	115	24,500	115	21,000	85	32,000	115
0.7	32,000	115	24,500	115	21,000	85	32,000	115
0.8	24,500	115	18,500	115	15,500	90	24,500	115
0.9	22,000	115	16,500	115	14,000	90	22,000	115
1	19,500	120	14,500	115	12,500	90	19,500	120
1.5	14,000	140	10,500	115	8,900	90	14,000	140
2	11,000	160	8,400	120	7,000	90	11,000	160
2.5	9,000	170	7,400	130	6,200	95	9,000	170
3	7,400	180	6,350	140	5,300	100	7,400	180
備 考 Remarks	・回転数と送り速度は同じ割合で調整して下さい。・Adjust Revolution and Feed Speed at the same rate. ・切削油を使用して下さい。・Use Cutting Oil.							

Carbide
Endmill

KSRA-4

切削条件参考

Referential Cutting Conditions

刃 径 Flute Diameter	切込み巾 Cutting Width	切込み深さ Cutting Depth
	Ar	Ad
D	0.1D	0.8D



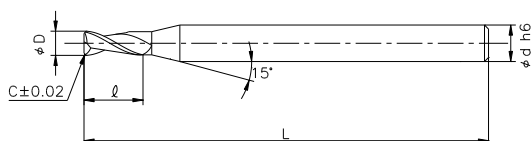
被削材 Workpiece	炭素鋼・一般構造用鋼 Carbon Steel・ General Structural Steel S55C・SS 材		合金鋼・工具鋼 Alloy Steel・Tool Steel SCM・SKT・SKS・SKD		プリハードン鋼 Pre-Harden Steel HPM-1・NAK55・SKT		鋳 鉄 Cast iron FC・FCD	
刃 径 Flute Diameter mm	回転数 Revolution min ⁻¹	送り速度 Feed mm/min	回転数 Revolution min ⁻¹	送り速度 Feed mm/min	回転数 Revolution min ⁻¹	送り速度 Feed mm/min	回転数 Revolution min ⁻¹	送り速度 Feed mm/min
1	18,400	180	13,700	170	11,800	135	18,400	180
1.5	14,000	210	10,500	170	8,900	135	14,000	210
2	11,000	240	8,400	180	7,000	135	11,000	240
2.5	9,000	250	7,400	200	6,200	150	9,000	250
3	7,400	270	6,350	210	5,300	160	7,400	270
備 考 Remarks	・回転数と送り速度は同じ割合で調整して下さい。・Adjust Revolution and Feed Speed at the same rate. ・切削油を使用して下さい。・Use Cutting Oil.							

KSC-2

超硬2枚刃コーナーC面付エンドミル Tungsten Carbide 2 Flutes Corner C Endmill

■コーナーC面付のエンドミル
Endmill with corner C

■C面を幅広くラインナップ
Line-uped various C



●刃径の許容差 Flute Diameter Tolerance
 $D \leq 6.0$ 0~-0.01
 $8.0 < D \leq 12$ 0~-0.02

被削材 Workpiece					
一般構造鋼 General Structural Steel	炭素鋼 Carbon Steel	合金鋼・工具鋼 Alloy Steel Tool Steel	プリハードン鋼 Pre-Harden Steel	鋳鉄 Cast Iron	アルミ合金 Aluminum Alloy
○	○	○	○	○	○

●切削条件表はP216に記載

●Cutting conditions are recommended on page 216.

単位 [寸法:mm]

Unit [size:mm]

品番 Code No.	刃径 D Flute Diameter	コーナーC Corner C	刃長 ℓ Flute Length	全長 L Total Length	柄径 d Shank Diameter
KSC-210010C	1	0.1	3	40	4
KSC-210015C	1	0.15	3	40	4
KSC-210020C	1	0.2	3	40	4
KSC-210025C	1	0.25	3	40	4
KSC-210030C	1	0.3	3	40	4
KSC-215010C	1.5	0.1	4	40	4
KSC-215015C	1.5	0.15	4	40	4
KSC-215020C	1.5	0.2	4	40	4
KSC-215025C	1.5	0.25	4	40	4
KSC-215030C	1.5	0.3	4	40	4
KSC-220010C	2	0.1	6	40	4
KSC-220015C	2	0.15	6	40	4
KSC-220020C	2	0.2	6	40	4
KSC-220025C	2	0.25	6	40	4
KSC-220030C	2	0.3	6	40	4
KSC-220035C	2	0.35	6	40	4
KSC-220040C	2	0.4	6	40	4
KSC-220045C	2	0.45	6	40	4
KSC-220050C	2	0.5	6	40	4
KSC-225010C	2.5	0.1	8	40	4
KSC-225015C	2.5	0.15	8	40	4
KSC-225020C	2.5	0.2	8	40	4
KSC-225025C	2.5	0.25	8	40	4
KSC-225030C	2.5	0.3	8	40	4
KSC-225035C	2.5	0.35	8	40	4
KSC-225040C	2.5	0.4	8	40	4
KSC-225045C	2.5	0.45	8	40	4
KSC-225050C	2.5	0.5	8	40	4
KSC-230010C	3	0.1	8	45	6
KSC-230015C	3	0.15	8	45	6

品番 Code No.	刃径 D Flute Diameter	コーナーC Corner C	刃長 ℓ Flute Length	全長 L Total Length	柄径 d Shank Diameter
KSC-230020C	3	0.2	8	45	6
KSC-230025C	3	0.25	8	45	6
KSC-230030C	3	0.3	8	45	6
KSC-230035C	3	0.35	8	45	6
KSC-230040C	3	0.4	8	45	6
KSC-230045C	3	0.45	8	45	6
KSC-230050C	3	0.5	8	45	6
KSC-230075C	3	0.75	8	45	6
KSC-230100C	3	1	8	45	6
KSC-240010C	4	0.1	11	45	6
KSC-240015C	4	0.15	11	45	6
KSC-240020C	4	0.2	11	45	6
KSC-240025C	4	0.25	11	45	6
KSC-240030C	4	0.3	11	45	6
KSC-240035C	4	0.35	11	45	6
KSC-240040C	4	0.4	11	45	6
KSC-240045C	4	0.45	11	45	6
KSC-240050C	4	0.5	11	45	6
KSC-240075C	4	0.75	11	45	6
KSC-240100C	4	1	11	45	6
KSC-260010C	6	0.1	13	50	6
KSC-260015C	6	0.15	13	50	6
KSC-260020C	6	0.2	13	50	6
KSC-260025C	6	0.25	13	50	6
KSC-260030C	6	0.3	13	50	6
KSC-260035C	6	0.35	13	50	6
KSC-260040C	6	0.4	13	50	6
KSC-260045C	6	0.45	13	50	6
KSC-260050C	6	0.5	13	50	6
KSC-260075C	6	0.75	13	50	6

[illegible][illegible]

KSC-2

切削条件参考

Referential Cutting Conditions



被削材 Workpiece	炭素鋼・一般構造用鋼 Carbon Steel・ General Structural Steel S55C・SS材		合金鋼・工具鋼 Alloy Steel・Tool Steel SCM・SKT・SKS・SKD		プリハードン鋼 Pre-Harden Steel HPM-1・NAK55・SKT	
刃 径 Flute Diameter mm	回転数 Revolution min ⁻¹	送り速度 Feed mm/min	回転数 Revolution min ⁻¹	送り速度 Feed mm/min	回転数 Revolution min ⁻¹	送り速度 Feed mm/min
1	16,000	70	12,700	65	9,500	35
1.5	10,500	70	8,500	65	6,300	35
2	8,000	95	6,300	75	4,700	35
2.5	6,300	105	5,100	85	3,800	35
3	5,300	120	4,200	90	3,200	35
4	4,000	120	3,200	90	2,300	40
6	2,600	120	2,100	90	1,600	40
8	1,950	120	1,600	90	1,200	40
10	1,600	120	1,300	90	1,000	40
12	1,300	120	1,100	90	800	40
備 考 Remarks	・回転数と送り速度は同じ割合で調整して下さい。・Adjust Revolution and Feed Speed at the same rate. ・切削油を使用して下さい。・Use Cutting Oil.					

超硬エンドミル

Carbide Endmill

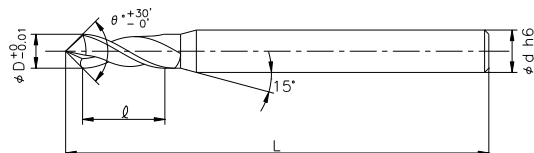
KSV-2

超硬センターVエンドミル Tungsten Carbide Center V Endmill

■先端角30° 45° 60° 70° 80° 90° 120°を小径サイズ（φ0.5～φ6）で揃えました
line-upped small diameter with edge angle 30° 45° 60° 70° 80° 90° 120°



被削材 Workpiece					
一般構造鋼 General Structural Steel	炭素鋼 Carbon Steel	合金鋼・工具鋼 Alloy Steel Tool Steel	プリハードン鋼 Pre-Harden Steel	鋳鉄 Cast Iron	アルミ合金 Aluminum Alloy
○	○	○	○	○	○



●切削条件表はP219、220に記載

●Cutting conditions are recommended on page 219, 220.



単位[寸法:mm]
Unit [size:mm]

品番 Code No.	刃径 D Flute Diameter	刃長 l Flute Length	全長 L Total Length	柄径 d Shank Diameter	先端フラット径 Edge Flat Diameter
KSV-29005	0.5	1	40	3	0.06
KSV-29006	0.6	1.2	40	3	0.06
KSV-29007	0.7	1.4	40	3	0.06
KSV-29008	0.8	1.6	40	3	0.06
KSV-29009	0.9	2	40	3	0.06
KSV-29010	1	2	45	4	0.1
KSV-29011	1.1	2.5	45	4	0.1
KSV-29012	1.2	2.5	45	4	0.1
KSV-29013	1.3	3	45	4	0.1
KSV-29014	1.4	3	45	4	0.1
KSV-29015	1.5	3	45	4	0.1
KSV-29016	1.6	3.5	45	4	0.1
KSV-29017	1.7	3.5	45	4	0.1
KSV-29018	1.8	4	45	4	0.1
KSV-29019	1.9	4	45	4	0.1
KSV-29020	2	4	45	4	0.2
KSV-29021	2.1	4.5	45	4	0.2
KSV-29022	2.2	4.5	45	4	0.2
KSV-29023	2.3	5	45	4	0.2
KSV-29024	2.4	5	45	4	0.2
KSV-29025	2.5	5	45	4	0.2
KSV-29026	2.6	6	45	4	0.2
KSV-29027	2.7	6	45	4	0.2
KSV-29028	2.8	6	45	4	0.2
KSV-29029	2.9	6	45	4	0.2
KSV-29030	3	6	45	4	0.2
KSV-29035	3.5	7	50	6	0.2
KSV-29040	4	8	50	6	0.2
KSV-29045	4.5	9	50	6	0.3
KSV-29050	5	10	60	6	0.3
KSV-29055	5.5	11	60	6	0.3
KSV-29060	6	12	60	6	0.3



単位[寸法:mm]
Unit [size:mm]

品番 Code No.	刃径 D Flute Diameter	刃長 l Flute Length	全長 L Total Length	柄径 d Shank Diameter	先端フラット径 Edge Flat Diameter
KSV-26005	0.5	1	40	3	0.06
KSV-26006	0.6	1.2	40	3	0.06
KSV-26007	0.7	1.4	40	3	0.06
KSV-26008	0.8	1.6	40	3	0.06
KSV-26009	0.9	2	40	3	0.06
KSV-26010	1	2	45	4	0.08
KSV-26011	1.1	2.5	45	4	0.08
KSV-26012	1.2	2.5	45	4	0.08
KSV-26013	1.3	3	45	4	0.08
KSV-26014	1.4	3	45	4	0.08
KSV-26015	1.5	3	45	4	0.08
KSV-26016	1.6	3.5	45	4	0.08
KSV-26017	1.7	3.5	45	4	0.08
KSV-26018	1.8	4	45	4	0.08
KSV-26019	1.9	4	45	4	0.08
KSV-26020	2	4	45	4	0.1
KSV-26021	2.1	4.5	45	4	0.1
KSV-26022	2.2	4.5	45	4	0.1
KSV-26023	2.3	5	45	4	0.1
KSV-26024	2.4	5	45	4	0.1
KSV-26025	2.5	5	45	4	0.1
KSV-26026	2.6	6	45	4	0.1
KSV-26027	2.7	6	45	4	0.1
KSV-26028	2.8	6	45	4	0.1
KSV-26029	2.9	6	45	4	0.1
KSV-26030	3	6	45	4	0.1
KSV-26040	4	8	50	6	0.15
KSV-26050	5	10	60	6	0.2
KSV-26060	6	12	60	6	0.2

KSV-2

120°
先端角
Point Angle

単位[寸法:mm]
Unit [size:mm]

品番 Code No.	刃径 D Flute Diameter	刃長 ℓ Flute Length	全長 L Total Length	柄径 d Shank Diameter	先端フラット径 Edge Flat Diameter
KSV-212005	0.5	1	40	3	0.06
KSV-212006	0.6	1.2	40	3	0.06
KSV-212007	0.7	1.4	40	3	0.06
KSV-212008	0.8	1.6	40	3	0.06
KSV-212009	0.9	2	40	3	0.06
KSV-212010	1	2	45	4	0.1
KSV-212011	1.1	2.5	45	4	0.1
KSV-212012	1.2	2.5	45	4	0.1
KSV-212013	1.3	3	45	4	0.1
KSV-212014	1.4	3	45	4	0.1
KSV-212015	1.5	3	45	4	0.1
KSV-212016	1.6	3.5	45	4	0.1
KSV-212017	1.7	3.5	45	4	0.1
KSV-212018	1.8	4	45	4	0.1
KSV-212019	1.9	4	45	4	0.1
KSV-212020	2	4	45	4	0.2
KSV-212021	2.1	4.5	45	4	0.2
KSV-212022	2.2	4.5	45	4	0.2
KSV-212023	2.3	5	45	4	0.2
KSV-212024	2.4	5	45	4	0.2
KSV-212025	2.5	5	45	4	0.2
KSV-212026	2.6	6	45	4	0.2
KSV-212027	2.7	6	45	4	0.2
KSV-212028	2.8	6	45	4	0.2
KSV-212029	2.9	6	45	4	0.2
KSV-212030	3	6	45	4	0.2
KSV-212035	3.5	7	50	6	0.2
KSV-212040	4	8	50	6	0.2
KSV-212045	4.5	9	50	6	0.3
KSV-212050	5	10	60	6	0.3
KSV-212055	5.5	11	60	6	0.3
KSV-212060	6	12	60	6	0.3

30°
先端角
Point Angle

単位[寸法:mm]
Unit [size:mm]

品番 Code No.	刃径 D Flute Diameter	刃長 ℓ Flute Length	全長 L Total Length	柄径 d Shank Diameter	先端フラット径 Edge Flat Diameter
KSV-23005	0.5	1	40	3	0.06
KSV-23010	1	2	45	4	0.08
KSV-23015	1.5	3	45	4	0.08
KSV-23020	2	4	45	4	0.1
KSV-23025	2.5	5	45	4	0.1
KSV-23030	3	6	45	4	0.1
KSV-23040	4	8	60	6	0.15
KSV-23050	5	10	70	6	0.2
KSV-23060	6	12	70	6	0.2

45°
先端角
Point Angle

単位[寸法:mm]
Unit [size:mm]

品番 Code No.	刃径 D Flute Diameter	刃長 ℓ Flute Length	全長 L Total Length	柄径 d Shank Diameter	先端フラット径 Edge Flat Diameter
KSV-24505	0.5	1	40	3	0.06
KSV-24510	1	2	45	4	0.08
KSV-24515	1.5	3	45	4	0.08
KSV-24520	2	4	45	4	0.1
KSV-24525	2.5	5	45	4	0.1
KSV-24530	3	6	45	4	0.1
KSV-24540	4	8	60	6	0.15
KSV-24550	5	10	70	6	0.2
KSV-24560	6	12	70	6	0.2

70°
先端角
Point Angle

単位[寸法:mm]
Unit [size:mm]

品番 Code No.	刃径 D Flute Diameter	刃長 ℓ Flute Length	全長 L Total Length	柄径 d Shank Diameter	先端フラット径 Edge Flat Diameter
KSV-27005	0.5	1	40	3	0.06
KSV-27010	1	2	45	4	0.08
KSV-27015	1.5	3	45	4	0.08
KSV-27020	2	4	45	4	0.1
KSV-27025	2.5	5	45	4	0.1
KSV-27030	3	6	45	4	0.1
KSV-27040	4	8	50	6	0.15
KSV-27050	5	10	60	6	0.2
KSV-27060	6	12	60	6	0.2

80°
先端角
Point Angle

単位[寸法:mm]
Unit [size:mm]

品番 Code No.	刃径 D Flute Diameter	刃長 ℓ Flute Length	全長 L Total Length	柄径 d Shank Diameter	先端フラット径 Edge Flat Diameter
KSV-28005	0.5	1	40	3	0.06
KSV-28010	1	2	45	4	0.08
KSV-28015	1.5	3	45	4	0.08
KSV-28020	2	4	45	4	0.1
KSV-28025	2.5	5	45	4	0.1
KSV-28030	3	6	45	4	0.1
KSV-28040	4	8	50	6	0.15
KSV-28050	5	10	60	6	0.2
KSV-28060	6	12	60	6	0.2

KSV-2

切削条件参考 Referential Cutting Conditions

◆加工例 Cutting Sample

適用 Application 型番 Model						
	面取り加工 Chamfer Cutting	側面加工 Side Cutting	V溝加工 V Groove Cutting	皿面取り加工 Recess Cutting	センターモミ加工 Center Cutting	穴あけ加工 Drilling
KSV-2 30° 45° 60° 70°	○	○	×	○	×	×
KSV-2 80° 90°	○	○	○	○	□	△
KSV-2 120°	○	○	○	○	○	○

○印は適合、□印は非鉄・鋳鉄などに適合、△印は厚みの薄い物に使用可、×印は不適合です。
Mark○ : Available、Mark□ : Available for Non-Ferrous Metal and Cast Iron、Mark△ : Available
for Thin Workpiece、Mark× : Not Available

◆切削条件表 Referential Cutting Conditions

被削材 Workpiece	炭素鋼・一般構造用鋼 Carbon Steel・General Structural Steel S55C・SS材						合金鋼・工具鋼 Alloy Steel・Tool Steel SCM・SKT・SKS・SKD					
	面取り・側面加工 Chamfer Cutting Side Cutting		V溝加工 V Groove Cutting		センターモミ・穴あけ Center Cutting Drilling		面取り・側面加工 Chamfer Cutting Side Cutting		V溝加工 V groove Cutting		センターモミ・穴あけ Center Cutting	
刃径 Flute Diameter mm	切削速度 Cutting Speed m/min	送り速度 Feed mm/rev	切削速度 Cutting Speed m/min	送り速度 Feed mm/rev	切削速度 Cutting Speed m/min	送り速度 Feed mm/rev	切削速度 Cutting Speed m/min	送り速度 Feed mm/rev	切削速度 Cutting Speed m/min	送り速度 Feed mm/rev	切削速度 Cutting Speed m/min	送り速度 Feed mm/rev
0.5~0.6	10~18	0.002 ~0.01	10~18	0.002 ~0.01	10~18	0.01 ~0.02	10~18	0.002 ~0.01	8~15	0.001 ~0.003	8~15	0.004 ~0.01
0.7~0.9	15~25	0.006 ~0.02	15~25	0.006 ~0.02	15~25	0.01 ~0.03	10~18	0.006 ~0.02	10~18	0.001 ~0.003	10~18	0.006 ~0.02
1 ~2	15~25	0.01 ~0.03	15~25	0.01 ~0.03	15~25	0.02 ~0.04	10~20	0.006 ~0.02	10~20	0.002 ~0.005	10~20	0.008 ~0.02
2 ~3	15~25	0.01 ~0.03	15~25	0.01 ~0.03	15~25	0.02 ~0.04	10~20	0.006 ~0.02	10~20	0.002 ~0.005	10~20	0.01 ~0.03
3 ~4	15~25	0.01 ~0.03	15~25	0.01 ~0.03	15~25	0.02 ~0.04	10~20	0.006 ~0.02	10~20	0.002 ~0.005	10~20	0.01 ~0.03
4 ~5	20~30	0.01 ~0.04	20~30	0.01 ~0.04	20~30	0.02 ~0.05	15~25	0.008 ~0.03	15~25	0.003 ~0.01	15~25	0.01 ~0.04
5 ~6	20~30	0.02 ~0.05	20~30	0.02 ~0.05	20~30	0.02 ~0.05	15~25	0.008 ~0.03	15~25	0.003 ~0.01	15~25	0.01 ~0.04

KSV-2

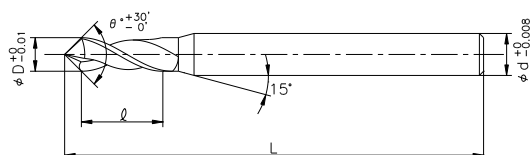
被削材 Workpiece	アルミニウム合金 Aluminum Alloy ADC・AC						鋳 鉄 Cast Iron FC・FCD					
加工種類 Kinds of Processing	面取り・側面加工 Chamfer Cutting Side Cutting		V溝加工 V Groove Cutting		センターモミ・穴あけ Center Cutting Drilling		面取り・側面加工 Chamfer Cutting Side Cutting		V溝加工 V groove Cutting		センターモミ・穴あけ Center Cutting Drilling	
刃 径 Flute Diameter mm	切削速度 Cutting Speed m/min	送り速度 Feed mm/rev	切削速度 Cutting Speed m/min	送り速度 Feed mm/rev	切削速度 Cutting Speed m/min	送り速度 Feed mm/rev	切削速度 Cutting Speed m/min	送り速度 Feed mm/rev	切削速度 Cutting Speed m/min	送り速度 Feed mm/rev	切削速度 Cutting Speed m/min	送り速度 Feed mm/rev
0.5~0.6	25~35	0.006 ~0.016	25~35	0.006 ~0.016	25~35	0.02 ~0.04	25~35	0.006 ~0.016	25~35	0.006 ~0.016	25~35	0.01 ~0.03
0.7~0.9	30~40	0.01 ~0.02	30~40	0.01 ~0.02	30~40	0.03 ~0.07	30~40	0.01 ~0.02	30~40	0.01 ~0.02	30~40	0.01 ~0.03
1 ~2	40~80	0.02 ~0.04	40~80	0.02 ~0.04	40~80	0.04 ~0.08	30~40	0.02 ~0.04	30~45	0.02 ~0.04	30~45	0.03 ~0.06
2 ~3	40~80	0.02 ~0.04	40~80	0.02 ~0.04	40~80	0.06 ~0.1	30~45	0.02 ~0.04	30~45	0.02 ~0.04	30~45	0.06 ~0.08
3 ~4	40~80	0.02 ~0.04	40~80	0.02 ~0.04	40~80	0.06 ~0.1	30~45	0.02 ~0.04	30~45	0.02 ~0.04	30~45	0.06 ~0.08
4 ~5	40~80	0.02 ~0.05	40~80	0.02 ~0.05	40~80	0.06 ~0.12	30~50	0.02 ~0.05	30~50	0.02 ~0.05	30~50	0.06 ~0.1
5 ~6	40~80	0.02 ~0.05	40~80	0.02 ~0.05	40~80	0.06 ~0.12	30~50	0.02 ~0.05	30~50	0.02 ~0.05	30~50	0.06 ~0.1

備 考 Remarks	・回転数と送り速度は同じ割合で調整して下さい。 ・切削油を使用して下さい。	・Adjust Revolution and Feed Speed at the same rate. ・Use Cutting Oil.
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KSVA-2

超硬センターVエンドミル・TiAlNコーティング付
Tungsten Carbide Center V Endmill TiAlN Coating

■先端角60° 90° 120°にTiAlNコーティングを施しました
TiAlN coating is applied to the tip angles of 60°, 90°, and 120°



被削材 Workpiece					
一般構造鋼 General Structural Steel	炭素鋼 Caebon Steel	合金鋼・工具鋼 Alloy Steel Tool Steel	プリハードン鋼 Pre-Haerden Steel	鋳鉄 Cast Iron	ステンレス鋼 Stainless Steel
					

●切削条件表はP222、223に記載

●Cutting conditions are recommended on page 222、223.

単位[寸法:mm]

Unit [size:mm]

品 番 Code No.	刃径 D Flute Diameter	先端角 Edge Angle	刃長 ℓ Flute Length	全長 L Total Length	柄径 d Shank Diameter	先端フラット径 Edge Flat Diameter
KSVA-209005	0.5	90°	1	40	3	0.06
KSVA-209006	0.6	90°	1.2	40	3	0.06
KSVA-209007	0.7	90°	1.4	40	3	0.06
KSVA-209008	0.8	90°	1.6	40	3	0.06
KSVA-209009	0.9	90°	2	40	3	0.06
KSVA-206010	1	60°	2	45	4	0.08
KSVA-209010	1	90°	2	45	4	0.1
KSVA-212010	1	120°	2	45	4	0.1
KSVA-209011	1.1	90°	2.5	45	4	0.1
KSVA-209012	1.2	90°	2.5	45	4	0.1
KSVA-209013	1.3	90°	3	45	4	0.1
KSVA-209014	1.4	90°	3	45	4	0.1
KSVA-206015	1.5	60°	3	45	4	0.08
KSVA-209015	1.5	90°	3	45	4	0.1
KSVA-212015	1.5	120°	3	45	4	0.1
KSVA-209016	1.6	90°	3.5	45	4	0.1
KSVA-209017	1.7	90°	3.5	45	4	0.1
KSVA-209018	1.8	90°	4	45	4	0.1
KSVA-209019	1.9	90°	4	45	4	0.1
KSVA-206020	2	60°	4	45	4	0.1
KSVA-209020	2	90°	4	45	4	0.2
KSVA-212020	2	120°	4	45	4	0.2
KSVA-209021	2.1	90°	4.5	45	4	0.2
KSVA-209022	2.2	90°	4.5	45	4	0.2
KSVA-209023	2.3	90°	5	45	4	0.2
KSVA-209024	2.4	90°	5	45	4	0.2
KSVA-209025	2.5	90°	5	45	4	0.2
KSVA-209026	2.6	90°	6	45	4	0.2
KSVA-209027	2.7	90°	6	45	4	0.2
KSVA-209028	2.8	90°	6	45	4	0.2

[illegible]

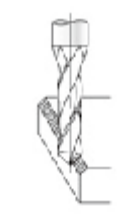
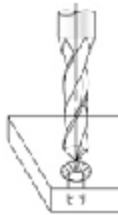
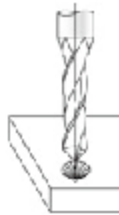
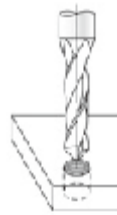
超硬エンドミル

Carbide
Endmill

KSVA-2

切削条件参考 Referential Cutting Conditions

◆加工例 Cutting Sample

適用 Application 型番 Model						
	面取り加工 Chamfer Cutting	側面加工 Side Cutting	V溝加工 V Groove Cutting	皿面取り加工 Recess Cutting	センターモミ加工 Center Cutting	穴あけ加工 Drilling
KSVA-2 60°	○	○	×	○	×	×
KSVA-2 90°	○	○	○	○	□	△
KSVA-2 120°	○	○	○	○	○	○

○印は適合、□印は非鉄・鋳鉄などに適合、△印は厚みの薄い物に使用可、×印は不適合です。
Mark○ : Available、Mark□ : Available for Non - Ferrous Metal and Cast Iron、Mark△ : Available for Thin Workpiece、Mark× : Not Available

◆切削条件表 Referential Cutting Conditions

被削材 Workpiece	炭素鋼・一般構造用鋼 Carbon Steel・General Structural Steel SS・S55C						合金鋼・工具鋼 Alloy Steel・Tool Steel SCM・SKT・SKS・SKD					
	面取り・側面加工 Chamfer Cutting Side Cutting		V溝加工 V groove Cutting		センターモミ・穴あけ Center Cutting Drilling		面取り・側面加工 Chamfer Cutting Side Cutting		V溝加工 V groove Cutting		センターモミ・穴あけ Center Cutting Drilling	
刃径 Flute Diameter mm	切削速度 Cutting Speed m/min	送り速度 Feed mm/rev	切削速度 Cutting Speed m/min	送り速度 Feed mm/rev	切削速度 Cutting Speed m/min	送り速度 Feed mm/rev	切削速度 Cutting Speed m/min	送り速度 Feed mm/rev	切削速度 Cutting Speed m/min	送り速度 Feed mm/rev	切削速度 Cutting Speed m/min	送り速度 Feed mm/rev
0.5~0.6	10~18	0.002 ~0.01	10~18	0.002 ~0.01	10~18	0.01 ~0.02	10~18	0.002 ~0.01	8~15	0.001 ~0.003	8~15	0.004 ~0.01
0.7~0.9	15~25	0.006 ~0.02	15~25	0.006 ~0.02	15~25	0.01 ~0.03	10~18	0.006 ~0.02	10~18	0.001 ~0.003	10~18	0.006 ~0.02
1	20~30	0.01 ~0.03	20~30	0.01 ~0.03	20~30	0.02 ~0.04	15~25	0.006 ~0.02	15~25	0.002 ~0.005	15~25	0.008 ~0.02
1.5	20~30	0.01 ~0.03	20~30	0.01 ~0.03	20~30	0.02 ~0.04	15~25	0.006 ~0.02	15~25	0.002 ~0.005	15~25	0.008 ~0.02
2	20~30	0.01 ~0.03	20~30	0.01 ~0.03	20~30	0.02 ~0.04	15~25	0.006 ~0.02	15~25	0.002 ~0.005	15~25	0.01 ~0.03
3	20~30	0.01 ~0.03	20~30	0.01 ~0.03	20~30	0.02 ~0.04	15~25	0.006 ~0.02	15~25	0.002 ~0.005	15~25	0.01 ~0.03
4	25~35	0.02 ~0.04	25~35	0.02 ~0.04	25~35	0.03 ~0.05	20~30	0.01 ~0.03	20~30	0.005 ~0.015	20~30	0.02 ~0.04
5	25~35	0.02 ~0.04	25~35	0.02 ~0.04	25~35	0.03 ~0.05	20~30	0.01 ~0.03	20~30	0.005 ~0.015	20~30	0.02 ~0.04
6	25~35	0.03 ~0.05	25~35	0.03 ~0.05	25~35	0.03 ~0.05	20~30	0.01 ~0.03	20~30	0.005 ~0.015	20~30	0.02 ~0.04

KSVA-2

被削材 Workpiece	鋳 鉄 Cast Iron FCT・FCD											
加工種類 Kinds of Processing	面取り・側面加工 Chamfer Cutting Side Cutting		V溝加工 V groove Cutting		センターモミ・穴あけ Center Cutting Drilling							
刃 径 Flute Diameter mm	切削速度 Cutting Speed m/min	送り速度 Feed mm/rev	切削速度 Cutting Speed m/min	送り速度 Feed mm/rev	切削速度 Cutting Speed m/min	送り速度 Feed mm/rev						
0.5~0.6	25~35	0.006 ~0.016	25~35	0.006 ~0.016	25~35	0.01 ~0.03						
0.7~0.9	30~40	0.01 ~0.02	30~40	0.01 ~0.02	30~40	0.01 ~0.03						
1	40~60	0.02 ~0.04	40~60	0.02 ~0.04	40~60	0.03 ~0.06						
1.5	40~60	0.02 ~0.04	40~60	0.02 ~0.04	40~60	0.03 ~0.06						
2	40~60	0.02 ~0.04	40~60	0.02 ~0.04	40~60	0.03 ~0.06						
3	40~60	0.02 ~0.04	40~60	0.02 ~0.04	40~60	0.06 ~0.08						
4	40~70	0.02 ~0.05	40~70	0.02 ~0.05	40~70	0.06 ~0.08						
5	40~70	0.02 ~0.05	40~70	0.02 ~0.05	40~70	0.06 ~0.1						
6	40~70	0.02 ~0.05	40~70	0.02 ~0.05	40~70	0.06 ~0.1						

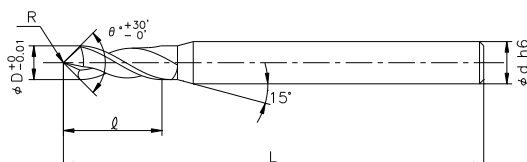
備 考 Remarks	・回転数と送り速度は同じ割合で調整して下さい。・Adjust Revolution and Feed Speed at the same rate. ・切削油を使用して下さい。・Use Cutting Oil.
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KSVRA-2

超硬センターVエンドミル（先端R付）・TiA ℓ Nコーティング付
Tungsten Carbide Center V Endmill With Edge TiA ℓ N Coating

■先端角60° 90° 120°にTiALNコーティングを施しました
TiALN coating is applied to the tip angles of 60°, 90°, and 120°

■先端R0.1～R2.0
Tip Radius R0.1～R0.2



被削材 Workpiece					
一般構造鋼 General Structural Steel	炭素鋼 Carbon Steel	合金鋼・工具鋼 Alloy Steel Tool Steel	プリハードン鋼 Pre-Harden Steel	鋳鉄 Cast Iron	ステンレス鋼 Stainless Steel
◎	◎	◎	◎	◎	◎

●切削条件表はP226、227に記載

●Cutting conditions are recommended on page 226、227.

単位 [寸法:mm]

Unit [size:mm]

品番 Code No.	刃径 D Flute Diameter	先端角 Edge Angle	先端 R Edge R	刃長 ℓ Flute Length	全長 L Total Length	柄径 d Shank Diameter
KSVRA-206010010	1	60°	R0.1	2	50	4
KSVRA-206010015	1	60°	R0.15	2	50	4
KSVRA-206010020	1	60°	R0.2	2	50	4
KSVRA-206010025	1	60°	R0.25	2	50	4
KSVRA-206010030	1	60°	R0.3	2	50	4
KSVRA-209010010	1	90°	R0.1	2	50	4
KSVRA-209010015	1	90°	R0.15	2	50	4
KSVRA-209010020	1	90°	R0.2	2	50	4
KSVRA-209010025	1	90°	R0.25	2	50	4
KSVRA-209010030	1	90°	R0.3	2	50	4
KSVRA-212010010	1	120°	R0.1	2	50	4
KSVRA-212010015	1	120°	R0.15	2	50	4
KSVRA-212010020	1	120°	R0.2	2	50	4
KSVRA-212010025	1	120°	R0.25	2	50	4
KSVRA-212010030	1	120°	R0.3	2	50	4
KSVRA-206015010	1.5	60°	R0.1	3	50	4
KSVRA-206015015	1.5	60°	R0.15	3	50	4
KSVRA-206015020	1.5	60°	R0.2	3	50	4
KSVRA-206015025	1.5	60°	R0.25	3	50	4
KSVRA-206015030	1.5	60°	R0.3	3	50	4
KSVRA-209015010	1.5	90°	R0.1	3	50	4
KSVRA-209015015	1.5	90°	R0.15	3	50	4
KSVRA-209015020	1.5	90°	R0.2	3	50	4
KSVRA-209015025	1.5	90°	R0.25	3	50	4
KSVRA-209015030	1.5	90°	R0.3	3	50	4
KSVRA-212015010	1.5	120°	R0.1	3	50	4
KSVRA-212015015	1.5	120°	R0.15	3	50	4
KSVRA-212015020	1.5	120°	R0.2	3	50	4
KSVRA-212015025	1.5	120°	R0.25	3	50	4
KSVRA-212015030	1.5	120°	R0.3	3	50	4

品番 Code No.	刃径 D Flute Diameter	先端角 Edge Angle	先端 R Edge R	刃長 ℓ Flute Length	全長 L Total Length	柄径 d Shank Diameter
KSVRA-206020010	2	60°	R0.1	4	50	4
KSVRA-206020015	2	60°	R0.15	4	50	4
KSVRA-206020020	2	60°	R0.2	4	50	4
KSVRA-206020025	2	60°	R0.25	4	50	4
KSVRA-206020030	2	60°	R0.3	4	50	4
KSVRA-206020040	2	60°	R0.4	4	50	4
KSVRA-206020050	2	60°	R0.5	4	50	4
KSVRA-209020010	2	90°	R0.1	4	50	4
KSVRA-209020015	2	90°	R0.15	4	50	4
KSVRA-209020020	2	90°	R0.2	4	50	4
KSVRA-209020025	2	90°	R0.25	4	50	4
KSVRA-209020030	2	90°	R0.3	4	50	4
KSVRA-209020040	2	90°	R0.4	4	50	4
KSVRA-209020050	2	90°	R0.5	4	50	4
KSVRA-212020010	2	120°	R0.1	4	50	4
KSVRA-212020015	2	120°	R0.15	4	50	4
KSVRA-212020020	2	120°	R0.2	4	50	4
KSVRA-212020025	2	120°	R0.25	4	50	4
KSVRA-212020030	2	120°	R0.3	4	50	4
KSVRA-212020040	2	120°	R0.4	4	50	4
KSVRA-212020050	2	120°	R0.5	4	50	4
KSVRA-206030010	3	60°	R0.1	6	50	6
KSVRA-206030015	3	60°	R0.15	6	50	6
KSVRA-206030020	3	60°	R0.2	6	50	6
KSVRA-206030025	3	60°	R0.25	6	50	6
KSVRA-206030030	3	60°	R0.3	6	50	6
KSVRA-206030040	3	60°	R0.4	6	50	6
KSVRA-206030050	3	60°	R0.5	6	50	6
KSVRA-206030075	3	60°	R0.75	6	50	6
KSVRA-206030100	3	60°	R1	6	50	6

KSVRA-2

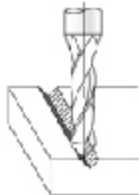
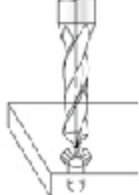
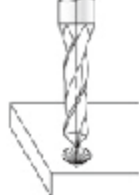
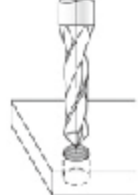
品番 Code No.	刃径 D Flute Diameter	先端角 Edge Angle	先端 R Edge R	刃長 ℓ Flute Length	全長 L Total Length	柄径 d Shank Diameter
KSVRA-209030010	3	90°	R0.1	6	50	6
KSVRA-209030015	3	90°	R0.15	6	50	6
KSVRA-209030020	3	90°	R0.2	6	50	6
KSVRA-209030025	3	90°	R0.25	6	50	6
KSVRA-209030030	3	90°	R0.3	6	50	6
KSVRA-209030040	3	90°	R0.4	6	50	6
KSVRA-209030050	3	90°	R0.5	6	50	6
KSVRA-209030075	3	90°	R0.75	6	50	6
KSVRA-209030100	3	90°	R1	6	50	6
KSVRA-212030010	3	120°	R0.1	6	50	6
KSVRA-212030015	3	120°	R0.15	6	50	6
KSVRA-212030020	3	120°	R0.2	6	50	6
KSVRA-212030025	3	120°	R0.25	6	50	6
KSVRA-212030030	3	120°	R0.3	6	50	6
KSVRA-212030040	3	120°	R0.4	6	50	6
KSVRA-212030050	3	120°	R0.5	6	50	6
KSVRA-212030075	3	120°	R0.75	6	50	6
KSVRA-212030100	3	120°	R1	6	50	6
KSVRA-206060010	6	60°	R0.1	12	60	6
KSVRA-206060015	6	60°	R0.15	12	60	6
KSVRA-206060020	6	60°	R0.2	12	60	6
KSVRA-206060025	6	60°	R0.25	12	60	6
KSVRA-206060030	6	60°	R0.3	12	60	6
KSVRA-206060040	6	60°	R0.4	12	60	6
KSVRA-206060050	6	60°	R0.5	12	60	6
KSVRA-206060075	6	60°	R0.75	12	60	6
KSVRA-206060100	6	60°	R1	12	60	6
KSVRA-206060125	6	60°	R1.25	12	60	6
KSVRA-206060150	6	60°	R1.5	12	60	6
KSVRA-206060175	6	60°	R1.75	12	60	6
KSVRA-206060200	6	60°	R2	12	60	6
KSVRA-209060010	6	90°	R0.1	12	60	6
KSVRA-209060015	6	90°	R0.15	12	60	6
KSVRA-209060020	6	90°	R0.2	12	60	6
KSVRA-209060025	6	90°	R0.25	12	60	6
KSVRA-209060030	6	90°	R0.3	12	60	6
KSVRA-209060040	6	90°	R0.4	12	60	6
KSVRA-209060050	6	90°	R0.5	12	60	6
KSVRA-209060075	6	90°	R0.75	12	60	6
KSVRA-209060100	6	90°	R1	12	60	6
KSVRA-209060125	6	90°	R1.25	12	60	6
KSVRA-209060150	6	90°	R1.5	12	60	6
KSVRA-209060175	6	90°	R1.75	12	60	6
KSVRA-209060200	6	90°	R2	12	60	6
KSVRA-212060010	6	120°	R0.1	12	60	6
KSVRA-212060015	6	120°	R0.15	12	60	6
KSVRA-212060020	6	120°	R0.2	12	60	6
KSVRA-212060025	6	120°	R0.25	12	60	6

[illegible]

KSVRA-2

切削条件参考 Referential Cutting Conditions

◆加工例 Cutting Sample

適用 Application 型番 Model						
	面取り加工 Chamfer Cutting	側面加工 Side Cutting	V溝加工 V Groove Cutting	皿面取り加工 Recess Cutting	センターモミ加工 Center Cutting	穴あけ加工 Drilling
KSVRA-2 60°	○	○	×	○	×	×
KSVRA-2 90°	○	○	○	○	□	△
KSVRA-2 120°	○	○	○	○	○	○

○印は適合、□印は非鉄・鋳鉄などに適合、△印は厚みの薄い物に使用可、×印は不適合です。

Mark○ : Available、Mark□ : Available for Non - Ferrous Metal and Cast Iron、Mark△ : Available for Thin Workpiece、Mark× : Not Available

◆切削条件表 Referential Cutting Conditions

被削材 Workpiece	炭素鋼・一般構造用鋼 Carbon Steel・General Structural Steel S55C・SS材						合金鋼・工具鋼 Alloy Steel・Tool Steel SCM・SKT・SKS・SKD					
	面取り・側面加工 Chamfer Cutting Side Cutting		V溝加工 V groove Cutting		センターモミ・穴あけ Center Cutting Drilling		面取り・側面加工 Chamfer Cutting Side Cutting		V溝加工 V groove Cutting		センターモミ・穴あけ Center Cutting Drilling	
刃径 Flute Diameter mm	切削速度 Cutting Speed m/min	送り速度 Feed mm/rev	切削速度 Cutting Speed m/min	送り速度 Feed mm/rev	切削速度 Cutting Speed m/min	送り速度 Feed mm/rev	切削速度 Cutting Speed m/min	送り速度 Feed mm/rev	切削速度 Cutting Speed m/min	送り速度 Feed mm/rev	切削速度 Cutting Speed m/min	送り速度 Feed mm/rev
1	20~35	0.015 ~0.035	20~35	0.015 ~0.035	20~35	0.025 ~0.045	15~30	0.01 ~0.025	15~30	0.003 ~0.008	15~30	0.01 ~0.03
1.5	20~35	0.015 ~0.035	20~35	0.015 ~0.035	20~35	0.025 ~0.045	15~30	0.01 ~0.025	15~30	0.003 ~0.008	15~30	0.01 ~0.03
2	20~35	0.015 ~0.035	20~35	0.015 ~0.035	20~35	0.025 ~0.045	15~30	0.01 ~0.025	15~30	0.003 ~0.008	15~30	0.015 ~0.04
3	20~35	0.015 ~0.035	20~35	0.015 ~0.035	20~35	0.025 ~0.045	15~30	0.01 ~0.025	15~30	0.003 ~0.008	15~30	0.015 ~0.04
6	25~40	0.03 ~0.06	25~40	0.03 ~0.06	25~40	0.03 ~0.06	20~35	0.01 ~0.035	20~35	0.008 ~0.02	20~35	0.02 ~0.05

KSVRA-2

◆切削条件表 Referential Cutting Conditions

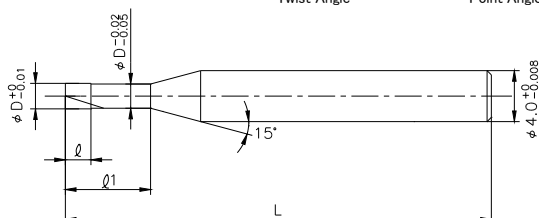
被削材 Workpiece	鋳 鉄 Cast Iron FCT・FCD											
加工種類 Kinds of Processing	面取り・側面加工 Chamfer Cutting Side Cutting		V溝加工 V groove Cutting		センターモミ・穴あけ Center Cutting Drilling							
刃 径 Flute Diameter mm	切削速度 Cutting Speed m/min	送り速度 Feed mm/rev	切削速度 Cutting Speed m/min	送り速度 Feed mm/rev	切削速度 Cutting Speed m/min	送り速度 Feed mm/rev						
1	45~70	0.03 ~0.05	45~70	0.03 ~0.05	45~70	0.04 ~0.07						
1.5	45~70	0.03 ~0.05	45~70	0.03 ~0.05	45~70	0.04 ~0.07						
2	45~70	0.03 ~0.05	45~70	0.03 ~0.05	45~70	0.04 ~0.07						
3	45~70	0.03 ~0.05	45~70	0.03 ~0.05	45~70	0.07 ~0.1						
6	45~80	0.03 ~0.06	45~80	0.03 ~0.06	45~80	0.07 ~0.12						

備 考 Remarks	- 回転数と送り速度は同じ割合で調整して下さい。・Adjust Revolution and Feed Speed at the same rate. - 切削油を使用して下さい。・Use Cutting Oil.
----------------	--

KZC-2

超硬フラットザグリカッター Tungsten Carbide Counterboring Cutter

- 精密加工部品の座繰り加工に
小径サイズを取り揃えました
Released for chamfering of precise parts and deep
cutting by small diameter



被削材 Workpiece					
一般構造鋼 General Structural Steel	炭素鋼 Carbon Steel	合金鋼・工具鋼 Alloy Steel Tool Steel	プリハードン鋼 Pre-Harden Steel	鋳鉄 Cast Iron	アルミ合金 Aluminum Alloy
○	○	○	○	○	○

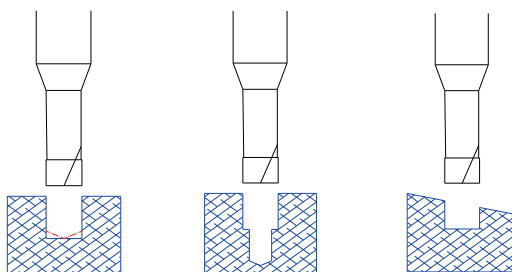
- 切削条件表はP229に記載

- Cutting conditions are recommended on page 229.

単位 [寸法:mm]
Unit [size:mm]

品番 Code No.	刃径 D Flute Diameter	有効長 ℓ1 Effective Length	刃長 ℓ Flute Length	全長 L Total Length	柄径 d Shank Diameter
KZC-203010	0.3	1	0.3	40	4
KZC-203030	0.3	3	0.3	40	4
KZC-204010	0.4	1	0.4	40	4
KZC-204030	0.4	3	0.4	40	4
KZC-205015	0.5	1.5	0.5	40	4
KZC-205050	0.5	5	0.5	40	4
KZC-205100	0.5	10	0.5	40	4
KZC-206015	0.6	1.5	0.6	40	4
KZC-206050	0.6	5	0.6	40	4
KZC-207020	0.7	2	0.7	40	4
KZC-207060	0.7	6	0.7	40	4
KZC-208020	0.8	2	0.8	40	4
KZC-208060	0.8	6	0.8	40	4
KZC-209030	0.9	3	0.9	40	4
KZC-209080	0.9	8	0.9	40	4
KZC-210030	1	3	1	45	4
KZC-210080	1	8	1	60	4
KZC-210100	1	10	1	60	4
KZC-210150	1	15	1	60	4
KZC-210200	1	20	1	60	4
KZC-212040	1.2	4	1.2	45	4

品番 Code No.	刃径 D Flute Diameter	有効長 ℓ1 Effective Length	刃長 ℓ Flute Length	全長 L Total Length	柄径 d Shank Diameter
KZC-212100	1.2	10	1.2	60	4
KZC-215040	1.5	4	1.5	45	4
KZC-215100	1.5	10	1.5	60	4
KZC-215150	1.5	15	1.5	60	4
KZC-215200	1.5	20	1.5	60	4
KZC-218050	1.8	5	1.8	45	4
KZC-218150	1.8	15	1.8	60	4
KZC-220050	2	5	2	45	4
KZC-220100	2	10	2	45	4
KZC-220150	2	15	2	60	4
KZC-220200	2	20	2	60	4
KZC-220250	2	25	2	70	4
KZC-220300	2	30	2	70	4
KZC-225060	2.5	6	2.5	45	4
KZC-225200	2.5	20	2.5	60	4
KZC-225300	2.5	30	2.5	70	4
KZC-230060	3	6	3	45	4
KZC-230200	3	20	3	60	4
KZC-230300	3	30	3	70	4
KZC-240070	4	—	4	70	4
KZC-240120	4	—	4	120	4



KZC-2

切削条件参考

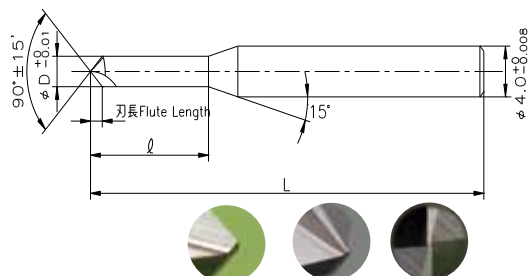
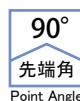
Referential Cutting Conditions

被削材 Workpiece	炭素鋼・一般構造用鋼 Carbon Steel・ General Structural Steel SS・S55C		合金鋼・工具鋼 Alloy Steel・Tool Steel SCM・SKT・SKS・SKD		ステンレス鋼 Stainless Steel SUS303,SUS304,SUS416		アルミニウム合金 Aluminum Alloy ADC・AC	
刃 径 Flute Diameter mm	切削速度 Cutting Speed m/min	送り速度 Feed mm/rev	切削速度 Cutting Speed m/min	送り速度 Feed mm/rev	切削速度 Cutting Speed m/min	送り速度 Feed mm/rev	切削速度 Cutting Speed m/min	送り速度 Feed mm/rev
0.3~0.4	8~15	0.001~0.01	8~15	0.001~0.005	8~15	0.001~0.005	20~ 40	0.005~0.02
0.5~0.6	10~18	0.001~0.01	8~15	0.001~0.005	8~15	0.001~0.005	20~ 40	0.005~0.02
0.7~0.9	15~25	0.005~0.15	10~18	0.001~0.005	10~18	0.001~0.005	20~ 40	0.01 ~0.03
1 ~2	15~25	0.01 ~0.03	10~20	0.003~0.01	10~20	0.003~0.01	40~ 80	0.02 ~0.04
2 ~3	15~25	0.01 ~0.03	10~20	0.005~0.02	10~20	0.005~0.02	40~ 80	0.02 ~0.04
4	18~30	0.02 ~0.04	12~24	0.005~0.03	12~24	0.005~0.03	40~100	0.02 ~0.06
備 考 Remarks	・工具取付時の振れを最小に抑えてください。 ・切削油を使用して下さい。 ・Minimize Run out on fixing tool. ・Use Cutting Oil.							

KMC-2

超硬面取りカッター Tungsten Carbide Chamfering Cutter

- 精密加工部品の面取りや深彫りの面取り加工に小径サイズを取り揃えました
Released for chamfering of precise parts and deep cutting by small diameter



被削材 Workpiece					
一般構造鋼 General Structural Steel	炭素鋼 Carbon Steel	合金鋼・工具鋼 Alloy Steel Tool Steel	プリハードン鋼 Pre-Harden Steel	鋳鉄 Cast Iron	アルミ合金 Aluminum Alloy
○	○	○	○	○	○

- 切削条件表はP232、233に記載
- Cutting conditions are recommended on page 232、233.

単位 [寸法:mm]
Unit [size:mm]

品番 Code No.	刃径 D Flute Diameter	有効長 ℓ Effective Length	全長 L Total Length	柄径 d Shank Diameter	先端刃外径 Edge/flat Diameter
KMC-29003S	0.3	1	40	4	0.03
KMC-29003L	0.3	3	40	4	0.06
KMC-29003060	0.3	6	40	4	0.06
KMC-29004S	0.4	1	40	4	0.03
KMC-29004L	0.4	3	40	4	0.06
KMC-29004060	0.4	6	40	4	0.06
KMC-29005S	0.5	1.5	40	4	0.04
KMC-29005L	0.5	5	40	4	0.08
KMC-29005075	0.5	7.5	40	4	0.08
KMC-29005100	0.5	10	40	4	0.08
KMC-29006S	0.6	1.5	40	4	0.04
KMC-29006L	0.6	5	40	4	0.08
KMC-29006100	0.6	10	40	4	0.08
KMC-29007S	0.7	2	40	4	0.04
KMC-29007L	0.7	6	40	4	0.08
KMC-29007100	0.7	10	40	4	0.08
KMC-29008S	0.8	2	40	4	0.04
KMC-29008L	0.8	6	40	4	0.08
KMC-29008100	0.8	10	40	4	0.08
KMC-29008150	0.8	15	50	4	0.08
KMC-29009S	0.9	3	40	4	0.04
KMC-29009L	0.9	8	40	4	0.08
KMC-29009150	0.9	15	50	4	0.08
KMC-29010S	1	3	45	4	0.06
KMC-29010L	1	8	60	4	0.1
KMC-29010100	1	10	60	4	0.1
KMC-29010150	1	15	60	4	0.1
KMC-29010200	1	20	60	4	0.1
KMC-29010250	1	25	70	4	0.1
KMC-29010300	1	30	70	4	0.1

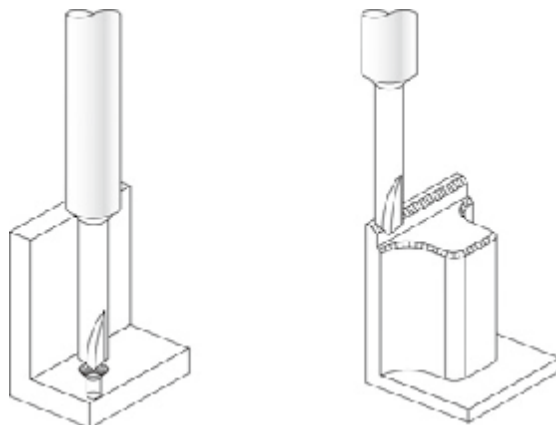
品番 Code No.	刃径 D Flute Diameter	有効長 ℓ Effective Length	全長 L Total Length	柄径 d Shank Diameter	先端刃外径 Edge/flat Diameter
KMC-29012S	1.2	4	45	4	0.06
KMC-29012L	1.2	10	60	4	0.1
KMC-29012150	1.2	15	60	4	0.1
KMC-29012200	1.2	20	60	4	0.1
KMC-29012250	1.2	25	70	4	0.1
KMC-29012300	1.2	30	70	4	0.1
KMC-29015S	1.5	4	45	4	0.06
KMC-29015L	1.5	10	60	4	0.1
KMC-29015150	1.5	15	60	4	0.1
KMC-29015200	1.5	20	60	4	0.1
KMC-29015250	1.5	25	70	4	0.1
KMC-29015300	1.5	30	70	4	0.1
KMC-29015350	1.5	35	80	4	0.15
KMC-29015400	1.5	40	80	4	0.15
KMC-29018S	1.8	5	45	4	0.06
KMC-29018100	1.8	10	45	4	0.06
KMC-29018L	1.8	15	60	4	0.1
KMC-29018200	1.8	20	60	4	0.1
KMC-29018250	1.8	25	70	4	0.1
KMC-29018300	1.8	30	70	4	0.1
KMC-29020S	2	5	45	4	0.1
KMC-29020100	2	10	45	4	0.1
KMC-29020L	2	15	60	4	0.2
KMC-29020200	2	20	60	4	0.2
KMC-29020250	2	25	70	4	0.2
KMC-29020300	2	30	70	4	0.2
KMC-29020350	2	35	80	4	0.2
KMC-29020400	2	40	80	4	0.2
KMC-29020500	2	50	100	4	0.2
KMC-29025S	2.5	6	45	4	0.1

KMC-2

[illegible][illegible]

KMC-2

切削条件参考 Referential Cutting Conditions



被削材 Workpiece	炭素鋼・一般構造用鋼 Carbon Steel・General Structural Steel S55C・SS材						合金鋼・工具鋼 Alloy Steel・Tool Steel SCM・SKT・SKS・SKD					
加工種類 Kinds of Processing	面取り Chamfer Cutting		V溝加工 V Groove Cutting		センターモミ Center Cutting		面取り Chamfer Cutting		V溝加工 V groove Cutting		センターモミ Center Cutting	
刃 径 Flute Diameter mm	切削速度 Cutting Speed m/min	送り速度 Feed mm/rev	切削速度 Cutting Speed m/min	送り速度 Feed mm/rev	切削速度 Cutting Speed m/min	送り速度 Feed mm/rev	切削速度 Cutting Speed m/min	送り速度 Feed mm/rev	切削速度 Cutting Speed m/min	送り速度 Feed mm/rev	切削速度 Cutting Speed m/min	送り速度 Feed mm/rev
0.3~0.4	10~18	0.001 ~0.008	8~15	0.001 ~0.008	8~15	0.001 ~0.016	10~18	0.001 ~0.008	8~15	0.001 ~0.002	8~15	0.003 ~0.008
0.5~0.6	12~20	0.002 ~0.01	10~18	0.002 ~0.01	10~18	0.01 ~0.02	12~20	0.002 ~0.01	8~15	0.001 ~0.003	8~15	0.004 ~0.01
0.7~0.9	18~30	0.006 ~0.02	15~25	0.006 ~0.02	15~25	0.01 ~0.03	12~20	0.006 ~0.02	10~18	0.001 ~0.003	10~18	0.006 ~0.02
1 ~2	18~30	0.01 ~0.03	15~25	0.01 ~0.03	15~25	0.02 ~0.04	12~25	0.006 ~0.02	10~20	0.002 ~0.005	10~20	0.008 ~0.02
2 ~3	18~30	0.01 ~0.03	15~25	0.01 ~0.03	15~25	0.02 ~0.04	12~25	0.006 ~0.02	10~20	0.002 ~0.005	10~20	0.01 ~0.03
4	20~35	0.012 ~0.036	18~30	0.012 ~0.036	18~30	0.024 ~0.048	15~30	0.007 ~0.024	12~24	0.002 ~0.06	12~24	0.012 ~0.036

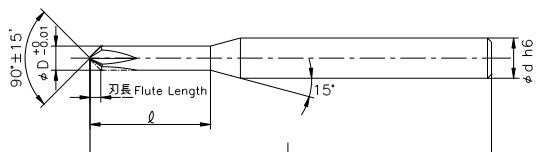
KMC-2

被削材 Workpiece	アルミニウム合金 Aluminum Alloy ADC・AC						鋳 鉄 Cast Iron FC・FCD					
加工種類 Kinds of Processing	面取り Chamfer Cutting		V溝加工 V Groove Cutting		センターモミ Center Cutting		面取り Chamfer Cutting		V溝加工 V groove Cutting		センターモミ Center Cutting	
刃 径 Flute Diameter mm	切削速度 Cutting Speed m/min	送り速度 Feed mm/rev	切削速度 Cutting Speed m/min	送り速度 Feed mm/rev	切削速度 Cutting Speed m/min	送り速度 Feed mm/rev	切削速度 Cutting Speed m/min	送り速度 Feed mm/rev	切削速度 Cutting Speed m/min	送り速度 Feed mm/rev	切削速度 Cutting Speed m/min	送り速度 Feed mm/rev
0.3~0.4	25~35	0.005 ~0.013	20~28	0.005 ~0.013	20~28	0.016 ~0.032	25~35	0.007 ~0.013	20~28	0.005 ~0.013	20~28	0.008 ~0.024
0.5~0.6	30~40	0.006 ~0.016	25~35	0.006 ~0.016	25~35	0.02 ~0.04	30~42	0.006 ~0.016	25~35	0.006 ~0.016	25~35	0.01 ~0.03
0.7~0.9	35~45	0.01 ~0.02	30~40	0.01 ~0.02	30~40	0.03 ~0.07	35~45	0.01 ~0.02	30~40	0.01 ~0.02	30~40	0.01 ~0.03
1 ~2	45~95	0.02 ~0.04	40~80	0.02 ~0.04	40~80	0.04 ~0.08	35~55	0.02 ~0.04	30~45	0.02 ~0.04	30~45	0.03 ~0.06
2 ~3	45~95	0.02 ~0.04	40~80	0.02 ~0.04	40~80	0.06 ~0.1	35~55	0.02 ~0.04	30~45	0.02 ~0.04	30~45	0.06 ~0.08
4	55~110	0.024 ~0.048	45~95	0.024 ~0.048	45~95	0.072 ~0.12	40~65	0.024 ~0.048	35~55	0.024 ~0.048	35~55	0.072 ~0.096
備 考 Remarks	・加工形状により切削速度、送り速度を調整して下さい。 ・切削油を使用して下さい。						・Adjust Revolution and Feed Speed at the same rate. ・Use Cutting Oil.					

KMCA-3

超硬面取りカッター・TiAlNコーティング付
Tungsten Carbide Chamfering Cutter TiAlN Coating

- TiAlNコーティングを施しました
TiAlN coating is applied
- 精密加工部品の面取りや深彫りの面取り加工に小径サイズを取り揃えました
Released for chamfering of precise parts and deep cutting by small diameter
- 底刃がついているのでV溝加工にも対応可能です
With a bottom blade, it can be used for V-groove processing
- 3枚刃にすることで切削速度、送り速度を向上させることが出来ます
Cutting speed and feed rate can be improved by using a 3-flute cutter.



単位[寸法:mm]
Unit[size:mm]

●切削条件表はP236、237に記載
●Cutting conditions are recommended on page 236, 237.

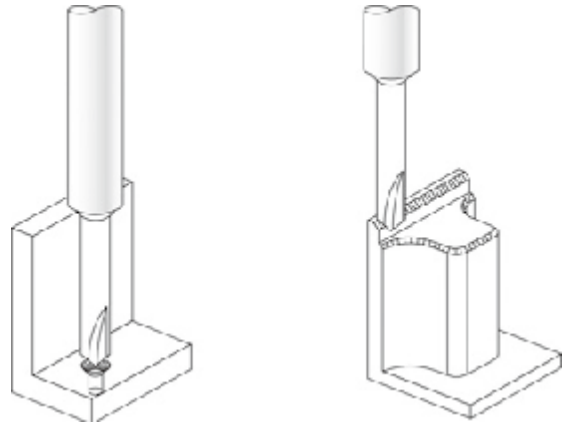
被削材 Workpiece					
一般構造鋼 General Structural Steel	炭素鋼 Caebon Steel	合金鋼・工具鋼 Alloy Steel Tool Steel	ブリード鋼 Pre-Harden Steel	鋳鉄 Cast Iron	ステンレス鋼 Stainless Steel
					

[illegible][illegible]

KMC-3、KMCA-3

切削条件参考

Referential Cutting Conditions



●TiA ℓ Nコーティング付のKMCA-3は下記条件の20%～30%アップを推奨いたします。
KMCA-3 with TiA ℓ N coating shall be recommended to increase 20%～30% on the following conditions

被削材 Workpiece	炭素鋼・一般構造用鋼 Carbon Steel・General Structural Steel SS・S55C						合金鋼・工具鋼 Alloy Steel・Tool Steel SCM・SKT・SKS・SKD					
	面取り Chamfer Cutting		V溝加工 V groove Cutting		センターモミ Center Cutting		面取り Chamfer Cutting		V溝加工 V groove Cutting		センターモミ Center Cutting	
刃 径 Flute Diameter mm	切削速度 Cutting Speed m/min	送り速度 Feed mm/rev	切削速度 Cutting Speed m/min	送り速度 Feed mm/rev	切削速度 Cutting Speed m/min	送り速度 Feed mm/rev	切削速度 Cutting Speed m/min	送り速度 Feed mm/rev	切削速度 Cutting Speed m/min	送り速度 Feed mm/rev	切削速度 Cutting Speed m/min	送り速度 Feed mm/rev
0.5～0.9	15～30	0.003 ～0.03	10～25	0.003 ～0.03	8～15	0.015 ～0.04	10～18	0.004 ～0.03	8～15	0.002 ～0.005	8～15	0.006 ～0.02
1 ～2	18～30	0.015 ～0.04	15～25	0.015 ～0.04	15～25	0.03 ～0.06	12～25	0.01 ～0.03	10～20	0.003 ～0.008	10～20	0.012 ～0.03
2 ～3	18～30	0.015 ～0.04	15～25	0.015 ～0.04	15～25	0.03 ～0.06	12～25	0.01 ～0.03	10～20	0.003 ～0.008	10～20	0.015 ～0.045
4	20～35	0.02 ～0.05	18～30	0.02 ～0.05	18～30	0.035 ～0.07	15～30	0.01 ～0.035	12～24	0.003 ～0.008	12～24	0.02 ～0.05
6	20～35	0.02 ～0.05	18～30	0.02 ～0.05	18～30	0.035 ～0.07	15～30	0.01 ～0.035	12～24	0.003 ～0.008	12～24	0.02 ～0.05

KMC-3、KMCA-3

切削条件参考

Referential Cutting Conditions

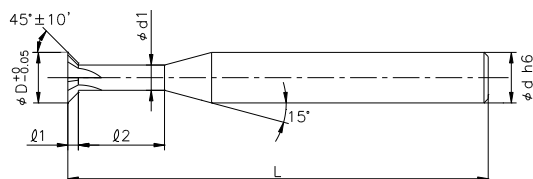
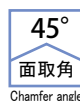
被削材 Workpiece	アルミニウム合金 Aluminum Alloy ADC・AC						鋳 鉄 Cast Iron FC・FCD					
	面取り Chamfer Cutting		V溝加工 V groove Cutting		センターモミ Center Cutting		面取り Chamfer Cutting		V溝加工 V groove Cutting		センターモミ Center Cutting	
刃 径 Flute Diameter mm	切削速度 Cutting Speed m/min	送り速度 Feed mm/rev	切削速度 Cutting Speed m/min	送り速度 Feed mm/rev	切削速度 Cutting Speed m/min	送り速度 Feed mm/rev	切削速度 Cutting Speed m/min	送り速度 Feed mm/rev	切削速度 Cutting Speed m/min	送り速度 Feed mm/rev	切削速度 Cutting Speed m/min	送り速度 Feed mm/rev
0.5～0.9	25～35	0.01 ～0.03	20～28	0.001 ～0.03	20～28	0.03 ～0.1	25～35	0.01 ～0.03	20～28	0.01 ～0.03	20～28	0.015 ～0.05
1 ～2	45～95	0.03 ～0.06	40～80	0.03 ～0.06	40～80	0.06 ～0.12	35～55	0.03 ～0.06	30～45	0.03 ～0.06	30～45	0.045 ～0.09
2 ～3	45～95	0.03 ～0.06	40～80	0.03 ～0.06	40～80	0.08 ～0.15	35～55	0.03 ～0.06	30～45	0.03 ～0.06	30～45	0.09 ～0.12
4	55～110	0.04 ～0.07	45～95	0.04 ～0.07	45～95	0.08 ～0.18	40～65	0.04 ～0.07	35～55	0.04 ～0.07	35～55	0.1 ～0.15
6	55～110	0.04 ～0.07	45～95	0.04 ～0.07	45～95	0.1 ～0.18	40～65	0.04 ～0.07	35～55	0.04 ～0.07	35～55	0.1 ～0.15
備 考 Remarks	・加工形状により切削速度、送り速度を調整して下さい。 ・切削油を使用して下さい。						・Adjust Revolution and Feed Speed at the same rate. ・Use Cutting Oil.					

KUMC-4

超硬裏面取りカッター 片角タイプ Tungsten Carbide Chamfering Cutter Single Angular type

■直刃4枚刃、45° (片角) の裏面取りカッターです
Straight 4-blade, 45° (one-angle) back-surface cutter

■底刃付のため、溝加工も可能です
With a bottom blade, grooving is also possible



被削材 Workpiece					
一般構造鋼 General Structural Steel	炭素鋼 Carbon Steel	合金鋼・工具鋼 Alloy Steel Tool Steel	プリハードン鋼 Pre-Harden Steel	鋳鉄 Cast Iron	アルミ合金 Aluminum Alloy
○	○	○	○	○	○

●切削条件表はP242に記載

●Cutting conditions are recommended on page 242.

単位 [寸法: mm]

Unit [size: mm]

品番 Code No.	外径D Flute Diameter	有効長ℓ2 Effective Length	刃長ℓ1 Flute Length	首径d1 Neck Diameter	全長L Total Length	柄径d Shank Diameter
KUMC-445010S	1	3	0.12	0.65	50	4
KUMC-445010L	1	6	0.12	0.65	50	4
KUMC-445011S	1.1	3	0.15	0.7	50	4
KUMC-445011L	1.1	6	0.15	0.7	50	4
KUMC-445012S	1.2	3	0.17	0.75	50	4
KUMC-445012L	1.2	6	0.17	0.75	50	4
KUMC-445013S	1.3	3	0.2	0.8	50	4
KUMC-445013L	1.3	6	0.2	0.8	50	4
KUMC-445014S	1.4	3	0.2	0.9	50	4
KUMC-445014L	1.4	6	0.2	0.9	50	4
KUMC-445015S	1.5	4	0.2	1	50	4
KUMC-445015L	1.5	8	0.2	1	50	4
KUMC-445016S	1.6	4	0.25	1	50	4
KUMC-445016L	1.6	8	0.25	1	50	4
KUMC-445017S	1.7	4	0.3	1	50	4
KUMC-445017L	1.7	8	0.3	1	50	4
KUMC-445018S	1.8	4	0.3	1.1	50	4
KUMC-445018L	1.8	8	0.3	1.1	50	4
KUMC-445019S	1.9	4	0.3	1.2	50	4
KUMC-445019L	1.9	8	0.3	1.2	50	4
KUMC-445020S	2	5	0.4	1.1	50	4
KUMC-445020L	2	10	0.4	1.1	50	4
KUMC-445021S	2.1	5	0.4	1.2	50	4
KUMC-445021L	2.1	10	0.4	1.2	50	4
KUMC-445022S	2.2	5	0.4	1.3	50	4
KUMC-445022L	2.2	10	0.4	1.3	50	4
KUMC-445023S	2.3	5	0.4	1.4	50	4
KUMC-445023L	2.3	10	0.4	1.4	50	4
KUMC-445024S	2.4	5	0.4	1.5	50	4
KUMC-445024L	2.4	10	0.4	1.5	50	4

品番 Code No.	外径D Flute Diameter	有効長ℓ2 Effective Length	刃長ℓ1 Flute Length	首径d1 Neck Diameter	全長L Total Length	柄径d Shank Diameter
KUMC-445025S	2.5	6	0.5	1.4	50	4
KUMC-445025L	2.5	12	0.5	1.4	50	4
KUMC-445026S	2.6	6	0.5	1.5	50	4
KUMC-445026L	2.6	12	0.5	1.5	50	4
KUMC-445027S	2.7	6	0.5	1.6	50	4
KUMC-445027L	2.7	12	0.5	1.6	50	4
KUMC-445028S	2.8	6	0.5	1.7	50	4
KUMC-445028L	2.8	12	0.5	1.7	50	4
KUMC-445029S	2.9	6	0.5	1.8	50	4
KUMC-445029L	2.9	12	0.5	1.8	50	4
KUMC-445030S	3	8	0.6	1.7	50	4
KUMC-445030L	3	16	0.6	1.7	50	4
KUMC-445031S	3.1	8	0.6	1.8	50	4
KUMC-445031L	3.1	16	0.6	1.8	50	4
KUMC-445032S	3.2	8	0.6	1.9	50	4
KUMC-445032L	3.2	16	0.6	1.9	50	4
KUMC-445033S	3.3	8	0.6	2	50	4
KUMC-445033L	3.3	16	0.6	2	50	4
KUMC-445034S	3.4	8	0.6	2.1	50	4
KUMC-445034L	3.4	16	0.6	2.1	50	4
KUMC-445035S	3.5	9	0.7	2	50	4
KUMC-445035L	3.5	18	0.7	2	50	4
KUMC-445036S	3.6	9	0.7	2.1	50	4
KUMC-445036L	3.6	18	0.7	2.1	50	4
KUMC-445037S	3.7	9	0.7	2.2	50	4
KUMC-445037L	3.7	18	0.7	2.2	50	4
KUMC-445038S	3.8	9	0.7	2.3	50	4
KUMC-445038L	3.8	18	0.7	2.3	50	4
KUMC-445039S	3.9	9	0.7	2.4	50	4
KUMC-445039L	3.9	18	0.7	2.4	50	4

KUMC-4

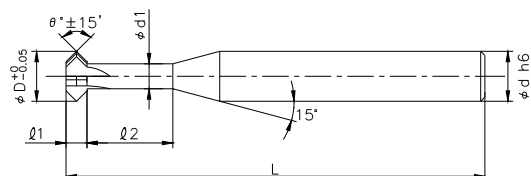
品番 Code No.	外径 D Flute Diameter	有効長 ℓ2 Effective Length	刃長 ℓ1 Flute Length	首径 d1 Neck Diameter	全長 L Total Length	柄径 d Shank Diameter
KUMC-445040S	4	10	0.8	2.3	50	4
KUMC-445040L	4	20	0.8	2.3	60	4
KUMC-445041S	4.1	10	0.8	2.4	50	6
KUMC-445041L	4.1	20	0.8	2.4	60	6
KUMC-445042S	4.2	10	0.8	2.5	50	6
KUMC-445042L	4.2	20	0.8	2.5	60	6
KUMC-445043S	4.3	10	0.8	2.6	50	6
KUMC-445043L	4.3	20	0.8	2.6	60	6
KUMC-445044S	4.4	10	0.8	2.7	50	6
KUMC-445044L	4.4	20	0.8	2.7	60	6
KUMC-445045S	4.5	12	1	2.4	50	6
KUMC-445045L	4.5	24	1	2.4	60	6
KUMC-445046S	4.6	12	1	2.5	50	6
KUMC-445046L	4.6	24	1	2.5	60	6
KUMC-445047S	4.7	12	1	2.6	50	6
KUMC-445047L	4.7	24	1	2.6	60	6
KUMC-445048S	4.8	12	1	2.7	50	6
KUMC-445048L	4.8	24	1	2.7	60	6
KUMC-445049S	4.9	12	1	2.8	50	6
KUMC-445049L	4.9	24	1	2.8	60	6
KUMC-445050S	5	12	1.1	2.7	50	6
KUMC-445050L	5	24	1.1	2.7	60	6
KUMC-445051S	5.1	12	1.1	2.8	50	6
KUMC-445051L	5.1	24	1.1	2.8	60	6
KUMC-445052S	5.2	12	1.1	2.9	50	6
KUMC-445052L	5.2	24	1.1	2.9	60	6
KUMC-445053S	5.3	12	1.1	3	50	6
KUMC-445053L	5.3	24	1.1	3	60	6
KUMC-445054S	5.4	12	1.1	3.1	50	6
KUMC-445054L	5.4	24	1.1	3.1	60	6
KUMC-445055S	5.5	15	1.2	3	60	6
KUMC-445055L	5.5	30	1.2	3	70	6
KUMC-445056S	5.6	15	1.2	3.1	60	6
KUMC-445056L	5.6	30	1.2	3.1	70	6
KUMC-445057S	5.7	15	1.2	3.2	60	6
KUMC-445057L	5.7	30	1.2	3.2	70	6
KUMC-445058S	5.8	15	1.2	3.3	60	6
KUMC-445058L	5.8	30	1.2	3.3	70	6
KUMC-445059S	5.9	15	1.2	3.4	60	6
KUMC-445059L	5.9	30	1.2	3.4	70	6
KUMC-445060S	6	15	1.5	2.9	60	6
KUMC-445060L	6	30	1.5	2.9	70	6
KUMC-445065S	6.5	18	1.5	3.4	70	8
KUMC-445065L	6.5	35	1.5	3.4	80	8
KUMC-445070S	7	18	1.7	3.5	70	8
KUMC-445070L	7	35	1.7	3.5	80	8
KUMC-445075S	7.5	20	1.7	4	70	8
KUMC-445075L	7.5	40	1.7	4	80	8

[illegible]

KUMW-4

超硬裏面取りカッター 両角タイプ Tungsten Carbide Chamfering Cutter Single Angular type

■直刃4枚刃、60°、90°（両角）の両面取りカッターです
Straight 4-blade, 60°, 90° (double-edged) double-sided cutter



単位 [寸法:mm]
Unit [size:mm]

●切削条件表はP242に記載

●Cutting conditions are recommended on page 242.



品番 Code No.	外径 D Flute Diameter	有効長 ℓ2 Effective Length	刃長 ℓ1 Flute Length	首径 d1 Neck Diameter	全長 L Total Length	柄径 d Shank Diameter
KUMW-490010S	1	3	0.25	0.65	50	4
KUMW-490010L	1	6	0.25	0.65	50	4
KUMW-490011S	1.1	3	0.3	0.7	50	4
KUMW-490011L	1.1	6	0.3	0.7	50	4
KUMW-490012S	1.2	3	0.35	0.75	50	4
KUMW-490012L	1.2	6	0.35	0.75	50	4
KUMW-490013S	1.3	3	0.4	0.8	50	4
KUMW-490013L	1.3	6	0.4	0.8	50	4
KUMW-490014S	1.4	3	0.4	0.9	50	4
KUMW-490014L	1.4	6	0.4	0.9	50	4
KUMW-490015S	1.5	4	0.4	1	50	4
KUMW-490015L	1.5	8	0.4	1	50	4
KUMW-490016S	1.6	4	0.5	1	50	4
KUMW-490016L	1.6	8	0.5	1	50	4
KUMW-490017S	1.7	4	0.6	1	50	4
KUMW-490017L	1.7	8	0.6	1	50	4
KUMW-490018S	1.8	4	0.6	1.1	50	4
KUMW-490018L	1.8	8	0.6	1.1	50	4
KUMW-490019S	1.9	4	0.6	1.2	50	4
KUMW-490019L	1.9	8	0.6	1.2	50	4
KUMW-490020S	2	5	0.8	1.1	50	4
KUMW-490020L	2	10	0.8	1.1	50	4
KUMW-490021S	2.1	5	0.8	1.2	50	4
KUMW-490021L	2.1	10	0.8	1.2	50	4
KUMW-490022S	2.2	5	0.8	1.3	50	4
KUMW-490022L	2.2	10	0.8	1.3	50	4
KUMW-490023S	2.3	5	0.8	1.4	50	4
KUMW-490023L	2.3	10	0.8	1.4	50	4
KUMW-490024S	2.4	5	0.8	1.5	50	4
KUMW-490024L	2.4	10	0.8	1.5	50	4

品番 Code No.	外径 D Flute Diameter	有効長 ℓ2 Effective Length	刃長 ℓ1 Flute Length	首径 d1 Neck Diameter	全長 L Total Length	柄径 d Shank Diameter
KUMW-490025S	2.5	6	1	1.4	50	4
KUMW-490025L	2.5	12	1	1.4	50	4
KUMW-490026S	2.6	6	1	1.5	50	4
KUMW-490026L	2.6	12	1	1.5	50	4
KUMW-490027S	2.7	6	1	1.6	50	4
KUMW-490027L	2.7	12	1	1.6	50	4
KUMW-490028S	2.8	6	1	1.7	50	4
KUMW-490028L	2.8	12	1	1.7	50	4
KUMW-490029S	2.9	6	1	1.8	50	4
KUMW-490029L	2.9	12	1	1.8	50	4
KUMW-490030S	3	8	1.2	1.7	50	4
KUMW-490030L	3	16	1.2	1.7	50	4
KUMW-490031S	3.1	8	1.2	1.8	50	4
KUMW-490031L	3.1	16	1.2	1.8	50	4
KUMW-490032S	3.2	8	1.2	1.9	50	4
KUMW-490032L	3.2	16	1.2	1.9	50	4
KUMW-490033S	3.3	8	1.2	2	50	4
KUMW-490033L	3.3	16	1.2	2	50	4
KUMW-490034S	3.4	8	1.2	2.1	50	4
KUMW-490034L	3.4	16	1.2	2.1	50	4
KUMW-490035S	3.5	9	1.4	2	50	4
KUMW-490035L	3.5	18	1.4	2	50	4
KUMW-490036S	3.6	9	1.4	2.1	50	4
KUMW-490036L	3.6	18	1.4	2.1	50	4
KUMW-490037S	3.7	9	1.4	2.2	50	4
KUMW-490037L	3.7	18	1.4	2.2	50	4
KUMW-490038S	3.8	9	1.4	2.3	50	4
KUMW-490038L	3.8	18	1.4	2.3	50	4
KUMW-490039S	3.9	9	1.4	2.4	50	4
KUMW-490039L	3.9	18	1.4	2.4	50	4
KUMW-490040S	4	10	1.6	2.3	50	4
KUMW-490040L	4	20	1.6	2.3	60	4
KUMW-490041S	4.1	10	1.6	2.4	50	6

KUMW-4

品番 Code No.	外径 D Flute Diameter	有効長 ℓ2 Effective Length	刃長 ℓ1 Flute Length	首径 d1 Neck Diameter	全長 L Total Length	柄径 d Shank Diameter
KUMW-490041L	4.1	20	1.6	2.4	60	6
KUMW-490042S	4.2	10	1.6	2.5	50	6
KUMW-490042L	4.2	20	1.6	2.5	60	6
KUMW-490043S	4.3	10	1.6	2.6	50	6
KUMW-490043L	4.3	20	1.6	2.6	60	6
KUMW-490044S	4.4	10	1.6	2.7	50	6
KUMW-490044L	4.4	20	1.6	2.7	60	6
KUMW-490045S	4.5	12	2	2.4	50	6
KUMW-490045L	4.5	24	2	2.4	60	6
KUMW-490046S	4.6	12	2	2.5	50	6
KUMW-490046L	4.6	24	2	2.5	60	6
KUMW-490047S	4.7	12	2	2.6	50	6
KUMW-490047L	4.7	24	2	2.6	60	6
KUMW-490048S	4.8	12	2	2.7	50	6
KUMW-490048L	4.8	24	2	2.7	60	6
KUMW-490049S	4.9	12	2	2.8	50	6
KUMW-490049L	4.9	24	2	2.8	60	6
KUMW-490050S	5	12	2.2	2.7	50	6
KUMW-490050L	5	24	2.2	2.7	60	6
KUMW-490051S	5.1	12	2.2	2.8	50	6
KUMW-490051L	5.1	24	2.2	2.8	60	6
KUMW-490052S	5.2	12	2.2	2.9	50	6
KUMW-490052L	5.2	24	2.2	2.9	60	6
KUMW-490053S	5.3	12	2.2	3	50	6
KUMW-490053L	5.3	24	2.2	3	60	6
KUMW-490054S	5.4	12	2.2	3.1	50	6
KUMW-490054L	5.4	24	2.2	3.1	60	6
KUMW-490055S	5.5	15	2.4	3	60	6
KUMW-490055L	5.5	30	2.4	3	70	6
KUMW-490056S	5.6	15	2.4	3.1	60	6
KUMW-490056L	5.6	30	2.4	3.1	70	6
KUMW-490057S	5.7	15	2.4	3.2	60	6
KUMW-490057L	5.7	30	2.4	3.2	70	6
KUMW-490058S	5.8	15	2.4	3.3	60	6
KUMW-490058L	5.8	30	2.4	3.3	70	6
KUMW-490059S	5.9	15	2.4	3.4	60	6
KUMW-490059L	5.9	30	2.4	3.4	70	6
KUMW-490060S	6	15	3	2.9	60	6
KUMW-490060L	6	30	3	2.9	70	6
KUMW-490065S	6.5	18	3	3.4	70	8
KUMW-490065L	6.5	35	3	3.4	80	8
KUMW-490070S	7	18	3.4	3.5	70	8
KUMW-490070L	7	35	3.4	3.5	80	8
KUMW-490075S	7.5	20	3.4	4	70	8
KUMW-490075L	7.5	40	3.4	4	80	8
KUMW-490080S	8	20	4	3.9	70	8
KUMW-490080L	8	40	4	3.9	80	8
KUMW-490085S	8.5	24	4	4.4	80	10

品番 Code No.	外径 D Flute Diameter	有効長 ℓ2 Effective Length	刃長 ℓ1 Flute Length	首径 d1 Neck Diameter	全長 L Total Length	柄径 d Shank Diameter
KUMW-490085L	8.5	45	4	4.4	100	10
KUMW-490090S	9	24	4.4	4.5	80	10
KUMW-490090L	9	45	4.4	4.5	100	10
KUMW-490095S	9.5	30	4.4	5	80	10
KUMW-490095L	9.5	50	4.4	5	100	10
KUMW-490100S	10	30	5	4.9	80	10
KUMW-490100L	10	50	5	4.9	100	10



品番 Code No.	外径 D Flute Diameter	有効長 ℓ2 Effective Length	刃長 ℓ1 Flute Length	首径 d1 Neck Diameter	全長 L Total Length	柄径 d Shank Diameter
KUMW-460010S	1	3	0.14	0.65	50	4
KUMW-460010L	1	6	0.14	0.65	50	4
KUMW-460015S	1.5	4	0.23	1	50	4
KUMW-460015L	1.5	8	0.23	1	50	4
KUMW-460020S	2	5	0.46	1.1	50	4
KUMW-460020L	2	10	0.46	1.1	50	4
KUMW-460025S	2.5	6	0.57	1.4	50	4
KUMW-460025L	2.5	12	0.57	1.4	50	4
KUMW-460030S	3	8	0.69	1.7	50	4
KUMW-460030L	3	16	0.69	1.7	50	4
KUMW-460035S	3.5	9	0.8	2	50	4
KUMW-460035L	3.5	18	0.8	2	50	4
KUMW-460040S	4	10	0.92	2.3	50	4
KUMW-460040L	4	20	0.92	2.3	60	4
KUMW-460045S	4.5	12	1.15	2.4	50	6
KUMW-460045L	4.5	24	1.15	2.4	60	6
KUMW-460050S	5	12	1.27	2.7	50	6
KUMW-460050L	5	24	1.27	2.7	60	6
KUMW-460055S	5.5	15	1.38	3	60	6
KUMW-460055L	5.5	30	1.38	3	70	6
KUMW-460060S	6	15	1.73	2.9	60	6
KUMW-460060L	6	30	1.73	2.9	70	6
KUMW-460065S	6.5	18	1.73	3.4	70	8
KUMW-460065L	6.5	35	1.73	3.4	80	8
KUMW-460070S	7	18	1.96	3.5	70	8
KUMW-460070L	7	35	1.96	3.5	80	8
KUMW-460075S	7.5	20	1.96	4	70	8
KUMW-460075L	7.5	40	1.96	4	80	8
KUMW-460080S	8	20	2.31	3.9	70	8
KUMW-460080L	8	40	2.31	3.9	80	8
KUMW-460085S	8.5	24	2.31	4.4	80	10
KUMW-460085L	8.5	45	2.31	4.4	100	10
KUMW-460090S	9	24	2.54	4.5	80	10
KUMW-460090L	9	45	2.54	4.5	100	10
KUMW-460095S	9.5	30	2.54	5	80	10
KUMW-460095L	9.5	50	2.54	5	100	10
KUMW-460100S	10	30	2.88	4.9	80	10
KUMW-460100L	10	50	2.88	4.9	100	10

KUMC-4、KUMW-4

切削条件参考

Referential Cutting Conditions

被削材 Workpiece	切削速度 Cutting Speed m/min	送り速度 Feed mm/rev
炭 素 工 具 鋼 Carbon Tool Steel	30～ 60	0.05 ～0.12
鑄 鉄 Cast Iron	30～ 80	0.05 ～0.12
合 金 鋼 Alloy Steel	25～ 70	0.03 ～0.08
プリハードン鋼 Pre-Harden Steel	15～ 40	0.02 ～0.06
ス テ ン レ ス Stainless Steel	20～ 50	0.025～0.06
銅 ・ 銅 合 金 Copper and Copper Alloy	25～ 80	0.05 ～0.1
チ タ ン 合 金 Titanium Alloy	15～ 30	0.02 ～0.05
ア ル ミ 合 金 Aluminum Alloy	50～100	0.05 ～0.15
樹 脂 Resin	50～120	0.1 ～0.2
備 考 Remarks	- 加工形状により切削速度、送り速度を調整して下さい。 - Adjust Revolution and Feed Speed at the same rate.	

KKC-4

超硬キーシードカッター Tungsten Carbide Keysead Cutter

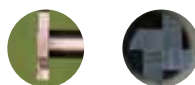
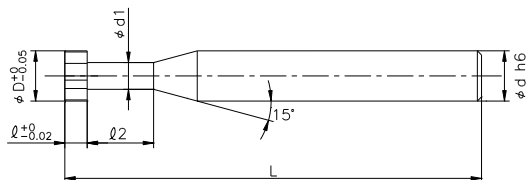
- 刃径φ0.5～φ12まで取り揃えました
Blade diameters from φ0.5 to φ12 are available
- 刃厚0.1～6mmまで幅広くラインナップしました
A wide range of blade thicknesses from 0.1 mm to 6 mm are available
- 深溝加工向けに首径を細く設定しました
Narrow neck diameter for deep groove machining



被削材 Workpiece					
一般構造鋼 General Structural Steel	炭素鋼 Carbon Steel	合金鋼・工具鋼 Alloy Steel Tool Steel	プリハードン鋼 Pre-Harden Steel	鋳鉄 Cast Iron	アルミ合金 Aluminum Alloy
○	○	○	○	○	○

- 切削条件表はP249に記載
Cutting conditions are recommended on page 249.

品番 Code No.	刃径D Flute Diameter	刃厚ℓ1 Blade Thickness	首径d1 Neck Diameter	首長ℓ2 Neck Length	全長L Total Length	柄径d Shank Diameter
KKC-400501010	0.5	0.1	0.27	1	50	3
KKC-400501020	0.5	0.1	0.27	2	50	3
KKC-400502010	0.5	0.2	0.27	1	50	3
KKC-400502020	0.5	0.2	0.27	2	50	3
KKC-400503010	0.5	0.3	0.27	1	50	3
KKC-400503020	0.5	0.3	0.27	2	50	3
KKC-400504010	0.5	0.4	0.27	1	50	3
KKC-400504020	0.5	0.4	0.27	2	50	3
KKC-400505010	0.5	0.5	0.27	1	50	3
KKC-400505020	0.5	0.5	0.27	2	50	3
KKC-400506010	0.5	0.6	0.27	1	50	3
KKC-400506020	0.5	0.6	0.27	2	50	3
KKC-400507010	0.5	0.7	0.27	1	50	3
KKC-400507020	0.5	0.7	0.27	2	50	3
KKC-400508010	0.5	0.8	0.27	1	50	3
KKC-400508020	0.5	0.8	0.27	2	50	3
KKC-400509010	0.5	0.9	0.27	1	50	3
KKC-400509020	0.5	0.9	0.27	2	50	3
KKC-400510010	0.5	1	0.27	1	50	3
KKC-400510020	0.5	1	0.27	2	50	3
KKC-400602012	0.6	0.2	0.35	1.2	50	3
KKC-400602024	0.6	0.2	0.35	2.4	50	3
KKC-400603012	0.6	0.3	0.35	1.2	50	3
KKC-400603024	0.6	0.3	0.35	2.4	50	3
KKC-400604012	0.6	0.4	0.35	1.2	50	3
KKC-400604024	0.6	0.4	0.35	2.4	50	3
KKC-400605012	0.6	0.5	0.35	1.2	50	3
KKC-400605024	0.6	0.5	0.35	2.4	50	3
KKC-400606012	0.6	0.6	0.35	1.2	50	3
KKC-400606024	0.6	0.6	0.35	2.4	50	3



単位[寸法:mm]
Unit [size:mm]

品番 Code No.	刃径D Flute Diameter	刃厚ℓ1 Blade Thickness	首径d1 Neck Diameter	首長ℓ2 Neck Length	全長L Total Length	柄径d Shank Diameter
KKC-400607012	0.6	0.7	0.35	1.2	50	3
KKC-400607024	0.6	0.7	0.35	2.4	50	3
KKC-400608012	0.6	0.8	0.35	1.2	50	3
KKC-400608024	0.6	0.8	0.35	2.4	50	3
KKC-400609012	0.6	0.9	0.35	1.2	50	3
KKC-400609024	0.6	0.9	0.35	2.4	50	3
KKC-400610012	0.6	1	0.35	1.2	50	3
KKC-400610024	0.6	1	0.35	2.4	50	3
KKC-400802016	0.8	0.2	0.45	1.6	50	3
KKC-400802032	0.8	0.2	0.45	3.2	50	3
KKC-400803016	0.8	0.3	0.45	1.6	50	3
KKC-400803032	0.8	0.3	0.45	3.2	50	3
KKC-400804016	0.8	0.4	0.45	1.6	50	3
KKC-400804032	0.8	0.4	0.45	3.2	50	3
KKC-400805016	0.8	0.5	0.45	1.6	50	3
KKC-400805032	0.8	0.5	0.45	3.2	50	3
KKC-400806016	0.8	0.6	0.45	1.6	50	3
KKC-400806032	0.8	0.6	0.45	3.2	50	3
KKC-400807016	0.8	0.7	0.45	1.6	50	3
KKC-400807032	0.8	0.7	0.45	3.2	50	3
KKC-400808016	0.8	0.8	0.45	1.6	50	3
KKC-400808032	0.8	0.8	0.45	3.2	50	3
KKC-400809016	0.8	0.9	0.45	1.6	50	3
KKC-400809032	0.8	0.9	0.45	3.2	50	3
KKC-400810016	0.8	1	0.45	1.6	50	3
KKC-400810032	0.8	1	0.45	3.2	50	3
KKC-401002020	1	0.2	0.55	2	50	3
KKC-401002040	1	0.2	0.55	4	50	3
KKC-401003020	1	0.3	0.55	2	50	3
KKC-401003040	1	0.3	0.55	4	50	3

超硬
カッター

Carbide
Cutter

KKC-4

品番 Code No.	刃径 D Flute Diameter	刃厚 ℓ1 Blade Thickness	首径 d1 Neck Diameter	首長 ℓ2 Neck Length	全長 L Total Length	柄径 d Shank Diameter
KKC-401004020	1	0.4	0.55	2	50	3
KKC-401004040	1	0.4	0.55	4	50	3
KKC-401005020	1	0.5	0.55	2	50	3
KKC-401005040	1	0.5	0.55	4	50	3
KKC-401006020	1	0.6	0.55	2	50	3
KKC-401006040	1	0.6	0.55	4	50	3
KKC-401007020	1	0.7	0.55	2	50	3
KKC-401007040	1	0.7	0.55	4	50	3
KKC-401008020	1	0.8	0.55	2	50	3
KKC-401008040	1	0.8	0.55	4	50	3
KKC-401009020	1	0.9	0.55	2	50	3
KKC-401009040	1	0.9	0.55	4	50	3
KKC-401010020	1	1	0.55	2	50	3
KKC-401010040	1	1	0.55	4	50	3
KKC-401202024	1.2	0.2	0.65	2.4	50	3
KKC-401202050	1.2	0.2	0.65	5	50	3
KKC-401203024	1.2	0.3	0.65	2.4	50	3
KKC-401203050	1.2	0.3	0.65	5	50	3
KKC-401204024	1.2	0.4	0.65	2.4	50	3
KKC-401204050	1.2	0.4	0.65	5	50	3
KKC-401205024	1.2	0.5	0.65	2.4	50	3
KKC-401205050	1.2	0.5	0.65	5	50	3
KKC-401206024	1.2	0.6	0.65	2.4	50	3
KKC-401206050	1.2	0.6	0.65	5	50	3
KKC-401207024	1.2	0.7	0.65	2.4	50	3
KKC-401207050	1.2	0.7	0.65	5	50	3
KKC-401208024	1.2	0.8	0.65	2.4	50	3
KKC-401208050	1.2	0.8	0.65	5	50	3
KKC-401209024	1.2	0.9	0.65	2.4	50	3
KKC-401209050	1.2	0.9	0.65	5	50	3
KKC-401210024	1.2	1	0.65	2.4	50	3
KKC-401210050	1.2	1	0.65	5	50	3
KKC-401502030	1.5	0.2	0.8	3	50	3
KKC-401502060	1.5	0.2	0.8	6	50	3
KKC-401503030	1.5	0.3	0.8	3	50	3
KKC-401503060	1.5	0.3	0.8	6	50	3
KKC-401504030	1.5	0.4	0.8	3	50	3
KKC-401504060	1.5	0.4	0.8	6	50	3
KKC-401505030	1.5	0.5	0.8	3	50	3
KKC-401505060	1.5	0.5	0.8	6	50	3
KKC-401506030	1.5	0.6	0.8	3	50	3
KKC-401506060	1.5	0.6	0.8	6	50	3
KKC-401507030	1.5	0.7	0.8	3	50	3
KKC-401507060	1.5	0.7	0.8	6	50	3
KKC-401508030	1.5	0.8	0.8	3	50	3
KKC-401508060	1.5	0.8	0.8	6	50	3
KKC-401509030	1.5	0.9	0.8	3	50	3
KKC-401509060	1.5	0.9	0.8	6	50	3

品番 Code No.	刃径 D Flute Diameter	刃厚 ℓ1 Blade Thickness	首径 d1 Neck Diameter	首長 ℓ2 Neck Length	全長 L Total Length	柄径 d Shank Diameter
KKC-401510030	1.5	1	0.8	3	50	3
KKC-401510060	1.5	1	0.8	6	50	3
KKC-402002040	2	0.2	1	4	50	3
KKC-402002080	2	0.2	1	8	50	3
KKC-402003040	2	0.3	1	4	50	3
KKC-402003080	2	0.3	1	8	50	3
KKC-402004040	2	0.4	1	4	50	3
KKC-402004080	2	0.4	1	8	50	3
KKC-402005040	2	0.5	1	4	50	3
KKC-402005080	2	0.5	1	8	50	3
KKC-402006040	2	0.6	1	4	50	3
KKC-402006080	2	0.6	1	8	50	3
KKC-402008040	2	0.8	1	4	50	3
KKC-402008080	2	0.8	1	8	50	3
KKC-402010040	2	1	1	4	50	3
KKC-402010080	2	1	1	8	50	3
KKC-403003050	3	0.3	1.2	5	50	3
KKC-403003100	3	0.3	1.2	10	50	3
KKC-403004050	3	0.4	1.2	5	50	3
KKC-403004100	3	0.4	1.2	10	50	3
KKC-403005050	3	0.5	1.2	5	50	3
KKC-403005100	3	0.5	1.2	10	50	3
KKC-403006050	3	0.6	1.2	5	50	3
KKC-403006100	3	0.6	1.2	10	50	3
KKC-403008050	3	0.8	1.2	5	50	3
KKC-403008100	3	0.8	1.2	10	50	3
KKC-403010050	3	1	1.2	5	50	3
KKC-403010100	3	1	1.2	10	50	3
KKC-403015050	3	1.5	1.2	5	50	3
KKC-403015100	3	1.5	1.2	10	50	3
KKC-403020050	3	2	1.2	5	50	3
KKC-403020100	3	2	1.2	10	50	3
KKC-404003060	4	0.3	1.5	6	60	4
KKC-404003120	4	0.3	1.5	12	60	4
KKC-404004060	4	0.4	1.5	6	60	4
KKC-404004120	4	0.4	1.5	12	60	4
KKC-404005060	4	0.5	1.5	6	60	4
KKC-404005120	4	0.5	1.5	12	60	4
KKC-404006060	4	0.6	1.5	6	60	4
KKC-404006120	4	0.6	1.5	12	60	4
KKC-404008060	4	0.8	1.5	6	60	4
KKC-404008120	4	0.8	1.5	12	60	4
KKC-404010060	4	1	1.5	6	60	4
KKC-404010120	4	1	1.5	12	60	4
KKC-404015060	4	1.5	1.5	6	60	4
KKC-404015120	4	1.5	1.5	12	60	4
KKC-404020060	4	2	1.5	6	60	4
KKC-404020120	4	2	1.5	12	60	4

KKC-4

品番 Code No.	刃径 D Flute Diameter	刃厚 ℓ1 Blade Thickness	首径 d1 Neck Diameter	首長 ℓ2 Neck Length	全長 L Total Length	柄径 d Shank Diameter
KKC-405003070	5	0.3	2	7	60	6
KKC-405003150	5	0.3	2	15	60	6
KKC-405004070	5	0.4	2	7	60	6
KKC-405004150	5	0.4	2	15	60	6
KKC-405005070	5	0.5	2	7	60	6
KKC-405005150	5	0.5	2	15	60	6
KKC-405006070	5	0.6	2	7	60	6
KKC-405006150	5	0.6	2	15	60	6
KKC-405008070	5	0.8	2	7	60	6
KKC-405008150	5	0.8	2	15	60	6
KKC-405010070	5	1	2	7	60	6
KKC-405010150	5	1	2	15	60	6
KKC-405015070	5	1.5	2	7	60	6
KKC-405015150	5	1.5	2	15	60	6
KKC-405020070	5	2	2	7	60	6
KKC-405020150	5	2	2	15	60	6
KKC-406003070	6	0.3	2.4	7	60	6
KKC-406003150	6	0.3	2.4	15	60	6
KKC-406004070	6	0.4	2.4	7	60	6
KKC-406004150	6	0.4	2.4	15	60	6
KKC-406005070	6	0.5	2.4	7	60	6
KKC-406005150	6	0.5	2.4	15	60	6
KKC-406006070	6	0.6	2.4	7	60	6
KKC-406006150	6	0.6	2.4	15	60	6
KKC-406008070	6	0.8	2.4	7	60	6
KKC-406008150	6	0.8	2.4	15	60	6
KKC-406010070	6	1	2.4	7	60	6
KKC-406010150	6	1	2.4	15	60	6
KKC-406015070	6	1.5	2.4	7	60	6
KKC-406015150	6	1.5	2.4	15	60	6
KKC-406020070	6	2	2.4	7	60	6
KKC-406020150	6	2	2.4	15	60	6
KKC-406030070	6	3	2.4	7	60	6
KKC-406030150	6	3	2.4	15	60	6
KKC-408003080	8	0.3	3	8	70	8
KKC-408003160	8	0.3	3	16	70	8
KKC-408004080	8	0.4	3	8	70	8
KKC-408004160	8	0.4	3	16	70	8
KKC-408005080	8	0.5	3	8	70	8
KKC-408005160	8	0.5	3	16	70	8
KKC-408006080	8	0.6	3	8	70	8
KKC-408006160	8	0.6	3	16	70	8
KKC-408008080	8	0.8	3	8	70	8
KKC-408008160	8	0.8	3	16	70	8
KKC-408010080	8	1	3	8	70	8
KKC-408010160	8	1	3	16	70	8
KKC-408015080	8	1.5	3	8	70	8
KKC-408015160	8	1.5	3	16	70	8

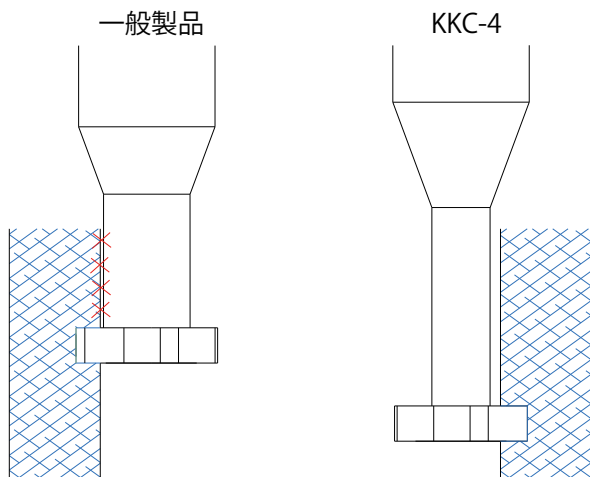
品番 Code No.	刃径 D Flute Diameter	刃厚 ℓ1 Blade Thickness	首径 d1 Neck Diameter	首長 ℓ2 Neck Length	全長 L Total Length	柄径 d Shank Diameter
KKC-408020080	8	2	3	8	70	8
KKC-408020160	8	2	3	16	70	8
KKC-408030080	8	3	3	8	70	8
KKC-408030160	8	3	3	16	70	8
KKC-408040080	8	4	3	8	70	8
KKC-408040160	8	4	3	16	70	8
KKC-410003100	10	0.3	3.5	10	80	10
KKC-410003200	10	0.3	3.5	20	80	10
KKC-410004100	10	0.4	3.5	10	80	10
KKC-410004200	10	0.4	3.5	20	80	10
KKC-410005100	10	0.5	3.5	10	80	10
KKC-410005200	10	0.5	3.5	20	80	10
KKC-410006100	10	0.6	3.5	10	80	10
KKC-410006200	10	0.6	3.5	20	80	10
KKC-410008100	10	0.8	3.5	10	80	10
KKC-410008200	10	0.8	3.5	20	80	10
KKC-410010100	10	1	3.5	10	80	10
KKC-410010200	10	1	3.5	20	80	10
KKC-410015100	10	1.5	3.5	10	80	10
KKC-410015200	10	1.5	3.5	20	80	10
KKC-410020100	10	2	3.5	10	80	10
KKC-410020200	10	2	3.5	20	80	10
KKC-410030100	10	3	3.5	10	80	10
KKC-410030200	10	3	3.5	20	80	10
KKC-410040100	10	4	3.5	10	80	10
KKC-410040200	10	4	3.5	20	80	10
KKC-410005100	10	5	3.5	10	80	10
KKC-410005200	10	5	3.5	20	80	10
KKC-412003120	12	0.3	4	12	80	12
KKC-412003240	12	0.3	4	24	80	12
KKC-412004120	12	0.4	4	12	80	12
KKC-412004240	12	0.4	4	24	80	12
KKC-412005120	12	0.5	4	12	80	12
KKC-412005240	12	0.5	4	24	80	12
KKC-412006120	12	0.6	4	12	80	12
KKC-412006240	12	0.6	4	24	80	12
KKC-412008120	12	0.8	4	12	80	12
KKC-412008240	12	0.8	4	24	80	12
KKC-412010120	12	1	4	12	80	12
KKC-412010240	12	1	4	24	80	12
KKC-412015120	12	1.5	4	12	80	12
KKC-412015240	12	1.5	4	24	80	12
KKC-412020120	12	2	4	12	80	12
KKC-412020240	12	2	4	24	80	12
KKC-412030120	12	3	4	12	80	12
KKC-412030240	12	3	4	24	80	12
KKC-412040120	12	4	4	12	80	12
KKC-412040240	12	4	4	24	80	12

KKC-4

[illegible][illegible]

超硬カツタ

Carbide



POINT

- 一般製品より、深位置の溝加工が可能
- 一般製品より、深溝の加工が可能

KKCCR-4

超硬コーナーR付キーシードカッター
Tungsten Carbide Keysead with Cutter R

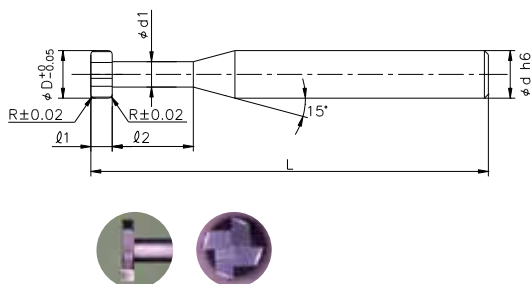
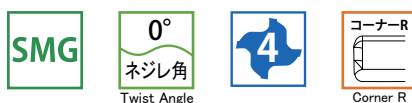
- 刃径φ1〜φ12まで取り揃えました
Blade diameters from φ1 to φ12 are available
- 両サイドにコーナーRを施しました
Corner R on both sides
- 深溝加工向けに首径を細く設定しました
Narrow neck diameter for deep groove machining



被削材 Workpiece					
一般構造鋼 General Structural Steel	炭素鋼 Carbon Steel	合金鋼・工具鋼 Alloy Steel Tool Steel	プリハードン鋼 Pre-Harden Steel	鋳鉄 Cast Iron	アルミ合金 Aluminum Alloy
○	○	○	○	○	○

- 切削条件表はP249に記載
- Cutting conditions are recommended on page 249.

品番 Code No.	刃径D Flute Diameter	コーナーR Corner R	刃厚 ℓ_1 Blade Thickness	首径 d_1 Neck Diameter	首長 ℓ_2 Neck Length	全長L Total Length	柄径d Shank Diameter
KKCCR-401005005	1	0.05	0.5	0.55	2	50	3
KKCCR-401005010	1	0.1	0.5	0.55	2	50	3
KKCCR-401008005	1	0.05	0.8	0.55	2	50	3
KKCCR-401008010	1	0.1	0.8	0.55	2	50	3
KKCCR-401010010	1	0.1	1	0.55	2	50	3
KKCCR-401010020	1	0.2	1	0.55	2	50	3
KKCCR-401205005	1.2	0.05	0.5	0.65	2.4	50	3
KKCCR-401205010	1.2	0.1	0.5	0.65	2.4	50	3
KKCCR-401208005	1.2	0.05	0.8	0.65	2.4	50	3
KKCCR-401208010	1.2	0.1	0.8	0.65	2.4	50	3
KKCCR-401210010	1.2	0.1	1	0.65	2.4	50	3
KKCCR-401210020	1.2	0.2	1	0.65	2.4	50	3
KKCCR-401505005	1.5	0.05	0.5	0.8	3	50	3
KKCCR-401505010	1.5	0.1	0.5	0.8	3	50	3
KKCCR-401508005	1.5	0.05	0.8	0.8	3	50	3
KKCCR-401508010	1.5	0.1	0.8	0.8	3	50	3
KKCCR-401510010	1.5	0.1	1	0.8	3	50	3
KKCCR-401510020	1.5	0.2	1	0.8	3	50	3
KKCCR-402005005	2	0.05	0.5	1	4	50	3
KKCCR-402005010	2	0.1	0.5	1	4	50	3
KKCCR-402008005	2	0.05	0.8	1	4	50	3
KKCCR-402008010	2	0.1	0.8	1	4	50	3
KKCCR-402010010	2	0.1	1	1	4	50	3
KKCCR-402010020	2	0.2	1	1	4	50	3
KKCCR-403005005	3	0.05	0.5	1.2	5	50	3
KKCCR-403005010	3	0.1	0.5	1.2	5	50	3
KKCCR-403008005	3	0.05	0.8	1.2	5	50	3
KKCCR-403008010	3	0.1	0.8	1.2	5	50	3
KKCCR-403010010	3	0.1	1	1.2	5	50	3
KKCCR-403010020	3	0.2	1	1.2	5	50	3



単位[寸法:mm]
Unit [size:mm]

品番 Code No.	刃径D Flute Diameter	コーナーR Corner R	刃厚 ℓ_1 Blade Thickness	首径 d_1 Neck Diameter	首長 ℓ_2 Neck Length	全長L Total Length	柄径d Shank Diameter
KKCCR-403015010	3	0.1	1.5	1.2	5	50	3
KKCCR-403015020	3	0.2	1.5	1.2	5	50	3
KKCCR-403020010	3	0.1	2	1.2	5	50	3
KKCCR-403020020	3	0.2	2	1.2	5	50	3
KKCCR-404005005	4	0.05	0.5	1.5	6	60	4
KKCCR-404005010	4	0.1	0.5	1.5	6	60	4
KKCCR-404008005	4	0.05	0.8	1.5	6	60	4
KKCCR-404008010	4	0.1	0.8	1.5	6	60	4
KKCCR-404010010	4	0.1	1	1.5	6	60	4
KKCCR-404010020	4	0.2	1	1.5	6	60	4
KKCCR-404015010	4	0.1	1.5	1.5	6	60	4
KKCCR-404015020	4	0.2	1.5	1.5	6	60	4
KKCCR-404020010	4	0.1	2	1.5	6	60	4
KKCCR-404020020	4	0.2	2	1.5	6	60	4
KKCCR-405005005	5	0.05	0.5	2	7	60	6
KKCCR-405005010	5	0.1	0.5	2	7	60	6
KKCCR-405008005	5	0.05	0.8	2	7	60	6
KKCCR-405008010	5	0.1	0.8	2	7	60	6
KKCCR-405010010	5	0.1	1	2	7	60	6
KKCCR-405010020	5	0.2	1	2	7	60	6
KKCCR-405020010	5	0.1	2	2	7	60	6
KKCCR-405020020	5	0.2	2	2	7	60	6
KKCCR-406005005	6	0.05	0.5	2.4	7	60	6
KKCCR-406005010	6	0.1	0.5	2.4	7	60	6
KKCCR-406008005	6	0.05	0.8	2.4	7	60	6
KKCCR-406008010	6	0.1	0.8	2.4	7	60	6
KKCCR-406010010	6	0.1	1	2.4	7	60	6
KKCCR-406010020	6	0.2	1	2.4	7	60	6
KKCCR-406020010	6	0.1	2	2.4	7	60	6
KKCCR-406020020	6	0.2	2	2.4	7	60	6

超硬
カッター

Carbide
Cutter

超硬カツタ

Carbide-
Cutter

KKC-4、KKCCR-4

切削条件参考

Referential Cutting Conditions

被削材 Workpiece	炭素鋼・一般構造用鋼 Carbon Steel・ General Structural Steel S55C・SS材		合金鋼・工具鋼 Alloy Steel・Tool Steel SCM・SKT・SKS・SKD		プリハードン鋼 Pre-Harden Steel HPM-1・NAK55・SKT	
切削速度 Cutting Speed	20m/min		20m/min		20m/min	
加工深さ Machining Depth	0.1D		0.1D		0.1D	
刃 径 Flute Diameter mm	回転数 Revolution min ⁻¹	送り速度 Feed mm/min	回転数 Revolution min ⁻¹	送り速度 Feed mm/min	回転数 Revolution min ⁻¹	送り速度 Feed mm/min
0.5	12,800	240	12,700	142	12,700	142
0.6	10,600	200	10,600	120	10,600	120
0.8	7,960	150	7,900	88	7,900	88
1	6,300	155	6,300	95	6,300	95
2	3,180	120	3,100	70	3,100	70
3	2,120	120	2,100	70	2,100	70
4	1,590	120	1,500	67	1,500	67
5	1,270	95	1,200	54	1,200	54
6	1,060	80	1,060	47	1,060	47
8	800	60	800	47	800	47
10	640	60	650	47	650	47
12	530	50	550	35	550	35

被削材 Workpiece	アルミニウム合金 Aluminum Alloy ADC・AC		樹 脂 Resin			
切削速度 Cutting Speed	45m/min		45m/min			
加工深さ Machining Depth	0.25D		0.25D			
刃 径 Flute Diameter mm	回転数 Revolution min ⁻¹	送り速度 Feed mm/min	回転数 Revolution min ⁻¹	送り速度 Feed mm/min		
0.5	20,000	450	20,000	525		
0.6	20,000	450	20,000	525		
0.8	15,000	330	18,000	470		
1	12,000	360	14,000	490		
2	6,300	280	7,200	380		
3	4,200	280	4,800	380		
4	3,100	280	3,600	380		
5	2,500	225	2,900	300		
6	2,100	190	2,400	250		
8	1,500	135	1,800	190		
10	1,200	135	1,400	190		
12	1,060	115	1,200	160		

備 考 Remarks	・回転数と送り速度は同じ割合で調整して下さい。・Adjust Revolution and Feed Speed at the same rate. ・切削油を使用して下さい。・Use Cutting Oil.					
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KRKC-4

超硬R付キーシードカッター
Tungsten Carbide Keyseed Cutter with R

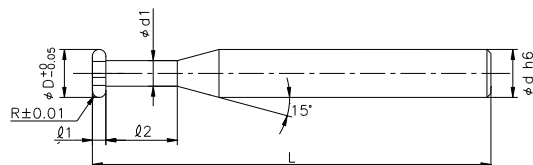
- 刃径φ3～φ12まで取り揃えました
Blade diameters from φ3 to φ12 are available
- R0.2～R2まで幅広くラインナップしました
A wide range of products from R0.2 to R2 are available
- 深溝加工向けに首径を細く設定しました
Narrow neck diameter for deep groove machining



被削材 Workpiece					
一般構造鋼 General Structural Steel	炭素鋼 Carbon Steel	合金鋼・工具鋼 Alloy Steel Tool Steel	プリハードン鋼 Pre-Harden Steel	鋳鉄 Cast Iron	アルミ合金 Aluminum Alloy
○	○	○	○	○	○

- 切削条件表はP252に記載
●Cutting conditions are recommended on page 252.

品番 Code No.	刃径D Flute Diameter	R	刃厚ℓ1 Blade Thickness	首径d1 Neck Diameter	首長ℓ2 Neck Length	全長L Total Length	柄径d Shank Diameter
KRKC-403002005	3	0.2	0.4	1.2	5	50	3
KRKC-403002010	3	0.2	0.4	1.2	10	50	3
KRKC-403002505	3	0.25	0.5	1.2	5	50	3
KRKC-403002510	3	0.25	0.5	1.2	10	50	3
KRKC-403003005	3	0.3	0.6	1.2	5	50	3
KRKC-403003010	3	0.3	0.6	1.2	10	50	3
KRKC-403004005	3	0.4	0.8	1.2	5	50	3
KRKC-403004010	3	0.4	0.8	1.2	10	50	3
KRKC-403005005	3	0.5	1	1.2	5	50	3
KRKC-403005010	3	0.5	1	1.2	10	50	3
KRKC-404002006	4	0.2	0.4	1.5	6	60	4
KRKC-404002012	4	0.2	0.4	1.5	12	60	4
KRKC-404002506	4	0.25	0.5	1.5	6	60	4
KRKC-404002512	4	0.25	0.5	1.5	12	60	4
KRKC-404003006	4	0.3	0.6	1.5	6	60	4
KRKC-404003012	4	0.3	0.6	1.5	12	60	4
KRKC-404004006	4	0.4	0.8	1.5	6	60	4
KRKC-404004012	4	0.4	0.8	1.5	12	60	4
KRKC-404005006	4	0.5	1	1.5	6	60	4
KRKC-404005012	4	0.5	1	1.5	12	60	4
KRKC-404007506	4	0.75	1.5	1.5	6	60	4
KRKC-404007512	4	0.75	1.5	1.5	12	60	4
KRKC-404010006	4	1	2	1.5	6	60	4
KRKC-404010012	4	1	2	1.5	12	60	4
KRKC-405002007	5	0.2	0.4	2	7	60	6
KRKC-405002015	5	0.2	0.4	2	15	60	6
KRKC-405002507	5	0.25	0.5	2	7	60	6
KRKC-405002515	5	0.25	0.5	2	15	60	6
KRKC-405003007	5	0.3	0.6	2	7	60	6
KRKC-405003015	5	0.3	0.6	2	15	60	6



単位[寸法:mm]
Unit [size:mm]

品番 Code No.	刃径D Flute Diameter	R	刃厚ℓ1 Blade Thickness	首径d1 Neck Diameter	首長ℓ2 Neck Length	全長L Total Length	柄径d Shank Diameter
KRKC-405004007	5	0.4	0.8	2	7	60	6
KRKC-405004015	5	0.4	0.8	2	15	60	6
KRKC-405005007	5	0.5	1	2	7	60	6
KRKC-405005015	5	0.5	1	2	15	60	6
KRKC-405007507	5	0.75	1.5	2	7	60	6
KRKC-405007515	5	0.75	1.5	2	15	60	6
KRKC-405010007	5	1	2	2	7	60	6
KRKC-405010015	5	1	2	2	15	60	6
KRKC-406002007	6	0.2	0.4	2.4	7	60	6
KRKC-406002015	6	0.2	0.4	2.4	15	60	6
KRKC-406002507	6	0.25	0.5	2.4	7	60	6
KRKC-406002515	6	0.25	0.5	2.4	15	60	6
KRKC-406003007	6	0.3	0.6	2.4	7	60	6
KRKC-406003015	6	0.3	0.6	2.4	15	60	6
KRKC-406004007	6	0.4	0.8	2.4	7	60	6
KRKC-406004015	6	0.4	0.8	2.4	15	60	6
KRKC-406005007	6	0.5	1	2.4	7	60	6
KRKC-406005015	6	0.5	1	2.4	15	60	6
KRKC-406007507	6	0.75	1.5	2.4	7	60	6
KRKC-406007515	6	0.75	1.5	2.4	15	60	6
KRKC-406010007	6	1	2	2.4	7	60	6
KRKC-406010015	6	1	2	2.4	15	60	6
KRKC-406015007	6	1.5	3	2.4	7	60	6
KRKC-406015015	6	1.5	3	2.4	15	60	6
KRKC-408002008	8	0.2	0.4	3	8	70	8
KRKC-408002016	8	0.2	0.4	3	16	70	8
KRKC-408002508	8	0.25	0.5	3	8	70	8
KRKC-408002516	8	0.25	0.5	3	16	70	8
KRKC-408003008	8	0.3	0.6	3	8	70	8
KRKC-408003016	8	0.3	0.6	3	16	70	8

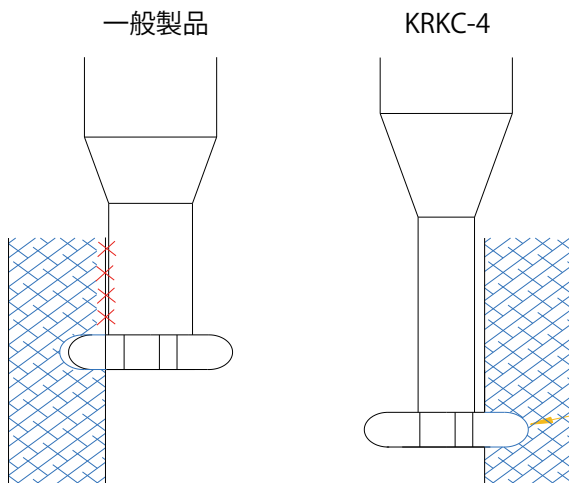
KRKC-4

品番 Code No.	刃径 D Flute Diameter	R	刃厚 $\ell 1$ Blade Thickness	首径 d1 Neck Diameter	首長 $\ell 2$ Neck Length	全長 L Total Length	柄径 d Shank Diameter
KRKC-408004008	8	0.4	0.8	3	8	70	8
KRKC-408004016	8	0.4	0.8	3	16	70	8
KRKC-408005008	8	0.5	1	3	8	70	8
KRKC-408005016	8	0.5	1	3	16	70	8
KRKC-408007508	8	0.75	1.5	3	8	70	8
KRKC-408007516	8	0.75	1.5	3	16	70	8
KRKC-408010008	8	1	2	3	8	70	8
KRKC-408010016	8	1	2	3	16	70	8
KRKC-408015008	8	1.5	3	3	8	70	8
KRKC-408015016	8	1.5	3	3	16	70	8
KRKC-408020008	8	2	4	3	8	70	8
KRKC-408020016	8	2	4	3	16	70	8
KRKC-410002010	10	0.2	0.4	3.5	10	80	10
KRKC-410002020	10	0.2	0.4	3.5	20	80	10
KRKC-410002510	10	0.25	0.5	3.5	10	80	10
KRKC-410002520	10	0.25	0.5	3.5	20	80	10
KRKC-410003010	10	0.3	0.6	3.5	10	80	10
KRKC-410003020	10	0.3	0.6	3.5	20	80	10
KRKC-410004010	10	0.4	0.8	3.5	10	80	10
KRKC-410004020	10	0.4	0.8	3.5	20	80	10
KRKC-410005010	10	0.5	1	3.5	10	80	10
KRKC-410005020	10	0.5	1	3.5	20	80	10
KRKC-410007510	10	0.75	1.5	3.5	10	80	10
KRKC-410007520	10	0.75	1.5	3.5	20	80	10
KRKC-410010010	10	1	2	3.5	10	80	10
KRKC-410010020	10	1	2	3.5	20	80	10
KRKC-410015010	10	1.5	3	3.5	10	80	10

品番 Code No.	刃径 D Flute Diameter	R	刃厚 $\ell 1$ Blade Thickness	首径 d1 Neck Diameter	首長 $\ell 2$ Neck Length	全長 L Total Length	柄径 d Shank Diameter
KRKC-410015020	10	1.5	3	3.5	20	80	10
KRKC-410020010	10	2	4	3.5	10	80	10
KRKC-410020020	10	2	4	3.5	20	80	10
KRKC-412002012	12	0.2	0.4	4	12	80	12
KRKC-412002024	12	0.2	0.4	4	24	80	12
KRKC-412002512	12	0.25	0.5	4	12	80	12
KRKC-412002524	12	0.25	0.5	4	24	80	12
KRKC-412003012	12	0.3	0.6	4	12	80	12
KRKC-412003024	12	0.3	0.6	4	24	80	12
KRKC-412004012	12	0.4	0.8	4	12	80	12
KRKC-412004024	12	0.4	0.8	4	24	80	12
KRKC-412005012	12	0.5	1	4	12	80	12
KRKC-412005024	12	0.5	1	4	24	80	12
KRKC-412007512	12	0.75	1.5	4	12	80	12
KRKC-412007524	12	0.75	1.5	4	24	80	12
KRKC-412010012	12	1	2	4	12	80	12
KRKC-412010024	12	1	2	4	24	80	12
KRKC-412015012	12	1.5	3	4	12	80	12
KRKC-412015024	12	1.5	3	4	24	80	12
KRKC-412020012	12	2	4	4	12	80	12
KRKC-412020024	12	2	4	4	24	80	12

超硬
カッター

Carbide
Cutter



POINT

- 一般製品より、深位置の溝加工が可能
- 一般製品より、深溝の加工が可能
- Rを施しました

KRKC-4

切削条件参考

Referential Cutting Conditions

被削材 Workpiece	炭素鋼・一般構造用鋼 Carbon Steel・ General Structural Steel S55C・SS材		合金鋼・工具鋼 Alloy Steel・Tool Steel SCM・SKT・SKS・SKD		プリハードン鋼 Pre-Harden Steel HPM-1・NAK55・SKT	
切削速度 Cutting Speed	20m/min		20m/min		20m/min	
加工深さ Machining Depth	0.1D		0.1D		0.1D	
刃 径 Flute Diameter mm	回転数 Revolution min ⁻¹	送り速度 Feed mm/min	回転数 Revolution min ⁻¹	送り速度 Feed mm/min	回転数 Revolution min ⁻¹	送り速度 Feed mm/min
3	2,120	120	2,100	70	2,100	70
4	1,590	120	1,500	67	1,500	67
5	1,270	95	1,200	54	1,200	54
6	1,060	80	1,060	47	1,060	47
8	800	60	800	47	800	47
10	640	60	650	47	650	47
12	530	50	550	35	550	35

被削材 Workpiece	アルミニウム合金 Aluminum Alloy ADC・AC		樹 脂 Resin			
切削速度 Cutting Speed	40m/min		45m/min			
加工深さ Machining Depth	0.25D		0.25D			
刃 径 Flute Diameter mm	回転数 Revolution min ⁻¹	送り速度 Feed mm/min	回転数 Revolution min ⁻¹	送り速度 Feed mm/min		
3	4,200	280	4,800	380		
4	3,100	280	3,600	380		
5	2,500	225	2,900	300		
6	2,100	190	2,400	250		
8	1,500	135	1,800	190		
10	1,200	135	1,400	190		
12	1,060	115	1,200	160		
備 考 Remarks	・回転数と送り速度は同じ割合で調整して下さい。・Adjust Revolution and Feed Speed at the same rate. ・切削油を使用して下さい。・Use Cutting Oil.					

超硬彫刻用カッター（1枚刃 半月タイプ） Tungsten Carbide For marking Cutter

■先端フラット形状

Flat tip shape

■先端径0.05、0.1で30° 40° 50° 60° 70° 80° 90°をラインナップしました

Lineup includes 30°, 40°, 50°, 60°, 70°, 80° and 90° tip diameters of 0.05 and 0.1



被削材 Workpiece					
一般構造鋼 General Structural Steel	炭素鋼 Carbon Steel	合金鋼・工具鋼 Alloy Steel Tool Steel	プリハードン鋼 Pre-Harden Steel	鋳鉄 Cast Iron	アルミ合金 Aluminum Alloy
○	○	○	○	○	○

●切削条件表はP256に記載

●Cutting conditions are recommended on page 256.



単位 [寸法:mm]
Unit [size:mm]

品番 Code No.	先端径 D Flute Diameter	刃長 ℓ Flute Length	全長 L Total Length	柄径 d Shank Diameter
KTC-300053	0.05	5.5	50	3
KTC-300103	0.1	5.41	50	3
KTC-300054	0.05	7.37	50	4
KTC-300104	0.1	7.28	50	4
KTC-300056	0.05	11.1	50	6
KTC-300106	0.1	11	50	6



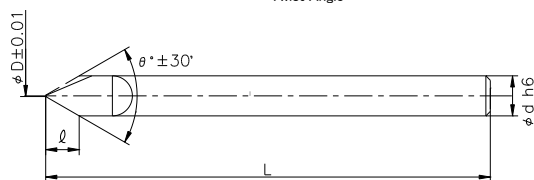
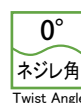
単位 [寸法:mm]
Unit [size:mm]

品番 Code No.	先端径 D Flute Diameter	刃長 ℓ Flute Length	全長 L Total Length	柄径 d Shank Diameter
KTC-400053	0.05	4.05	50	3
KTC-400103	0.1	3.98	50	3
KTC-400054	0.05	5.43	50	4
KTC-400104	0.1	5.36	50	4
KTC-400056	0.05	8.17	50	6
KTC-400106	0.1	8.11	50	6



単位 [寸法:mm]
Unit [size:mm]

品番 Code No.	先端径 D Flute Diameter	刃長 ℓ Flute Length	全長 L Total Length	柄径 d Shank Diameter
KTC-500053	0.05	3.16	50	3
KTC-500103	0.1	3.11	50	3
KTC-500054	0.05	4.24	50	4
KTC-500104	0.1	4.18	50	4
KTC-500056	0.05	6.38	50	6
KTC-500106	0.1	6.33	50	6



底面フラット形状



単位 [寸法:mm]
Unit [size:mm]

品番 Code No.	先端径 D Flute Diameter	刃長 ℓ Flute Length	全長 L Total Length	柄径 d Shank Diameter
KTC-600053	0.05	2.55	50	3
KTC-600103	0.1	2.51	50	3
KTC-600054	0.05	3.42	50	4
KTC-600104	0.1	3.38	50	4
KTC-600056	0.05	5.15	50	6
KTC-600106	0.1	5.11	50	6



単位 [寸法:mm]
Unit [size:mm]

品番 Code No.	先端径 D Flute Diameter	刃長 ℓ Flute Length	全長 L Total Length	柄径 d Shank Diameter
KTC-800053	0.05	1.76	50	3
KTC-800103	0.1	1.73	50	3
KTC-800054	0.05	2.35	50	4
KTC-800104	0.1	2.32	50	4
KTC-800056	0.05	3.55	50	6
KTC-800106	0.1	3.52	50	6



単位 [寸法:mm]
Unit [size:mm]

品番 Code No.	先端径 D Flute Diameter	刃長 ℓ Flute Length	全長 L Total Length	柄径 d Shank Diameter
KTC-900053	0.05	1.48	50	3
KTC-900103	0.1	1.45	50	3
KTC-900054	0.05	1.98	50	4
KTC-900104	0.1	1.95	50	4
KTC-900056	0.05	2.98	50	6
KTC-900106	0.1	2.95	50	6

KTBC

超硬彫刻用カッター・1枚刃 半月タイプ (先端R付) Tungsten Carbide For marking Cutter

■先端R形状

Tip R Shape

■先端R0.05、R0.1、R0.2、R0.3で30° 40° 50° 60° 90°をラインナップしました

Tip Radius R0.05, R0.1, R0.2, R0.3 and 30°, 40°, 50°, 60°, 90° are available



被削材 Workpiece					
一般構造鋼 General Structural Steel	炭素鋼 Carbon Steel	合金鋼・工具鋼 Alloy Steel Tool Steel	プリハードン鋼 Pre-Harden Steel	鋳鉄 Cast Iron	アルミ合金 Aluminum Alloy
○	○	○	○	○	○

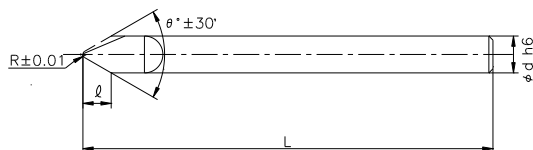
●切削条件表はP256に記載

●Cutting conditions are recommended on page 256.



単位 [寸法: mm]
Unit [size: mm]

品番 Code No.	先端径 D Flute Diameter	刃長 ℓ Flute Length	全長 L Total Length	柄径 d Shank Diameter
KTBC-300053	R0.05	5.45	50	3
KTBC-300103	R0.1	5.31	50	3
KTBC-300203	R0.2	5.03	50	3
KTBC-300303	R0.3	4.74	50	3
KTBC-300054	R0.05	7.32	50	4
KTBC-300104	R0.1	7.18	50	4
KTBC-300204	R0.2	6.89	50	4
KTBC-300304	R0.3	6.6	50	4
KTBC-300056	R0.05	11.05	50	6
KTBC-300106	R0.1	10.91	50	6
KTBC-300206	R0.2	10.62	50	6
KTBC-300306	R0.3	10.34	50	6



底面 R 形状



単位 [寸法: mm]
Unit [size: mm]

品番 Code No.	先端径 D Flute Diameter	刃長 ℓ Flute Length	全長 L Total Length	柄径 d Shank Diameter
KTBC-500053	R0.05	3.15	50	3
KTBC-500103	R0.1	3.08	50	3
KTBC-500203	R0.2	2.94	50	3
KTBC-500303	R0.3	2.81	50	3
KTBC-500054	R0.05	4.22	50	4
KTBC-500104	R0.1	4.15	50	4
KTBC-500204	R0.2	4.02	50	4
KTBC-500304	R0.3	3.88	50	4
KTBC-500056	R0.05	6.37	50	6
KTBC-500106	R0.1	6.3	50	6
KTBC-500206	R0.2	6.16	50	6
KTBC-500306	R0.3	6.02	50	6



単位 [寸法: mm]
Unit [size: mm]

品番 Code No.	先端径 D Flute Diameter	刃長 ℓ Flute Length	全長 L Total Length	柄径 d Shank Diameter
KTBC-400053	R0.05	4.03	50	3
KTBC-400103	R0.1	3.93	50	3
KTBC-400203	R0.2	3.74	50	3
KTBC-400303	R0.3	3.54	50	3
KTBC-400054	R0.05	5.4	50	4
KTBC-400104	R0.1	5.3	50	4
KTBC-400204	R0.2	5.11	50	4
KTBC-400304	R0.3	4.92	50	4
KTBC-400056	R0.05	8.15	50	6
KTBC-400106	R0.1	8.05	50	6
KTBC-400206	R0.2	7.86	50	6
KTBC-400306	R0.3	7.67	50	6



単位 [寸法: mm]
Unit [size: mm]

品番 Code No.	先端径 D Flute Diameter	刃長 ℓ Flute Length	全長 L Total Length	柄径 d Shank Diameter
KTBC-600053	R0.05	2.55	50	3
KTBC-600103	R0.1	2.5	50	3
KTBC-600203	R0.2	2.4	50	3
KTBC-600303	R0.3	2.3	50	3
KTBC-600054	R0.05	3.41	50	4
KTBC-600104	R0.1	3.36	50	4
KTBC-600204	R0.2	3.26	50	4
KTBC-600304	R0.3	3.16	50	4
KTBC-600056	R0.05	5.15	50	6
KTBC-600106	R0.1	5.1	50	6
KTBC-600206	R0.2	5	50	6
KTBC-600306	R0.3	4.9	50	6

KTBC



単位 [寸法:mm]
Unit [size:mm]

品番 Code No.	先端径 D Flute Diameter	刃長 ℓ Flute Length	全長 L Total Length	柄径 d Shank Diameter
KTBC-900053	R0.05	1.48	50	3
KTBC-900103	R0.1	1.46	50	3
KTBC-900203	R0.2	1.42	50	3
KTBC-900303	R0.3	1.38	50	3
KTBC-900054	R0.05	1.98	50	4
KTBC-900104	R0.1	1.96	50	4
KTBC-900204	R0.2	1.92	50	4
KTBC-900304	R0.3	1.88	50	4
KTBC-900056	R0.05	2.98	50	6
KTBC-900106	R0.1	2.96	50	6
KTBC-900206	R0.2	2.92	50	6
KTBC-900306	R0.3	2.88	50	6

単位 [寸法:mm]
Unit [size:mm]

品番 Code No.	先端径 D Flute Diameter	刃長 ℓ Flute Length	全長 L Total Length	柄径 d Shank Diameter

KTC、KTBC

切削条件参考

Referential Cutting Conditions

被削材 Workpiece	炭素鋼・一般構造用鋼 Carbon Steel・ General Structural Steel S55C・SS材	ステンレス鋼 Stainless Steel SUS303・SUS30・SUS416	アルミニウム合金 Aluminum Alloy ADC・AC	金・銀・プラスチック Gold・Silver・Plastic
切削速度 Cutting Speed	70～80m/min	70～150m/min	70～250m/min	80～200m/min
備 考 Remarks	・加工形状により切削速度、送り速度を調整して下さい。 ・切削油を使用して下さい。			

超硬
カッター

Carbide
Cutter

KHR-4

超硬底刃付リーマ Tungsten Carbide Reamer with Bottom Flute

■底刃が付いているので止まり穴の加工などに最適です
Best for stop hole processing due to having bottom flute



被削材 Workpiece					
一般構造鋼 General Structural Steel	炭素鋼 Carbon Steel	合金鋼・工具鋼 Alloy Steel Tool Steel	プリハードン鋼 Pre-Harden Steel	鋳鉄 Cast Iron	アルミ合金 Aluminum Alloy
○	○	○	○	○	○

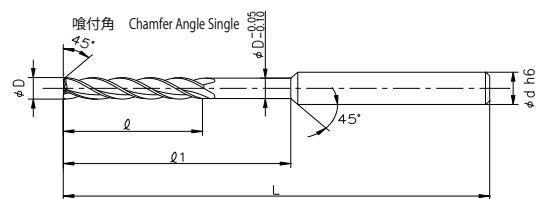
●切削条件表はP277に記載
●Cutting conditions are recommended on page 277.

品番 Code No.	刃径 D Flute Diameter	刃長 ℓ Flute Length	有効長 ℓ1 Effective Length	全長 L Total Length	柄径 d Shank Diameter
KHR-4050	0.5	4	10	50	3
KHR-4051	0.51	4	10	50	3
KHR-4052	0.52	4	10	50	3
KHR-4053	0.53	4	10	50	3
KHR-4054	0.54	4	10	50	3
KHR-4055	0.55	4	10	50	3
KHR-4056	0.56	4	10	50	3
KHR-4057	0.57	4	10	50	3
KHR-4058	0.58	4	10	50	3
KHR-4059	0.59	4	10	50	3
KHR-4060	0.6	4	10	50	3
KHR-4061	0.61	4	10	50	3
KHR-4062	0.62	4	10	50	3
KHR-4063	0.63	4	10	50	3
KHR-4064	0.64	4	10	50	3
KHR-4065	0.65	4	10	50	3
KHR-4066	0.66	4	10	50	3
KHR-4067	0.67	4	10	50	3
KHR-4068	0.68	4	10	50	3
KHR-4069	0.69	4	10	50	3
KHR-4070	0.7	4	10	50	3
KHR-4071	0.71	4	10	50	3
KHR-4072	0.72	4	10	50	3
KHR-4073	0.73	4	10	50	3
KHR-4074	0.74	4	10	50	3
KHR-4075	0.75	4	10	50	3
KHR-4076	0.76	4	10	50	3
KHR-4077	0.77	4	10	50	3
KHR-4078	0.78	4	10	50	3
KHR-4079	0.79	5	12	50	3

K10

35°
ネジレ角
Twist Angle

4



●刃径の許容差 Flute Diameter Tolerance
D ≤ 3.09 +0.005~0
3.1 < D ≤ 12.03 +0.007~0

●喰付寸法
C=0.1±0.03 φ0.5~φ1.99
C=0.15±0.03 φ2.0~φ3.09
C=0.2±0.03 φ3.1~φ7.05
C=0.3±0.03 φ7.1~φ10.05
C=0.4±0.03 φ10.1~φ12.03



単位 [寸法:mm]
Unit [size:mm]

品番 Code No.	刃径 D Flute Diameter	刃長 ℓ Flute Length	有効長 ℓ1 Effective Length	全長 L Total Length	柄径 d Shank Diameter
KHR-4080	0.8	5	12	50	3
KHR-4081	0.81	5	12	50	3
KHR-4082	0.82	5	12	50	3
KHR-4083	0.83	5	12	50	3
KHR-4084	0.84	5	12	50	3
KHR-4085	0.85	5	12	50	3
KHR-4086	0.86	5	12	50	3
KHR-4087	0.87	5	12	50	3
KHR-4088	0.88	5	12	50	3
KHR-4089	0.89	5	12	50	3
KHR-4090	0.9	5	12	50	3
KHR-4091	0.91	5	12	50	3
KHR-4092	0.92	5	12	50	3
KHR-4093	0.93	5	12	50	3
KHR-4094	0.94	5	12	50	3
KHR-4095	0.95	5	12	50	3
KHR-4096	0.96	5	12	50	3
KHR-4097	0.97	5	12	50	3
KHR-4098	0.98	5	12	50	3
KHR-4099	0.99	5	12	50	3
KHR-4100	1	6	15	60	3
KHR-4101	1.01	6	15	60	3
KHR-4102	1.02	6	15	60	3
KHR-4103	1.03	6	15	60	3
KHR-4104	1.04	6	15	60	3
KHR-4105	1.05	6	15	60	3
KHR-4106	1.06	6	15	60	3
KHR-4107	1.07	6	15	60	3
KHR-4108	1.08	6	15	60	3
KHR-4109	1.09	6	15	60	3

超硬リーマ

Carbide Reamer

KHR-4

品番 Code No.	刃径 D Flute Diameter	刃長 ℓ Flute Length	有効長 ℓ1 Effective Length	全長 L Total Length	柄径 d Shank Diameter
KHR-4110	1.1	6	15	60	3
KHR-4111	1.11	6	15	60	3
KHR-4112	1.12	6	15	60	3
KHR-4113	1.13	6	15	60	3
KHR-4114	1.14	6	15	60	3
KHR-4115	1.15	6	15	60	3
KHR-4116	1.16	6	15	60	3
KHR-4117	1.17	6	15	60	3
KHR-4118	1.18	6	15	60	3
KHR-4119	1.19	6	15	60	3
KHR-4120	1.2	6	15	60	3
KHR-4121	1.21	6	15	60	3
KHR-4122	1.22	6	15	60	3
KHR-4123	1.23	6	15	60	3
KHR-4124	1.24	6	15	60	3
KHR-4125	1.25	6	15	60	3
KHR-4126	1.26	6	15	60	3
KHR-4127	1.27	6	15	60	3
KHR-4128	1.28	6	15	60	3
KHR-4129	1.29	6	15	60	3
KHR-4130	1.3	6	15	60	3
KHR-4131	1.31	6	15	60	3
KHR-4132	1.32	6	15	60	3
KHR-4133	1.33	6	15	60	3
KHR-4134	1.34	6	15	60	3
KHR-4135	1.35	6	15	60	3
KHR-4136	1.36	6	15	60	3
KHR-4137	1.37	6	15	60	3
KHR-4138	1.38	6	15	60	3
KHR-4139	1.39	6	15	60	3
KHR-4140	1.4	6	15	60	3
KHR-4141	1.41	6	15	60	3
KHR-4142	1.42	6	15	60	3
KHR-4143	1.43	6	15	60	3
KHR-4144	1.44	6	15	60	3
KHR-4145	1.45	6	15	60	3
KHR-4146	1.46	6	15	60	3
KHR-4147	1.47	6	15	60	3
KHR-4148	1.48	6	15	60	3
KHR-4149	1.49	6	15	60	3
KHR-4150	1.5	8	20	60	3
KHR-4151	1.51	8	20	60	3
KHR-4152	1.52	8	20	60	3
KHR-4153	1.53	8	20	60	3
KHR-4154	1.54	8	20	60	3
KHR-4155	1.55	8	20	60	3
KHR-4156	1.56	8	20	60	3
KHR-4157	1.57	8	20	60	3

品番 Code No.	刃径 D Flute Diameter	刃長 ℓ Flute Length	有効長 ℓ1 Effective Length	全長 L Total Length	柄径 d Shank Diameter
KHR-4158	1.58	8	20	60	3
KHR-4159	1.59	8	20	60	3
KHR-4160	1.6	8	20	60	3
KHR-4161	1.61	8	20	60	3
KHR-4162	1.62	8	20	60	3
KHR-4163	1.63	8	20	60	3
KHR-4164	1.64	8	20	60	3
KHR-4165	1.65	8	20	60	3
KHR-4166	1.66	8	20	60	3
KHR-4167	1.67	8	20	60	3
KHR-4168	1.68	8	20	60	3
KHR-4169	1.69	8	20	60	3
KHR-4170	1.7	8	20	60	3
KHR-4171	1.71	8	20	60	3
KHR-4172	1.72	8	20	60	3
KHR-4173	1.73	8	20	60	3
KHR-4174	1.74	8	20	60	3
KHR-4175	1.75	8	20	60	3
KHR-4176	1.76	8	20	60	3
KHR-4177	1.77	8	20	60	3
KHR-4178	1.78	8	20	60	3
KHR-4179	1.79	8	20	60	3
KHR-4180	1.8	8	20	60	3
KHR-4181	1.81	8	20	60	3
KHR-4182	1.82	8	20	60	3
KHR-4183	1.83	8	20	60	3
KHR-4184	1.84	8	20	60	3
KHR-4185	1.85	8	20	60	3
KHR-4186	1.86	8	20	60	3
KHR-4187	1.87	8	20	60	3
KHR-4188	1.88	8	20	60	3
KHR-4189	1.89	8	20	60	3
KHR-4190	1.9	8	20	60	3
KHR-4191	1.91	10	24	60	3
KHR-4192	1.92	10	24	60	3
KHR-4193	1.93	10	24	60	3
KHR-4194	1.94	10	24	60	3
KHR-4195	1.95	10	24	60	3
KHR-4196	1.96	10	24	60	3
KHR-4197	1.97	10	24	60	3
KHR-4198	1.98	10	24	60	3
KHR-4199	1.99	10	24	60	3
KHR-4200	2	10	24	60	3
KHR-4201	2.01	10	24	60	3
KHR-4202	2.02	10	24	60	3
KHR-4203	2.03	10	24	60	3
KHR-4204	2.04	10	24	60	3
KHR-4205	2.05	10	24	60	3

KHR-4

品番 Code No.	刃径 D Flute Diameter	刃長 ℓ Flute Length	有効長 ℓ1 Effective Length	全長 L Total Length	柄径 d Shank Diameter
KHR-4206	2.06	10	24	60	3
KHR-4207	2.07	10	24	60	3
KHR-4208	2.08	10	24	60	3
KHR-4209	2.09	10	24	60	3
KHR-4210	2.1	10	24	60	3
KHR-4211	2.11	10	24	60	3
KHR-4212	2.12	10	24	60	3
KHR-4213	2.13	10	24	60	3
KHR-4214	2.14	10	24	60	3
KHR-4215	2.15	10	24	60	3
KHR-4216	2.16	10	24	60	3
KHR-4217	2.17	10	24	60	3
KHR-4218	2.18	10	24	60	3
KHR-4219	2.19	10	24	60	3
KHR-4220	2.2	10	24	60	3
KHR-4221	2.21	10	24	60	3
KHR-4222	2.22	10	24	60	3
KHR-4223	2.23	10	24	60	3
KHR-4224	2.24	10	24	60	3
KHR-4225	2.25	10	24	60	3
KHR-4226	2.26	10	24	60	3
KHR-4227	2.27	10	24	60	3
KHR-4228	2.28	10	24	60	3
KHR-4229	2.29	10	24	60	3
KHR-4230	2.3	10	24	60	3
KHR-4231	2.31	10	24	60	3
KHR-4232	2.32	10	24	60	3
KHR-4233	2.33	10	24	60	3
KHR-4234	2.34	10	24	60	3
KHR-4235	2.35	10	24	60	3
KHR-4236	2.36	10	24	60	3
KHR-4237	2.37	10	24	60	3
KHR-4238	2.38	10	24	60	3
KHR-4239	2.39	10	24	60	3
KHR-4240	2.4	10	24	60	3
KHR-4241	2.41	10	24	60	3
KHR-4242	2.42	10	24	60	3
KHR-4243	2.43	10	24	60	3
KHR-4244	2.44	10	24	60	3
KHR-4245	2.45	10	24	60	3
KHR-4246	2.46	10	24	60	3
KHR-4247	2.47	10	24	60	3
KHR-4248	2.48	10	24	60	3
KHR-4249	2.49	10	24	60	3
KHR-4250	2.5	10	24	60	3
KHR-4251	2.51	10	24	60	3
KHR-4252	2.52	10	24	60	3
KHR-4253	2.53	10	24	60	3

品番 Code No.	刃径 D Flute Diameter	刃長 ℓ Flute Length	有効長 ℓ1 Effective Length	全長 L Total Length	柄径 d Shank Diameter
KHR-4254	2.54	10	24	60	3
KHR-4255	2.55	10	24	60	3
KHR-4256	2.56	10	24	60	3
KHR-4257	2.57	10	24	60	3
KHR-4258	2.58	10	24	60	3
KHR-4259	2.59	10	24	60	3
KHR-4260	2.6	10	24	60	3
KHR-4261	2.61	10	24	60	3
KHR-4262	2.62	10	24	60	3
KHR-4263	2.63	10	24	60	3
KHR-4264	2.64	10	24	60	3
KHR-4265	2.65	10	24	60	3
KHR-4266	2.66	10	24	60	3
KHR-4267	2.67	10	24	60	3
KHR-4268	2.68	10	24	60	3
KHR-4269	2.69	10	24	60	3
KHR-4270	2.7	10	24	60	3
KHR-4271	2.71	10	24	60	3
KHR-4272	2.72	10	24	60	3
KHR-4273	2.73	10	24	60	3
KHR-4274	2.74	10	24	60	3
KHR-4275	2.75	10	24	60	3
KHR-4276	2.76	10	24	60	3
KHR-4277	2.77	10	24	60	3
KHR-4278	2.78	10	24	60	3
KHR-4279	2.79	10	24	60	3
KHR-4280	2.8	10	24	60	3
KHR-4281	2.81	10	24	60	3
KHR-4282	2.82	10	24	60	3
KHR-4283	2.83	10	24	60	3
KHR-4284	2.84	10	24	60	3
KHR-4285	2.85	10	24	60	3
KHR-4286	2.86	10	24	60	3
KHR-4287	2.87	10	24	60	3
KHR-4288	2.88	10	24	60	3
KHR-4289	2.89	10	24	60	3
KHR-4290	2.9	10	24	60	3
KHR-4291	2.91	15	30	60	3
KHR-4292	2.92	15	30	60	3
KHR-4293	2.93	15	30	60	3
KHR-4294	2.94	15	30	60	3
KHR-4295	2.95	15	30	60	3
KHR-4296	2.96	15	30	60	3
KHR-4297	2.97	15	30	60	3
KHR-4298	2.98	15	30	60	3
KHR-4299	2.99	15	30	60	3
KHR-4300	3	15	30	60	3
KHR-4301	3.01	15	30	60	3

KHR-4

品番 Code No.	刃径 D Flute Diameter	刃長 ℓ Flute Length	有効長 ℓ1 Effective Length	全長 L Total Length	柄径 d Shank Diameter
KHR-4302	3.02	15	30	60	3
KHR-4303	3.03	15	30	60	3
KHR-4304	3.04	15	30	60	3
KHR-4305	3.05	15	30	60	3
KHR-4306	3.06	15	30	60	3
KHR-4307	3.07	15	30	60	3
KHR-4308	3.08	15	30	60	3
KHR-4309	3.09	15	30	60	3
KHR-4310	3.1	15	30	70	4
KHR-4311	3.11	15	30	70	4
KHR-4312	3.12	15	30	70	4
KHR-4313	3.13	15	30	70	4
KHR-4314	3.14	15	30	70	4
KHR-4315	3.15	15	30	70	4
KHR-4316	3.16	15	30	70	4
KHR-4317	3.17	15	30	70	4
KHR-4318	3.18	15	30	70	4
KHR-4319	3.19	15	30	70	4
KHR-4320	3.2	15	30	70	4
KHR-4321	3.21	15	30	70	4
KHR-4322	3.22	15	30	70	4
KHR-4323	3.23	15	30	70	4
KHR-4324	3.24	15	30	70	4
KHR-4325	3.25	15	30	70	4
KHR-4326	3.26	15	30	70	4
KHR-4327	3.27	15	30	70	4
KHR-4328	3.28	15	30	70	4
KHR-4329	3.29	15	30	70	4
KHR-4330	3.3	15	30	70	4
KHR-4331	3.31	15	30	70	4
KHR-4332	3.32	15	30	70	4
KHR-4333	3.33	15	30	70	4
KHR-4334	3.34	15	30	70	4
KHR-4335	3.35	15	30	70	4
KHR-4336	3.36	15	30	70	4
KHR-4337	3.37	15	30	70	4
KHR-4338	3.38	15	30	70	4
KHR-4339	3.39	15	30	70	4
KHR-4340	3.4	15	30	70	4
KHR-4341	3.41	15	30	70	4
KHR-4342	3.42	15	30	70	4
KHR-4343	3.43	15	30	70	4
KHR-4344	3.44	15	30	70	4
KHR-4345	3.45	15	30	70	4
KHR-4346	3.46	15	30	70	4
KHR-4347	3.47	15	30	70	4
KHR-4348	3.48	15	30	70	4
KHR-4349	3.49	15	30	70	4

品番 Code No.	刃径 D Flute Diameter	刃長 ℓ Flute Length	有効長 ℓ1 Effective Length	全長 L Total Length	柄径 d Shank Diameter
KHR-4350	3.5	15	30	70	4
KHR-4351	3.51	15	30	70	4
KHR-4352	3.52	15	30	70	4
KHR-4353	3.53	15	30	70	4
KHR-4354	3.54	15	30	70	4
KHR-4355	3.55	15	30	70	4
KHR-4356	3.56	15	30	70	4
KHR-4357	3.57	15	30	70	4
KHR-4358	3.58	15	30	70	4
KHR-4359	3.59	15	30	70	4
KHR-4360	3.6	15	30	70	4
KHR-4361	3.61	15	30	70	4
KHR-4362	3.62	15	30	70	4
KHR-4363	3.63	15	30	70	4
KHR-4364	3.64	15	30	70	4
KHR-4365	3.65	15	30	70	4
KHR-4366	3.66	15	30	70	4
KHR-4367	3.67	15	30	70	4
KHR-4368	3.68	15	30	70	4
KHR-4369	3.69	15	30	70	4
KHR-4370	3.7	15	30	70	4
KHR-4371	3.71	15	30	70	4
KHR-4372	3.72	15	30	70	4
KHR-4373	3.73	15	30	70	4
KHR-4374	3.74	15	30	70	4
KHR-4375	3.75	15	30	70	4
KHR-4376	3.76	15	30	70	4
KHR-4377	3.77	15	30	70	4
KHR-4378	3.78	15	30	70	4
KHR-4379	3.79	15	30	70	4
KHR-4380	3.8	15	30	70	4
KHR-4381	3.81	15	30	70	4
KHR-4382	3.82	15	30	70	4
KHR-4383	3.83	15	30	70	4
KHR-4384	3.84	15	30	70	4
KHR-4385	3.85	15	30	70	4
KHR-4386	3.86	15	30	70	4
KHR-4387	3.87	15	30	70	4
KHR-4388	3.88	15	30	70	4
KHR-4389	3.89	15	30	70	4
KHR-4390	3.9	15	30	70	4
KHR-4391	3.91	20	35	70	4
KHR-4392	3.92	20	35	70	4
KHR-4393	3.93	20	35	70	4
KHR-4394	3.94	20	35	70	4
KHR-4395	3.95	20	35	70	4
KHR-4396	3.96	20	35	70	4
KHR-4397	3.97	20	35	70	4

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品番 Code No.	刃径 D Flute Diameter	刃長 ℓ Flute Length	有効長 ℓ1 Effective Length	全長 L Total Length	柄径 d Shank Diameter
KHR-4398	3.98	20	35	70	4
KHR-4399	3.99	20	35	70	4
KHR-4400	4	20	35	70	4
KHR-4401	4.01	20	35	70	4
KHR-4402	4.02	20	35	70	4
KHR-4403	4.03	20	35	70	4
KHR-4404	4.04	20	35	70	4
KHR-4405	4.05	20	35	70	4
KHR-4406	4.06	20	35	70	4
KHR-4407	4.07	20	35	70	4
KHR-4408	4.08	20	35	70	4
KHR-4409	4.09	20	35	70	4
KHR-4410	4.1	20	35	80	6
KHR-4411	4.11	20	35	80	6
KHR-4412	4.12	20	35	80	6
KHR-4413	4.13	20	35	80	6
KHR-4414	4.14	20	35	80	6
KHR-4415	4.15	20	35	80	6
KHR-4416	4.16	20	35	80	6
KHR-4417	4.17	20	35	80	6
KHR-4418	4.18	20	35	80	6
KHR-4419	4.19	20	35	80	6
KHR-4420	4.2	20	35	80	6
KHR-4421	4.21	20	35	80	6
KHR-4422	4.22	20	35	80	6
KHR-4423	4.23	20	35	80	6
KHR-4424	4.24	20	35	80	6
KHR-4425	4.25	20	35	80	6
KHR-4426	4.26	20	35	80	6
KHR-4427	4.27	20	35	80	6
KHR-4428	4.28	20	35	80	6
KHR-4429	4.29	20	35	80	6
KHR-4430	4.3	20	35	80	6
KHR-4431	4.31	20	35	80	6
KHR-4432	4.32	20	35	80	6
KHR-4433	4.33	20	35	80	6
KHR-4434	4.34	20	35	80	6
KHR-4435	4.35	20	35	80	6
KHR-4436	4.36	20	35	80	6
KHR-4437	4.37	20	35	80	6
KHR-4438	4.38	20	35	80	6
KHR-4439	4.39	20	35	80	6
KHR-4440	4.4	20	35	80	6
KHR-4441	4.41	20	35	80	6
KHR-4442	4.42	20	35	80	6
KHR-4443	4.43	20	35	80	6
KHR-4444	4.44	20	35	80	6
KHR-4445	4.45	20	35	80	6

品番 Code No.	刃径 D Flute Diameter	刃長 ℓ Flute Length	有効長 ℓ1 Effective Length	全長 L Total Length	柄径 d Shank Diameter
KHR-4446	4.46	20	35	80	6
KHR-4447	4.47	20	35	80	6
KHR-4448	4.48	20	35	80	6
KHR-4449	4.49	20	35	80	6
KHR-4450	4.5	20	35	80	6
KHR-4451	4.51	20	35	80	6
KHR-4452	4.52	20	35	80	6
KHR-4453	4.53	20	35	80	6
KHR-4454	4.54	20	35	80	6
KHR-4455	4.55	20	35	80	6
KHR-4456	4.56	20	35	80	6
KHR-4457	4.57	20	35	80	6
KHR-4458	4.58	20	35	80	6
KHR-4459	4.59	20	35	80	6
KHR-4460	4.6	20	35	80	6
KHR-4461	4.61	20	35	80	6
KHR-4462	4.62	20	35	80	6
KHR-4463	4.63	20	35	80	6
KHR-4464	4.64	20	35	80	6
KHR-4465	4.65	20	35	80	6
KHR-4466	4.66	20	35	80	6
KHR-4467	4.67	20	35	80	6
KHR-4468	4.68	20	35	80	6
KHR-4469	4.69	20	35	80	6
KHR-4470	4.7	20	35	80	6
KHR-4471	4.71	20	35	80	6
KHR-4472	4.72	20	35	80	6
KHR-4473	4.73	20	35	80	6
KHR-4474	4.74	20	35	80	6
KHR-4475	4.75	20	35	80	6
KHR-4476	4.76	20	35	80	6
KHR-4477	4.77	20	35	80	6
KHR-4478	4.78	20	35	80	6
KHR-4479	4.79	20	35	80	6
KHR-4480	4.8	20	35	80	6
KHR-4481	4.81	20	35	80	6
KHR-4482	4.82	20	35	80	6
KHR-4483	4.83	20	35	80	6
KHR-4484	4.84	20	35	80	6
KHR-4485	4.85	20	35	80	6
KHR-4486	4.86	20	35	80	6
KHR-4487	4.87	20	35	80	6
KHR-4488	4.88	20	35	80	6
KHR-4489	4.89	20	35	80	6
KHR-4490	4.9	20	35	80	6
KHR-4491	4.91	24	40	80	6
KHR-4492	4.92	24	40	80	6
KHR-4493	4.93	24	40	80	6

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品番 Code No.	刃径 D Flute Diameter	刃長 ℓ Flute Length	有効長 ℓ1 Effective Length	全長 L Total Length	柄径 d Shank Diameter
KHR-4494	4.94	24	40	80	6
KHR-4495	4.95	24	40	80	6
KHR-4496	4.96	24	40	80	6
KHR-4497	4.97	24	40	80	6
KHR-4498	4.98	24	40	80	6
KHR-4499	4.99	24	40	80	6
KHR-4500	5	24	40	80	6
KHR-4501	5.01	24	40	80	6
KHR-4502	5.02	24	40	80	6
KHR-4503	5.03	24	40	80	6
KHR-4504	5.04	24	40	80	6
KHR-4505	5.05	24	40	80	6
KHR-4506	5.06	24	40	80	6
KHR-4507	5.07	24	40	80	6
KHR-4508	5.08	24	40	80	6
KHR-4509	5.09	24	40	80	6
KHR-4510	5.1	24	40	80	6
KHR-4511	5.11	24	40	80	6
KHR-4512	5.12	24	40	80	6
KHR-4513	5.13	24	40	80	6
KHR-4514	5.14	24	40	80	6
KHR-4515	5.15	24	40	80	6
KHR-4516	5.16	24	40	80	6
KHR-4517	5.17	24	40	80	6
KHR-4518	5.18	24	40	80	6
KHR-4519	5.19	24	40	80	6
KHR-4520	5.2	24	40	80	6
KHR-4521	5.21	24	40	80	6
KHR-4522	5.22	24	40	80	6
KHR-4523	5.23	24	40	80	6
KHR-4524	5.24	24	40	80	6
KHR-4525	5.25	24	40	80	6
KHR-4526	5.26	24	40	80	6
KHR-4527	5.27	24	40	80	6
KHR-4528	5.28	24	40	80	6
KHR-4529	5.29	24	40	80	6
KHR-4530	5.3	24	40	80	6
KHR-4531	5.31	24	40	80	6
KHR-4532	5.32	24	40	80	6
KHR-4533	5.33	24	40	80	6
KHR-4534	5.34	24	40	80	6
KHR-4535	5.35	24	40	80	6
KHR-4536	5.36	24	40	80	6
KHR-4537	5.37	24	40	80	6
KHR-4538	5.38	24	40	80	6
KHR-4539	5.39	24	40	80	6
KHR-4540	5.4	24	40	80	6
KHR-4541	5.41	24	40	80	6

品番 Code No.	刃径 D Flute Diameter	刃長 ℓ Flute Length	有効長 ℓ1 Effective Length	全長 L Total Length	柄径 d Shank Diameter
KHR-4542	5.42	24	40	80	6
KHR-4543	5.43	24	40	80	6
KHR-4544	5.44	24	40	80	6
KHR-4545	5.45	24	40	80	6
KHR-4546	5.46	24	40	80	6
KHR-4547	5.47	24	40	80	6
KHR-4548	5.48	24	40	80	6
KHR-4549	5.49	24	40	80	6
KHR-4550	5.5	24	40	80	6
KHR-4551	5.51	24	40	80	6
KHR-4552	5.52	24	40	80	6
KHR-4553	5.53	24	40	80	6
KHR-4554	5.54	24	40	80	6
KHR-4555	5.55	24	40	80	6
KHR-4556	5.56	24	40	80	6
KHR-4557	5.57	24	40	80	6
KHR-4558	5.58	24	40	80	6
KHR-4559	5.59	24	40	80	6
KHR-4560	5.6	24	40	80	6
KHR-4561	5.61	24	40	80	6
KHR-4562	5.62	24	40	80	6
KHR-4563	5.63	24	40	80	6
KHR-4564	5.64	24	40	80	6
KHR-4565	5.65	24	40	80	6
KHR-4566	5.66	24	40	80	6
KHR-4567	5.67	24	40	80	6
KHR-4568	5.68	24	40	80	6
KHR-4569	5.69	24	40	80	6
KHR-4570	5.7	24	40	80	6
KHR-4571	5.71	24	40	80	6
KHR-4572	5.72	24	40	80	6
KHR-4573	5.73	24	40	80	6
KHR-4574	5.74	24	40	80	6
KHR-4575	5.75	24	40	80	6
KHR-4576	5.76	24	40	80	6
KHR-4577	5.77	24	40	80	6
KHR-4578	5.78	24	40	80	6
KHR-4579	5.79	24	40	80	6
KHR-4580	5.8	24	40	80	6
KHR-4581	5.81	24	40	80	6
KHR-4582	5.82	24	40	80	6
KHR-4583	5.83	24	40	80	6
KHR-4584	5.84	24	40	80	6
KHR-4585	5.85	24	40	80	6
KHR-4586	5.86	24	40	80	6
KHR-4587	5.87	24	40	80	6
KHR-4588	5.88	24	40	80	6
KHR-4589	5.89	24	40	80	6

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品番 Code No.	刃径 D Flute Diameter	刃長 ℓ Flute Length	有効長 ℓ1 Effective Length	全長 L Total Length	柄径 d Shank Diameter
KHR-4590	5.9	24	40	80	6
KHR-4591	5.91	24	40	80	6
KHR-4592	5.92	24	40	80	6
KHR-4593	5.93	24	40	80	6
KHR-4594	5.94	24	40	80	6
KHR-4595	5.95	24	40	80	6
KHR-4596	5.96	24	40	80	6
KHR-4597	5.97	24	40	80	6
KHR-4598	5.98	24	40	80	6
KHR-4599	5.99	24	40	80	6
KHR-4600	6	24	40	80	6
KHR-4601	6.01	24	40	80	6
KHR-4602	6.02	24	40	80	6
KHR-4603	6.03	24	40	80	6
KHR-4604	6.04	24	40	80	6
KHR-4605	6.05	24	40	80	6
KHR-4610	6.1	25	45	100	8
KHR-4615	6.15	25	45	100	8
KHR-4620	6.2	25	45	100	8
KHR-4625	6.25	25	45	100	8
KHR-4630	6.3	25	45	100	8
KHR-4635	6.35	25	45	100	8
KHR-4640	6.4	25	45	100	8
KHR-4645	6.45	25	45	100	8
KHR-4650	6.5	25	45	100	8
KHR-4655	6.55	25	45	100	8
KHR-4660	6.6	25	45	100	8
KHR-4665	6.65	25	45	100	8
KHR-4670	6.7	25	45	100	8
KHR-4675	6.75	25	45	100	8
KHR-4680	6.8	25	45	100	8
KHR-4685	6.85	25	45	100	8
KHR-4690	6.9	25	45	100	8
KHR-4695	6.95	25	45	100	8
KHR-4696	6.96	25	45	100	8
KHR-4697	6.97	25	45	100	8
KHR-4698	6.98	25	45	100	8
KHR-4699	6.99	25	45	100	8
KHR-4700	7	25	45	100	8
KHR-4701	7.01	25	45	100	8
KHR-4702	7.02	25	45	100	8
KHR-4703	7.03	25	45	100	8
KHR-4704	7.04	25	45	100	8
KHR-4705	7.05	25	45	100	8
KHR-4710	7.1	25	45	100	8
KHR-4715	7.15	25	45	100	8
KHR-4720	7.2	25	45	100	8
KHR-4725	7.25	25	45	100	8

品番 Code No.	刃径 D Flute Diameter	刃長 ℓ Flute Length	有効長 ℓ1 Effective Length	全長 L Total Length	柄径 d Shank Diameter
KHR-4730	7.3	25	45	100	8
KHR-4735	7.35	25	45	100	8
KHR-4740	7.4	25	45	100	8
KHR-4745	7.45	25	45	100	8
KHR-4750	7.5	25	45	100	8
KHR-4755	7.55	25	45	100	8
KHR-4760	7.6	25	45	100	8
KHR-4765	7.65	25	45	100	8
KHR-4770	7.7	25	45	100	8
KHR-4775	7.75	25	45	100	8
KHR-4780	7.8	25	45	100	8
KHR-4785	7.85	25	45	100	8
KHR-4790	7.9	25	45	100	8
KHR-4795	7.95	25	45	100	8
KHR-4796	7.96	25	45	100	8
KHR-4797	7.97	25	45	100	8
KHR-4798	7.98	25	45	100	8
KHR-4799	7.99	25	45	100	8
KHR-4800	8	25	45	100	8
KHR-4801	8.01	25	45	100	8
KHR-4802	8.02	25	45	100	8
KHR-4803	8.03	25	45	100	8
KHR-4804	8.04	25	45	100	8
KHR-4805	8.05	25	45	100	8
KHR-4810	8.1	25	50	100	10
KHR-4815	8.15	25	50	100	10
KHR-4820	8.2	25	50	100	10
KHR-4825	8.25	25	50	100	10
KHR-4830	8.3	25	50	100	10
KHR-4835	8.35	25	50	100	10
KHR-4840	8.4	25	50	100	10
KHR-4845	8.45	25	50	100	10
KHR-4850	8.5	25	50	100	10
KHR-4855	8.55	25	50	100	10
KHR-4860	8.6	25	50	100	10
KHR-4865	8.65	25	50	100	10
KHR-4870	8.7	25	50	100	10
KHR-4875	8.75	25	50	100	10
KHR-4880	8.8	25	50	100	10
KHR-4885	8.85	25	50	100	10
KHR-4890	8.9	25	50	100	10
KHR-4895	8.95	25	50	100	10
KHR-4896	8.96	25	50	100	10
KHR-4897	8.97	25	50	100	10
KHR-4898	8.98	25	50	100	10
KHR-4899	8.99	25	50	100	10
KHR-4900	9	25	50	100	10
KHR-4901	9.01	25	50	100	10

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品番 Code No.	刃径 D Flute Diameter	刃長 ℓ Flute Length	有効長 ℓ1 Effective Length	全長 L Total Length	柄径 d Shank Diameter
KHR-4902	9.02	25	50	100	10
KHR-4903	9.03	25	50	100	10
KHR-4904	9.04	25	50	100	10
KHR-4905	9.05	25	50	100	10
KHR-4910	9.1	25	50	100	10
KHR-4915	9.15	25	50	100	10
KHR-4920	9.2	25	50	100	10
KHR-4925	9.25	25	50	100	10
KHR-4930	9.3	25	50	100	10
KHR-4935	9.35	25	50	100	10
KHR-4940	9.4	25	50	100	10
KHR-4945	9.45	25	50	100	10
KHR-4950	9.5	25	50	100	10
KHR-4955	9.55	25	50	100	10
KHR-4960	9.6	25	50	100	10
KHR-4965	9.65	25	50	100	10
KHR-4970	9.7	25	50	100	10
KHR-4975	9.75	25	50	100	10
KHR-4980	9.8	25	50	100	10
KHR-4985	9.85	25	50	100	10
KHR-4990	9.9	25	50	100	10
KHR-4995	9.95	25	50	100	10
KHR-4996	9.96	25	50	100	10
KHR-4997	9.97	25	50	100	10
KHR-4998	9.98	25	50	100	10
KHR-4999	9.99	25	50	100	10
KHR-41000	10	25	50	100	10
KHR-41001	10.01	25	50	100	10
KHR-41002	10.02	25	50	100	10
KHR-41003	10.03	25	50	100	10
KHR-41004	10.04	25	50	100	10
KHR-41005	10.05	25	50	100	10
KHR-41010	10.1	30	60	120	12
KHR-41015	10.15	30	60	120	12
KHR-41020	10.2	30	60	120	12
KHR-41025	10.25	30	60	120	12
KHR-41030	10.3	30	60	120	12
KHR-41035	10.35	30	60	120	12
KHR-41040	10.4	30	60	120	12
KHR-41045	10.45	30	60	120	12
KHR-41050	10.5	30	60	120	12
KHR-41055	10.55	30	60	120	12
KHR-41060	10.6	30	60	120	12
KHR-41065	10.65	30	60	120	12
KHR-41070	10.7	30	60	120	12
KHR-41075	10.75	30	60	120	12
KHR-41080	10.8	30	60	120	12
KHR-41085	10.85	30	60	120	12

[illegible]

KHRA-4

超硬底刃付リーマ・TiA ℓ Nコーティング付
Tungsten Carbide Reamer with Bottom Flute TiA ℓ N Coating

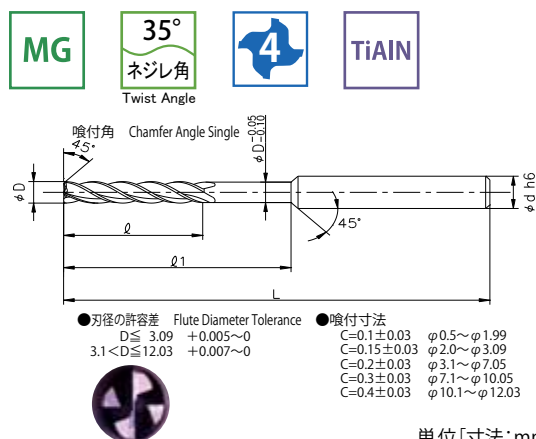
- 底刃が付いているので止まり穴の加工などに最適です
Best for stop hole processing due to having bottom flute
- TiA ℓ Nコーティングを施しました
TiAlN coating is applied



被削材 Workpiece					
一般構造鋼 General Structural Steel	炭素鋼 Carbon Steel	合金鋼・工具鋼 Alloy Steel Tool Steel	プリハードン鋼 Pre-Harden Steel	鋳鉄 Cast Iron	ステンレス鋼 Stainless Steel
◎	◎	◎	◎	◎	◎

- 切削条件表はP277に記載
- Cutting conditions are recommended on page 277.

品番 Code No.	刃径 D Flute Diameter	刃長 ℓ Flute Length	有効長 ℓ1 Effective Length	全長 L Total Length	柄径 d Shank Diameter
KHRA-4050	0.5	4	10	50	3
KHRA-4051	0.51	4	10	50	3
KHRA-4052	0.52	4	10	50	3
KHRA-4053	0.53	4	10	50	3
KHRA-4054	0.54	4	10	50	3
KHRA-4055	0.55	4	10	50	3
KHRA-4056	0.56	4	10	50	3
KHRA-4057	0.57	4	10	50	3
KHRA-4058	0.58	4	10	50	3
KHRA-4059	0.59	4	10	50	3
KHRA-4060	0.6	4	10	50	3
KHRA-4061	0.61	4	10	50	3
KHRA-4062	0.62	4	10	50	3
KHRA-4063	0.63	4	10	50	3
KHRA-4064	0.64	4	10	50	3
KHRA-4065	0.65	4	10	50	3
KHRA-4066	0.66	4	10	50	3
KHRA-4067	0.67	4	10	50	3
KHRA-4068	0.68	4	10	50	3
KHRA-4069	0.69	4	10	50	3
KHRA-4070	0.7	4	10	50	3
KHRA-4071	0.71	4	10	50	3
KHRA-4072	0.72	4	10	50	3
KHRA-4073	0.73	4	10	50	3
KHRA-4074	0.74	4	10	50	3
KHRA-4075	0.75	4	10	50	3
KHRA-4076	0.76	4	10	50	3
KHRA-4077	0.77	4	10	50	3
KHRA-4078	0.78	4	10	50	3
KHRA-4079	0.79	5	12	50	3



単位 [寸法: mm]
Unit [size: mm]

品番 Code No.	刃径 D Flute Diameter	刃長 ℓ Flute Length	有効長 ℓ1 Effective Length	全長 L Total Length	柄径 d Shank Diameter
KHRA-4080	0.8	5	12	50	3
KHRA-4081	0.81	5	12	50	3
KHRA-4082	0.82	5	12	50	3
KHRA-4083	0.83	5	12	50	3
KHRA-4084	0.84	5	12	50	3
KHRA-4085	0.85	5	12	50	3
KHRA-4086	0.86	5	12	50	3
KHRA-4087	0.87	5	12	50	3
KHRA-4088	0.88	5	12	50	3
KHRA-4089	0.89	5	12	50	3
KHRA-4090	0.9	5	12	50	3
KHRA-4091	0.91	5	12	50	3
KHRA-4092	0.92	5	12	50	3
KHRA-4093	0.93	5	12	50	3
KHRA-4094	0.94	5	12	50	3
KHRA-4095	0.95	5	12	50	3
KHRA-4096	0.96	5	12	50	3
KHRA-4097	0.97	5	12	50	3
KHRA-4098	0.98	5	12	50	3
KHRA-4099	0.99	5	12	50	3
KHRA-4100	1	6	15	60	3
KHRA-4101	1.01	6	15	60	3
KHRA-4102	1.02	6	15	60	3
KHRA-4103	1.03	6	15	60	3
KHRA-4104	1.04	6	15	60	3
KHRA-4105	1.05	6	15	60	3
KHRA-4106	1.06	6	15	60	3
KHRA-4107	1.07	6	15	60	3
KHRA-4108	1.08	6	15	60	3
KHRA-4109	1.09	6	15	60	3

超硬リーマ

Carbide Reamer

KHRA-4

品番 Code No.	刃径 D Flute Diameter	刃長 ℓ Flute Length	有効長 ℓ1 Effective Length	全長 L Total Length	柄径 d Shank Diameter
KHRA-4110	1.1	6	15	60	3
KHRA-4111	1.11	6	15	60	3
KHRA-4112	1.12	6	15	60	3
KHRA-4113	1.13	6	15	60	3
KHRA-4114	1.14	6	15	60	3
KHRA-4115	1.15	6	15	60	3
KHRA-4116	1.16	6	15	60	3
KHRA-4117	1.17	6	15	60	3
KHRA-4118	1.18	6	15	60	3
KHRA-4119	1.19	6	15	60	3
KHRA-4120	1.2	6	15	60	3
KHRA-4121	1.21	6	15	60	3
KHRA-4122	1.22	6	15	60	3
KHRA-4123	1.23	6	15	60	3
KHRA-4124	1.24	6	15	60	3
KHRA-4125	1.25	6	15	60	3
KHRA-4126	1.26	6	15	60	3
KHRA-4127	1.27	6	15	60	3
KHRA-4128	1.28	6	15	60	3
KHRA-4129	1.29	6	15	60	3
KHRA-4130	1.3	6	15	60	3
KHRA-4131	1.31	6	15	60	3
KHRA-4132	1.32	6	15	60	3
KHRA-4133	1.33	6	15	60	3
KHRA-4134	1.34	6	15	60	3
KHRA-4135	1.35	6	15	60	3
KHRA-4136	1.36	6	15	60	3
KHRA-4137	1.37	6	15	60	3
KHRA-4138	1.38	6	15	60	3
KHRA-4139	1.39	6	15	60	3
KHRA-4140	1.4	6	15	60	3
KHRA-4141	1.41	6	15	60	3
KHRA-4142	1.42	6	15	60	3
KHRA-4143	1.43	6	15	60	3
KHRA-4144	1.44	6	15	60	3
KHRA-4145	1.45	6	15	60	3
KHRA-4146	1.46	6	15	60	3
KHRA-4147	1.47	6	15	60	3
KHRA-4148	1.48	6	15	60	3
KHRA-4149	1.49	6	15	60	3
KHRA-4150	1.5	8	20	60	3
KHRA-4151	1.51	8	20	60	3
KHRA-4152	1.52	8	20	60	3
KHRA-4153	1.53	8	20	60	3
KHRA-4154	1.54	8	20	60	3
KHRA-4155	1.55	8	20	60	3
KHRA-4156	1.56	8	20	60	3
KHRA-4157	1.57	8	20	60	3

品番 Code No.	刃径 D Flute Diameter	刃長 ℓ Flute Length	有効長 ℓ1 Effective Length	全長 L Total Length	柄径 d Shank Diameter
KHRA-4158	1.58	8	20	60	3
KHRA-4159	1.59	8	20	60	3
KHRA-4160	1.6	8	20	60	3
KHRA-4161	1.61	8	20	60	3
KHRA-4162	1.62	8	20	60	3
KHRA-4163	1.63	8	20	60	3
KHRA-4164	1.64	8	20	60	3
KHRA-4165	1.65	8	20	60	3
KHRA-4166	1.66	8	20	60	3
KHRA-4167	1.67	8	20	60	3
KHRA-4168	1.68	8	20	60	3
KHRA-4169	1.69	8	20	60	3
KHRA-4170	1.7	8	20	60	3
KHRA-4171	1.71	8	20	60	3
KHRA-4172	1.72	8	20	60	3
KHRA-4173	1.73	8	20	60	3
KHRA-4174	1.74	8	20	60	3
KHRA-4175	1.75	8	20	60	3
KHRA-4176	1.76	8	20	60	3
KHRA-4177	1.77	8	20	60	3
KHRA-4178	1.78	8	20	60	3
KHRA-4179	1.79	8	20	60	3
KHRA-4180	1.8	8	20	60	3
KHRA-4181	1.81	8	20	60	3
KHRA-4182	1.82	8	20	60	3
KHRA-4183	1.83	8	20	60	3
KHRA-4184	1.84	8	20	60	3
KHRA-4185	1.85	8	20	60	3
KHRA-4186	1.86	8	20	60	3
KHRA-4187	1.87	8	20	60	3
KHRA-4188	1.88	8	20	60	3
KHRA-4189	1.89	8	20	60	3
KHRA-4190	1.9	8	20	60	3
KHRA-4191	1.91	10	24	60	3
KHRA-4192	1.92	10	24	60	3
KHRA-4193	1.93	10	24	60	3
KHRA-4194	1.94	10	24	60	3
KHRA-4195	1.95	10	24	60	3
KHRA-4196	1.96	10	24	60	3
KHRA-4197	1.97	10	24	60	3
KHRA-4198	1.98	10	24	60	3
KHRA-4199	1.99	10	24	60	3
KHRA-4200	2	10	24	60	3
KHRA-4201	2.01	10	24	60	3
KHRA-4202	2.02	10	24	60	3
KHRA-4203	2.03	10	24	60	3
KHRA-4204	2.04	10	24	60	3
KHRA-4205	2.05	10	24	60	3

KHRA-4

品番 Code No.	刃径 D Flute Diameter	刃長 ℓ Flute Length	有効長 ℓ1 Effective Length	全長 L Total Length	柄径 d Shank Diameter
KHRA-4206	2.06	10	24	60	3
KHRA-4207	2.07	10	24	60	3
KHRA-4208	2.08	10	24	60	3
KHRA-4209	2.09	10	24	60	3
KHRA-4210	2.1	10	24	60	3
KHRA-4211	2.11	10	24	60	3
KHRA-4212	2.12	10	24	60	3
KHRA-4213	2.13	10	24	60	3
KHRA-4214	2.14	10	24	60	3
KHRA-4215	2.15	10	24	60	3
KHRA-4216	2.16	10	24	60	3
KHRA-4217	2.17	10	24	60	3
KHRA-4218	2.18	10	24	60	3
KHRA-4219	2.19	10	24	60	3
KHRA-4220	2.2	10	24	60	3
KHRA-4221	2.21	10	24	60	3
KHRA-4222	2.22	10	24	60	3
KHRA-4223	2.23	10	24	60	3
KHRA-4224	2.24	10	24	60	3
KHRA-4225	2.25	10	24	60	3
KHRA-4226	2.26	10	24	60	3
KHRA-4227	2.27	10	24	60	3
KHRA-4228	2.28	10	24	60	3
KHRA-4229	2.29	10	24	60	3
KHRA-4230	2.3	10	24	60	3
KHRA-4231	2.31	10	24	60	3
KHRA-4232	2.32	10	24	60	3
KHRA-4233	2.33	10	24	60	3
KHRA-4234	2.34	10	24	60	3
KHRA-4235	2.35	10	24	60	3
KHRA-4236	2.36	10	24	60	3
KHRA-4237	2.37	10	24	60	3
KHRA-4238	2.38	10	24	60	3
KHRA-4239	2.39	10	24	60	3
KHRA-4240	2.4	10	24	60	3
KHRA-4241	2.41	10	24	60	3
KHRA-4242	2.42	10	24	60	3
KHRA-4243	2.43	10	24	60	3
KHRA-4244	2.44	10	24	60	3
KHRA-4245	2.45	10	24	60	3
KHRA-4246	2.46	10	24	60	3
KHRA-4247	2.47	10	24	60	3
KHRA-4248	2.48	10	24	60	3
KHRA-4249	2.49	10	24	60	3
KHRA-4250	2.5	10	24	60	3
KHRA-4251	2.51	10	24	60	3
KHRA-4252	2.52	10	24	60	3
KHRA-4253	2.53	10	24	60	3

品番 Code No.	刃径 D Flute Diameter	刃長 ℓ Flute Length	有効長 ℓ1 Effective Length	全長 L Total Length	柄径 d Shank Diameter
KHRA-4254	2.54	10	24	60	3
KHRA-4255	2.55	10	24	60	3
KHRA-4256	2.56	10	24	60	3
KHRA-4257	2.57	10	24	60	3
KHRA-4258	2.58	10	24	60	3
KHRA-4259	2.59	10	24	60	3
KHRA-4260	2.6	10	24	60	3
KHRA-4261	2.61	10	24	60	3
KHRA-4262	2.62	10	24	60	3
KHRA-4263	2.63	10	24	60	3
KHRA-4264	2.64	10	24	60	3
KHRA-4265	2.65	10	24	60	3
KHRA-4266	2.66	10	24	60	3
KHRA-4267	2.67	10	24	60	3
KHRA-4268	2.68	10	24	60	3
KHRA-4269	2.69	10	24	60	3
KHRA-4270	2.7	10	24	60	3
KHRA-4271	2.71	10	24	60	3
KHRA-4272	2.72	10	24	60	3
KHRA-4273	2.73	10	24	60	3
KHRA-4274	2.74	10	24	60	3
KHRA-4275	2.75	10	24	60	3
KHRA-4276	2.76	10	24	60	3
KHRA-4277	2.77	10	24	60	3
KHRA-4278	2.78	10	24	60	3
KHRA-4279	2.79	10	24	60	3
KHRA-4280	2.8	10	24	60	3
KHRA-4281	2.81	10	24	60	3
KHRA-4282	2.82	10	24	60	3
KHRA-4283	2.83	10	24	60	3
KHRA-4284	2.84	10	24	60	3
KHRA-4285	2.85	10	24	60	3
KHRA-4286	2.86	10	24	60	3
KHRA-4287	2.87	10	24	60	3
KHRA-4288	2.88	10	24	60	3
KHRA-4289	2.89	10	24	60	3
KHRA-4290	2.9	10	24	60	3
KHRA-4291	2.91	15	30	60	3
KHRA-4292	2.92	15	30	60	3
KHRA-4293	2.93	15	30	60	3
KHRA-4294	2.94	15	30	60	3
KHRA-4295	2.95	15	30	60	3
KHRA-4296	2.96	15	30	60	3
KHRA-4297	2.97	15	30	60	3
KHRA-4298	2.98	15	30	60	3
KHRA-4299	2.99	15	30	60	3
KHRA-4300	3	15	30	60	3
KHRA-4301	3.01	15	30	60	3

KHRA-4

品番 Code No.	刃径 D Flute Diameter	刃長 ℓ Flute Length	有効長 ℓ1 Effective Length	全長 L Total Length	柄径 d Shank Diameter
KHRA-4302	3.02	15	30	60	3
KHRA-4303	3.03	15	30	60	3
KHRA-4304	3.04	15	30	60	3
KHRA-4305	3.05	15	30	60	3
KHRA-4306	3.06	15	30	60	3
KHRA-4307	3.07	15	30	60	3
KHRA-4308	3.08	15	30	60	3
KHRA-4309	3.09	15	30	60	3
KHRA-4310	3.1	15	30	70	4
KHRA-4311	3.11	15	30	70	4
KHRA-4312	3.12	15	30	70	4
KHRA-4313	3.13	15	30	70	4
KHRA-4314	3.14	15	30	70	4
KHRA-4315	3.15	15	30	70	4
KHRA-4316	3.16	15	30	70	4
KHRA-4317	3.17	15	30	70	4
KHRA-4318	3.18	15	30	70	4
KHRA-4319	3.19	15	30	70	4
KHRA-4320	3.2	15	30	70	4
KHRA-4321	3.21	15	30	70	4
KHRA-4322	3.22	15	30	70	4
KHRA-4323	3.23	15	30	70	4
KHRA-4324	3.24	15	30	70	4
KHRA-4325	3.25	15	30	70	4
KHRA-4326	3.26	15	30	70	4
KHRA-4327	3.27	15	30	70	4
KHRA-4328	3.28	15	30	70	4
KHRA-4329	3.29	15	30	70	4
KHRA-4330	3.3	15	30	70	4
KHRA-4331	3.31	15	30	70	4
KHRA-4332	3.32	15	30	70	4
KHRA-4333	3.33	15	30	70	4
KHRA-4334	3.34	15	30	70	4
KHRA-4335	3.35	15	30	70	4
KHRA-4336	3.36	15	30	70	4
KHRA-4337	3.37	15	30	70	4
KHRA-4338	3.38	15	30	70	4
KHRA-4339	3.39	15	30	70	4
KHRA-4340	3.4	15	30	70	4
KHRA-4341	3.41	15	30	70	4
KHRA-4342	3.42	15	30	70	4
KHRA-4343	3.43	15	30	70	4
KHRA-4344	3.44	15	30	70	4
KHRA-4345	3.45	15	30	70	4
KHRA-4346	3.46	15	30	70	4
KHRA-4347	3.47	15	30	70	4
KHRA-4348	3.48	15	30	70	4
KHRA-4349	3.49	15	30	70	4

品番 Code No.	刃径 D Flute Diameter	刃長 ℓ Flute Length	有効長 ℓ1 Effective Length	全長 L Total Length	柄径 d Shank Diameter
KHRA-4350	3.5	15	30	70	4
KHRA-4351	3.51	15	30	70	4
KHRA-4352	3.52	15	30	70	4
KHRA-4353	3.53	15	30	70	4
KHRA-4354	3.54	15	30	70	4
KHRA-4355	3.55	15	30	70	4
KHRA-4356	3.56	15	30	70	4
KHRA-4357	3.57	15	30	70	4
KHRA-4358	3.58	15	30	70	4
KHRA-4359	3.59	15	30	70	4
KHRA-4360	3.6	15	30	70	4
KHRA-4361	3.61	15	30	70	4
KHRA-4362	3.62	15	30	70	4
KHRA-4363	3.63	15	30	70	4
KHRA-4364	3.64	15	30	70	4
KHRA-4365	3.65	15	30	70	4
KHRA-4366	3.66	15	30	70	4
KHRA-4367	3.67	15	30	70	4
KHRA-4368	3.68	15	30	70	4
KHRA-4369	3.69	15	30	70	4
KHRA-4370	3.7	15	30	70	4
KHRA-4371	3.71	15	30	70	4
KHRA-4372	3.72	15	30	70	4
KHRA-4373	3.73	15	30	70	4
KHRA-4374	3.74	15	30	70	4
KHRA-4375	3.75	15	30	70	4
KHRA-4376	3.76	15	30	70	4
KHRA-4377	3.77	15	30	70	4
KHRA-4378	3.78	15	30	70	4
KHRA-4379	3.79	15	30	70	4
KHRA-4380	3.8	15	30	70	4
KHRA-4381	3.81	15	30	70	4
KHRA-4382	3.82	15	30	70	4
KHRA-4383	3.83	15	30	70	4
KHRA-4384	3.84	15	30	70	4
KHRA-4385	3.85	15	30	70	4
KHRA-4386	3.86	15	30	70	4
KHRA-4387	3.87	15	30	70	4
KHRA-4388	3.88	15	30	70	4
KHRA-4389	3.89	15	30	70	4
KHRA-4390	3.9	15	30	70	4
KHRA-4391	3.91	20	35	70	4
KHRA-4392	3.92	20	35	70	4
KHRA-4393	3.93	20	35	70	4
KHRA-4394	3.94	20	35	70	4
KHRA-4395	3.95	20	35	70	4
KHRA-4396	3.96	20	35	70	4
KHRA-4397	3.97	20	35	70	4

KHRA-4

品番 Code No.	刃径 D Flute Diameter	刃長 ℓ Flute Length	有効長 ℓ1 Effective Length	全長 L Total Length	柄径 d Shank Diameter
KHRA-4398	3.98	20	35	70	4
KHRA-4399	3.99	20	35	70	4
KHRA-4400	4	20	35	70	4
KHRA-4401	4.01	20	35	70	4
KHRA-4402	4.02	20	35	70	4
KHRA-4403	4.03	20	35	70	4
KHRA-4404	4.04	20	35	70	4
KHRA-4405	4.05	20	35	70	4
KHRA-4406	4.06	20	35	70	4
KHRA-4407	4.07	20	35	70	4
KHRA-4408	4.08	20	35	70	4
KHRA-4409	4.09	20	35	70	4
KHRA-4410	4.1	20	35	80	6
KHRA-4411	4.11	20	35	80	6
KHRA-4412	4.12	20	35	80	6
KHRA-4413	4.13	20	35	80	6
KHRA-4414	4.14	20	35	80	6
KHRA-4415	4.15	20	35	80	6
KHRA-4416	4.16	20	35	80	6
KHRA-4417	4.17	20	35	80	6
KHRA-4418	4.18	20	35	80	6
KHRA-4419	4.19	20	35	80	6
KHRA-4420	4.2	20	35	80	6
KHRA-4421	4.21	20	35	80	6
KHRA-4422	4.22	20	35	80	6
KHRA-4423	4.23	20	35	80	6
KHRA-4424	4.24	20	35	80	6
KHRA-4425	4.25	20	35	80	6
KHRA-4426	4.26	20	35	80	6
KHRA-4427	4.27	20	35	80	6
KHRA-4428	4.28	20	35	80	6
KHRA-4429	4.29	20	35	80	6
KHRA-4430	4.3	20	35	80	6
KHRA-4431	4.31	20	35	80	6
KHRA-4432	4.32	20	35	80	6
KHRA-4433	4.33	20	35	80	6
KHRA-4434	4.34	20	35	80	6
KHRA-4435	4.35	20	35	80	6
KHRA-4436	4.36	20	35	80	6
KHRA-4437	4.37	20	35	80	6
KHRA-4438	4.38	20	35	80	6
KHRA-4439	4.39	20	35	80	6
KHRA-4440	4.4	20	35	80	6
KHRA-4441	4.41	20	35	80	6
KHRA-4442	4.42	20	35	80	6
KHRA-4443	4.43	20	35	80	6
KHRA-4444	4.44	20	35	80	6
KHRA-4445	4.45	20	35	80	6

品番 Code No.	刃径 D Flute Diameter	刃長 ℓ Flute Length	有効長 ℓ1 Effective Length	全長 L Total Length	柄径 d Shank Diameter
KHRA-4446	4.46	20	35	80	6
KHRA-4447	4.47	20	35	80	6
KHRA-4448	4.48	20	35	80	6
KHRA-4449	4.49	20	35	80	6
KHRA-4450	4.5	20	35	80	6
KHRA-4451	4.51	20	35	80	6
KHRA-4452	4.52	20	35	80	6
KHRA-4453	4.53	20	35	80	6
KHRA-4454	4.54	20	35	80	6
KHRA-4455	4.55	20	35	80	6
KHRA-4456	4.56	20	35	80	6
KHRA-4457	4.57	20	35	80	6
KHRA-4458	4.58	20	35	80	6
KHRA-4459	4.59	20	35	80	6
KHRA-4460	4.6	20	35	80	6
KHRA-4461	4.61	20	35	80	6
KHRA-4462	4.62	20	35	80	6
KHRA-4463	4.63	20	35	80	6
KHRA-4464	4.64	20	35	80	6
KHRA-4465	4.65	20	35	80	6
KHRA-4466	4.66	20	35	80	6
KHRA-4467	4.67	20	35	80	6
KHRA-4468	4.68	20	35	80	6
KHRA-4469	4.69	20	35	80	6
KHRA-4470	4.7	20	35	80	6
KHRA-4471	4.71	20	35	80	6
KHRA-4472	4.72	20	35	80	6
KHRA-4473	4.73	20	35	80	6
KHRA-4474	4.74	20	35	80	6
KHRA-4475	4.75	20	35	80	6
KHRA-4476	4.76	20	35	80	6
KHRA-4477	4.77	20	35	80	6
KHRA-4478	4.78	20	35	80	6
KHRA-4479	4.79	20	35	80	6
KHRA-4480	4.8	20	35	80	6
KHRA-4481	4.81	20	35	80	6
KHRA-4482	4.82	20	35	80	6
KHRA-4483	4.83	20	35	80	6
KHRA-4484	4.84	20	35	80	6
KHRA-4485	4.85	20	35	80	6
KHRA-4486	4.86	20	35	80	6
KHRA-4487	4.87	20	35	80	6
KHRA-4488	4.88	20	35	80	6
KHRA-4489	4.89	20	35	80	6
KHRA-4490	4.9	20	35	80	6
KHRA-4491	4.91	24	40	80	6
KHRA-4492	4.92	24	40	80	6
KHRA-4493	4.93	24	40	80	6

KHRA-4

品番 Code No.	刃径 D Flute Diameter	刃長 ℓ Flute Length	有効長 ℓ ₁ Effective Length	全長 L Total Length	柄径 d Shank Diameter
KHRA-4494	4.94	24	40	80	6
KHRA-4495	4.95	24	40	80	6
KHRA-4496	4.96	24	40	80	6
KHRA-4497	4.97	24	40	80	6
KHRA-4498	4.98	24	40	80	6
KHRA-4499	4.99	24	40	80	6
KHRA-4500	5	24	40	80	6
KHRA-4501	5.01	24	40	80	6
KHRA-4502	5.02	24	40	80	6
KHRA-4503	5.03	24	40	80	6
KHRA-4504	5.04	24	40	80	6
KHRA-4505	5.05	24	40	80	6
KHRA-4506	5.06	24	40	80	6
KHRA-4507	5.07	24	40	80	6
KHRA-4508	5.08	24	40	80	6
KHRA-4509	5.09	24	40	80	6
KHRA-4510	5.1	24	40	80	6
KHRA-4511	5.11	24	40	80	6
KHRA-4512	5.12	24	40	80	6
KHRA-4513	5.13	24	40	80	6
KHRA-4514	5.14	24	40	80	6
KHRA-4515	5.15	24	40	80	6
KHRA-4516	5.16	24	40	80	6
KHRA-4517	5.17	24	40	80	6
KHRA-4518	5.18	24	40	80	6
KHRA-4519	5.19	24	40	80	6
KHRA-4520	5.2	24	40	80	6
KHRA-4521	5.21	24	40	80	6
KHRA-4522	5.22	24	40	80	6
KHRA-4523	5.23	24	40	80	6
KHRA-4524	5.24	24	40	80	6
KHRA-4525	5.25	24	40	80	6
KHRA-4526	5.26	24	40	80	6
KHRA-4527	5.27	24	40	80	6
KHRA-4528	5.28	24	40	80	6
KHRA-4529	5.29	24	40	80	6
KHRA-4530	5.3	24	40	80	6
KHRA-4531	5.31	24	40	80	6
KHRA-4532	5.32	24	40	80	6
KHRA-4533	5.33	24	40	80	6
KHRA-4534	5.34	24	40	80	6
KHRA-4535	5.35	24	40	80	6
KHRA-4536	5.36	24	40	80	6
KHRA-4537	5.37	24	40	80	6
KHRA-4538	5.38	24	40	80	6
KHRA-4539	5.39	24	40	80	6
KHRA-4540	5.4	24	40	80	6
KHRA-4541	5.41	24	40	80	6

品番 Code No.	刃径 D Flute Diameter	刃長 ℓ Flute Length	有効長 ℓ ₁ Effective Length	全長 L Total Length	柄径 d Shank Diameter
KHRA-4542	5.42	24	40	80	6
KHRA-4543	5.43	24	40	80	6
KHRA-4544	5.44	24	40	80	6
KHRA-4545	5.45	24	40	80	6
KHRA-4546	5.46	24	40	80	6
KHRA-4547	5.47	24	40	80	6
KHRA-4548	5.48	24	40	80	6
KHRA-4549	5.49	24	40	80	6
KHRA-4550	5.5	24	40	80	6
KHRA-4551	5.51	24	40	80	6
KHRA-4552	5.52	24	40	80	6
KHRA-4553	5.53	24	40	80	6
KHRA-4554	5.54	24	40	80	6
KHRA-4555	5.55	24	40	80	6
KHRA-4556	5.56	24	40	80	6
KHRA-4557	5.57	24	40	80	6
KHRA-4558	5.58	24	40	80	6
KHRA-4559	5.59	24	40	80	6
KHRA-4560	5.6	24	40	80	6
KHRA-4561	5.61	24	40	80	6
KHRA-4562	5.62	24	40	80	6
KHRA-4563	5.63	24	40	80	6
KHRA-4564	5.64	24	40	80	6
KHRA-4565	5.65	24	40	80	6
KHRA-4566	5.66	24	40	80	6
KHRA-4567	5.67	24	40	80	6
KHRA-4568	5.68	24	40	80	6
KHRA-4569	5.69	24	40	80	6
KHRA-4570	5.7	24	40	80	6
KHRA-4571	5.71	24	40	80	6
KHRA-4572	5.72	24	40	80	6
KHRA-4573	5.73	24	40	80	6
KHRA-4574	5.74	24	40	80	6
KHRA-4575	5.75	24	40	80	6
KHRA-4576	5.76	24	40	80	6
KHRA-4577	5.77	24	40	80	6
KHRA-4578	5.78	24	40	80	6
KHRA-4579	5.79	24	40	80	6
KHRA-4580	5.8	24	40	80	6
KHRA-4581	5.81	24	40	80	6
KHRA-4582	5.82	24	40	80	6
KHRA-4583	5.83	24	40	80	6
KHRA-4584	5.84	24	40	80	6
KHRA-4585	5.85	24	40	80	6
KHRA-4586	5.86	24	40	80	6
KHRA-4587	5.87	24	40	80	6
KHRA-4588	5.88	24	40	80	6
KHRA-4589	5.89	24	40	80	6

KHRA-4

品番 Code No.	刃径 D Flute Diameter	刃長 ℓ Flute Length	有効長 ℓ1 Effective Length	全長 L Total Length	柄径 d Shank Diameter
KHRA-4590	5.9	24	40	80	6
KHRA-4591	5.91	24	40	80	6
KHRA-4592	5.92	24	40	80	6
KHRA-4593	5.93	24	40	80	6
KHRA-4594	5.94	24	40	80	6
KHRA-4595	5.95	24	40	80	6
KHRA-4596	5.96	24	40	80	6
KHRA-4597	5.97	24	40	80	6
KHRA-4598	5.98	24	40	80	6
KHRA-4599	5.99	24	40	80	6
KHRA-4600	6	24	40	80	6
KHRA-4601	6.01	24	40	80	6
KHRA-4602	6.02	24	40	80	6
KHRA-4603	6.03	24	40	80	6
KHRA-4604	6.04	24	40	80	6
KHRA-4605	6.05	24	40	80	6
KHRA-4610	6.1	25	45	100	8
KHRA-4615	6.15	25	45	100	8
KHRA-4620	6.2	25	45	100	8
KHRA-4625	6.25	25	45	100	8
KHRA-4630	6.3	25	45	100	8
KHRA-4635	6.35	25	45	100	8
KHRA-4640	6.4	25	45	100	8
KHRA-4645	6.45	25	45	100	8
KHRA-4650	6.5	25	45	100	8
KHRA-4655	6.55	25	45	100	8
KHRA-4660	6.6	25	45	100	8
KHRA-4665	6.65	25	45	100	8
KHRA-4670	6.7	25	45	100	8
KHRA-4675	6.75	25	45	100	8
KHRA-4680	6.8	25	45	100	8
KHRA-4685	6.85	25	45	100	8
KHRA-4690	6.9	25	45	100	8
KHRA-4695	6.95	25	45	100	8
KHRA-4696	6.96	25	45	100	8
KHRA-4697	6.97	25	45	100	8
KHRA-4698	6.98	25	45	100	8
KHRA-4699	6.99	25	45	100	8
KHRA-4700	7	25	45	100	8
KHRA-4701	7.01	25	45	100	8
KHRA-4702	7.02	25	45	100	8
KHRA-4703	7.03	25	45	100	8
KHRA-4704	7.04	25	45	100	8
KHRA-4705	7.05	25	45	100	8
KHRA-4710	7.1	25	45	100	8
KHRA-4715	7.15	25	45	100	8
KHRA-4720	7.2	25	45	100	8
KHRA-4725	7.25	25	45	100	8

品番 Code No.	刃径 D Flute Diameter	刃長 ℓ Flute Length	有効長 ℓ1 Effective Length	全長 L Total Length	柄径 d Shank Diameter
KHRA-4730	7.3	25	45	100	8
KHRA-4735	7.35	25	45	100	8
KHRA-4740	7.4	25	45	100	8
KHRA-4745	7.45	25	45	100	8
KHRA-4750	7.5	25	45	100	8
KHRA-4755	7.55	25	45	100	8
KHRA-4760	7.6	25	45	100	8
KHRA-4765	7.65	25	45	100	8
KHRA-4770	7.7	25	45	100	8
KHRA-4775	7.75	25	45	100	8
KHRA-4780	7.8	25	45	100	8
KHRA-4785	7.85	25	45	100	8
KHRA-4790	7.9	25	45	100	8
KHRA-4795	7.95	25	45	100	8
KHRA-4796	7.96	25	45	100	8
KHRA-4797	7.97	25	45	100	8
KHRA-4798	7.98	25	45	100	8
KHRA-4799	7.99	25	45	100	8
KHRA-4800	8	25	45	100	8
KHRA-4801	8.01	25	45	100	8
KHRA-4802	8.02	25	45	100	8
KHRA-4803	8.03	25	45	100	8
KHRA-4804	8.04	25	45	100	8
KHRA-4805	8.05	25	45	100	8
KHRA-4810	8.1	25	50	100	10
KHRA-4815	8.15	25	50	100	10
KHRA-4820	8.2	25	50	100	10
KHRA-4825	8.25	25	50	100	10
KHRA-4830	8.3	25	50	100	10
KHRA-4835	8.35	25	50	100	10
KHRA-4840	8.4	25	50	100	10
KHRA-4845	8.45	25	50	100	10
KHRA-4850	8.5	25	50	100	10
KHRA-4855	8.55	25	50	100	10
KHRA-4860	8.6	25	50	100	10
KHRA-4865	8.65	25	50	100	10
KHRA-4870	8.7	25	50	100	10
KHRA-4875	8.75	25	50	100	10
KHRA-4880	8.8	25	50	100	10
KHRA-4885	8.85	25	50	100	10
KHRA-4890	8.9	25	50	100	10
KHRA-4895	8.95	25	50	100	10
KHRA-4896	8.96	25	50	100	10
KHRA-4897	8.97	25	50	100	10
KHRA-4898	8.98	25	50	100	10
KHRA-4899	8.99	25	50	100	10
KHRA-4900	9	25	50	100	10
KHRA-4901	9.01	25	50	100	10

KHRA-4

品番 Code No.	刃径 D Flute Diameter	刃長 ℓ Flute Length	有効長 ℓ1 Effective Length	全長 L Total Length	柄径 d Shank Diameter
KHRA-4902	9.02	25	50	100	10
KHRA-4903	9.03	25	50	100	10
KHRA-4904	9.04	25	50	100	10
KHRA-4905	9.05	25	50	100	10
KHRA-4910	9.1	25	50	100	10
KHRA-4915	9.15	25	50	100	10
KHRA-4920	9.2	25	50	100	10
KHRA-4925	9.25	25	50	100	10
KHRA-4930	9.3	25	50	100	10
KHRA-4935	9.35	25	50	100	10
KHRA-4940	9.4	25	50	100	10
KHRA-4945	9.45	25	50	100	10
KHRA-4950	9.5	25	50	100	10
KHRA-4955	9.55	25	50	100	10
KHRA-4960	9.6	25	50	100	10
KHRA-4965	9.65	25	50	100	10
KHRA-4970	9.7	25	50	100	10
KHRA-4975	9.75	25	50	100	10
KHRA-4980	9.8	25	50	100	10
KHRA-4985	9.85	25	50	100	10
KHRA-4990	9.9	25	50	100	10
KHRA-4995	9.95	25	50	100	10
KHRA-4996	9.96	25	50	100	10
KHRA-4997	9.97	25	50	100	10
KHRA-4998	9.98	25	50	100	10
KHRA-4999	9.99	25	50	100	10
KHRA-41000	10	25	50	100	10
KHRA-41001	10.01	25	50	100	10
KHRA-41002	10.02	25	50	100	10
KHRA-41003	10.03	25	50	100	10
KHRA-41004	10.04	25	50	100	10
KHRA-41005	10.05	25	50	100	10
KHRA-41010	10.1	30	60	120	12
KHRA-41015	10.15	30	60	120	12
KHRA-41020	10.2	30	60	120	12
KHRA-41025	10.25	30	60	120	12
KHRA-41030	10.3	30	60	120	12
KHRA-41035	10.35	30	60	120	12
KHRA-41040	10.4	30	60	120	12
KHRA-41045	10.45	30	60	120	12
KHRA-41050	10.5	30	60	120	12
KHRA-41055	10.55	30	60	120	12
KHRA-41060	10.6	30	60	120	12
KHRA-41065	10.65	30	60	120	12
KHRA-41070	10.7	30	60	120	12
KHRA-41075	10.75	30	60	120	12
KHRA-41080	10.8	30	60	120	12
KHRA-41085	10.85	30	60	120	12

[illegible]

KHR-DLC

超硬底刃付リーマ・DLCコーティング付
Tungsten Carbide Reamer with Bottom Flute DLC Coating

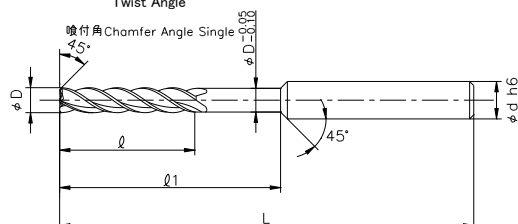
- 底刃が付いているので止まり穴の加工などに最適です
Best for stop hole processing due to having bottom flute
- DLCコーティングを施しました
DLCcoating is applied.



被削材 Workpiece		
銅合金 COPPer Alloy	アルミ合金 Aluminum Alloy	樹脂 Resin

- 切削条件表はP277に記載
- Cutting conditions are recommended on page 277.

品番 Code No.	刃径 D Flute Diameter	刃長 ℓ Flute Length	有効長 ℓ1 Effective Length	全長 L Total Length	柄径 d Shank Diameter
KHR-DLC-4095	0.95	5	12	50	3
KHR-DLC-4096	0.96	5	12	50	3
KHR-DLC-4097	0.97	5	12	50	3
KHR-DLC-4098	0.98	5	12	50	3
KHR-DLC-4099	0.99	5	12	50	3
KHR-DLC-4100	1	6	15	60	3
KHR-DLC-41005	1.005	6	15	60	3
KHR-DLC-4101	1.01	6	15	60	3
KHR-DLC-4102	1.02	6	15	60	3
KHR-DLC-4103	1.03	6	15	60	3
KHR-DLC-4104	1.04	6	15	60	3
KHR-DLC-4105	1.05	6	15	60	3
KHR-DLC-4110	1.1	6	15	60	3
KHR-DLC-4120	1.2	6	15	60	3
KHR-DLC-4130	1.3	6	15	60	3
KHR-DLC-4140	1.4	6	15	60	3
KHR-DLC-4150	1.5	8	20	60	3
KHR-DLC-4160	1.6	8	20	60	3
KHR-DLC-4170	1.7	8	20	60	3
KHR-DLC-4180	1.8	8	20	60	3
KHR-DLC-4190	1.9	8	20	60	3
KHR-DLC-4195	1.95	10	24	60	3
KHR-DLC-4196	1.96	10	24	60	3
KHR-DLC-4197	1.97	10	24	60	3
KHR-DLC-4198	1.98	10	24	60	3
KHR-DLC-4199	1.99	10	24	60	3
KHR-DLC-4200	2	10	24	60	3
KHR-DLC-42005	2.005	10	24	60	3
KHR-DLC-4201	2.01	10	24	60	3
KHR-DLC-4202	2.02	10	24	60	3



- 刃径の許容差 Flute Diameter Tolerance
D ≤ 3.09 +0.005~0
3.1 < D ≤ 6.05 +0.007~0
- 換付寸法 Chamfer Size
C = 0.1 ± 0.03
C = 0.15 ± 0.03
C = 0.2 ± 0.03
- 換付寸法 Chamfer Size
φ 0.95 ~ φ 1.99
φ 2.0 ~ φ 3.09
φ 3.1 ~ φ 6.05

単位 [寸法: mm]
Unit [size: mm]

品番 Code No.	刃径 D Flute Diameter	刃長 ℓ Flute Length	有効長 ℓ1 Effective Length	全長 L Total Length	柄径 d Shank Diameter
KHR-DLC-4203	2.03	10	24	60	3
KHR-DLC-4204	2.04	10	24	60	3
KHR-DLC-4205	2.05	10	24	60	3
KHR-DLC-4210	2.1	10	24	60	3
KHR-DLC-4220	2.2	10	24	60	3
KHR-DLC-4230	2.3	10	24	60	3
KHR-DLC-4240	2.4	10	24	60	3
KHR-DLC-4250	2.5	10	24	60	3
KHR-DLC-4260	2.6	10	24	60	3
KHR-DLC-4270	2.7	10	24	60	3
KHR-DLC-4280	2.8	10	24	60	3
KHR-DLC-4290	2.9	10	24	60	3
KHR-DLC-4295	2.95	15	30	60	3
KHR-DLC-4296	2.96	15	30	60	3
KHR-DLC-4297	2.97	15	30	60	3
KHR-DLC-4298	2.98	15	30	60	3
KHR-DLC-4299	2.99	15	30	60	3
KHR-DLC-4300	3	15	30	60	3
KHR-DLC-43005	3.005	15	30	60	3
KHR-DLC-4301	3.01	15	30	60	3
KHR-DLC-4302	3.02	15	30	60	3
KHR-DLC-4303	3.03	15	30	60	3
KHR-DLC-4304	3.04	15	30	60	3
KHR-DLC-4305	3.05	15	30	60	3
KHR-DLC-4310	3.1	15	30	70	4
KHR-DLC-4320	3.2	15	30	70	4
KHR-DLC-4330	3.3	15	30	70	4
KHR-DLC-4340	3.4	15	30	70	4
KHR-DLC-4350	3.5	15	30	70	4
KHR-DLC-4360	3.6	15	30	70	4

超硬リーマ

Carbide Reamer

KHR-DLC

品番 Code No.	刃径 D Flute Diameter	刃長 ℓ Flute Length	有効長 ℓ1 Effective Length	全長 L Total Length	柄径 d Shank Diameter
KHR-DLC-4370	3.7	15	30	70	4
KHR-DLC-4380	3.8	15	30	70	4
KHR-DLC-4390	3.9	15	30	70	4
KHR-DLC-4395	3.95	20	35	70	4
KHR-DLC-4396	3.96	20	35	70	4
KHR-DLC-4397	3.97	20	35	70	4
KHR-DLC-4398	3.98	20	35	70	4
KHR-DLC-4399	3.99	20	35	70	4
KHR-DLC-4400	4	20	35	70	4
KHR-DLC-44005	4.005	20	35	70	4
KHR-DLC-4401	4.01	20	35	70	4
KHR-DLC-4402	4.02	20	35	70	4
KHR-DLC-4403	4.03	20	35	70	4
KHR-DLC-4404	4.04	20	35	70	4
KHR-DLC-4405	4.05	20	35	70	4
KHR-DLC-4410	4.1	20	35	80	6
KHR-DLC-4420	4.2	20	35	80	6
KHR-DLC-4430	4.3	20	35	80	6
KHR-DLC-4440	4.4	20	35	80	6
KHR-DLC-4450	4.5	20	35	80	6
KHR-DLC-4460	4.6	20	35	80	6
KHR-DLC-4470	4.7	20	35	80	6
KHR-DLC-4480	4.8	20	35	80	6
KHR-DLC-4490	4.9	20	35	80	6
KHR-DLC-4495	4.95	24	40	80	6
KHR-DLC-4496	4.96	24	40	80	6
KHR-DLC-4497	4.97	24	40	80	6
KHR-DLC-4498	4.98	24	40	80	6
KHR-DLC-4499	4.99	24	40	80	6
KHR-DLC-4500	5	24	40	80	6
KHR-DLC-45005	5.005	24	40	80	6
KHR-DLC-4501	5.01	24	40	80	6
KHR-DLC-4502	5.02	24	40	80	6
KHR-DLC-4503	5.03	24	40	80	6
KHR-DLC-4504	5.04	24	40	80	6
KHR-DLC-4505	5.05	24	40	80	6
KHR-DLC-4510	5.1	24	40	80	6
KHR-DLC-4520	5.2	24	40	80	6
KHR-DLC-4530	5.3	24	40	80	6
KHR-DLC-4540	5.4	24	40	80	6
KHR-DLC-4550	5.5	24	40	80	6
KHR-DLC-4560	5.6	24	40	80	6
KHR-DLC-4570	5.7	24	40	80	6
KHR-DLC-4580	5.8	24	40	80	6
KHR-DLC-4590	5.9	24	40	80	6
KHR-DLC-4595	5.95	24	40	80	6
KHR-DLC-4596	5.96	24	40	80	6
KHR-DLC-4597	5.97	24	40	80	6

[illegible]

KLHR-OH

超硬油穴付底刃付リーマ・右刃左ネジレ
Tungsten Carbide Reamer with Bottom Flute

■底刃付の右刃左ネジレ仕様となっており、段付穴の大径穴部仕上げ加工に最適です。
This tool features a right-hand cutting edge with a left-hand twist, making it ideal for finishing large-diameter stepped holes.

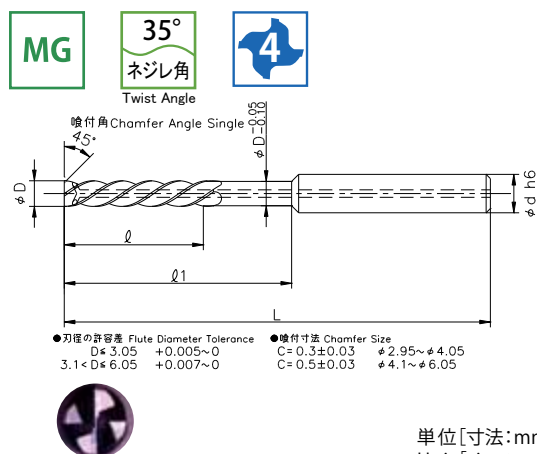


被削材 Workpiece					
一般構造鋼 General Structural Steel	炭素鋼 Carbon Steel	合金鋼・工具鋼 Alloy Steel Tool Steel	プリハートン鋼 Pre-Harden Steel	鋳鉄 Cast Iron	アルミ合金 Aluminum Alloy
○	○	○	○	○	○

●切削条件表はP277に記載

●Cutting conditions are recommended on page 277.

品番 Code No.	刃径 D Flute Diameter	刃長 ℓ Flute Length	有効長 ℓ1 Effective Length	全長 L Total Length	柄径 d Shank Diameter
KLHR-OH-4295	2.95	15	30	70	4
KLHR-OH-4296	2.96	15	30	70	4
KLHR-OH-4297	2.97	15	30	70	4
KLHR-OH-4298	2.98	15	30	70	4
KLHR-OH-4299	2.99	15	30	70	4
KLHR-OH-4300	3	15	30	70	4
KLHR-OH-4301	3.01	15	30	70	4
KLHR-OH-4302	3.02	15	30	70	4
KLHR-OH-4303	3.03	15	30	70	4
KLHR-OH-4304	3.04	15	30	70	4
KLHR-OH-4305	3.05	15	30	70	4
KLHR-OH-4310	3.1	15	30	70	4
KLHR-OH-4320	3.2	15	30	70	4
KLHR-OH-4330	3.3	15	30	70	4
KLHR-OH-4340	3.4	15	30	70	4
KLHR-OH-4350	3.5	15	30	70	4
KLHR-OH-4360	3.6	15	30	70	4
KLHR-OH-4370	3.7	15	30	70	4
KLHR-OH-4380	3.8	15	30	70	4
KLHR-OH-4390	3.9	15	30	70	4
KLHR-OH-4395	3.95	20	35	70	4
KLHR-OH-4396	3.96	20	35	70	4
KLHR-OH-4397	3.97	20	35	70	4
KLHR-OH-4398	3.98	20	35	70	4
KLHR-OH-4399	3.99	20	35	70	4
KLHR-OH-4400	4	20	35	70	4
KLHR-OH-4401	4.01	20	35	70	4
KLHR-OH-4402	4.02	20	35	70	4
KLHR-OH-4403	4.03	20	35	70	4
KLHR-OH-4404	4.04	20	35	70	4



単位 [寸法: mm]
Unit [size: mm]

品番 Code No.	刃径 D Flute Diameter	刃長 ℓ Flute Length	有効長 ℓ1 Effective Length	全長 L Total Length	柄径 d Shank Diameter
KLHR-OH-4405	4.05	20	35	70	4
KLHR-OH-4410	4.1	20	35	80	6
KLHR-OH-4420	4.2	20	35	80	6
KLHR-OH-4430	4.3	20	35	80	6
KLHR-OH-4440	4.4	20	35	80	6
KLHR-OH-4450	4.5	20	35	80	6
KLHR-OH-4460	4.6	20	35	80	6
KLHR-OH-4470	4.7	20	35	80	6
KLHR-OH-4480	4.8	20	35	80	6
KLHR-OH-4490	4.9	20	35	80	6
KLHR-OH-4495	4.95	24	40	80	6
KLHR-OH-4496	4.96	24	40	80	6
KLHR-OH-4497	4.97	24	40	80	6
KLHR-OH-4498	4.98	24	40	80	6
KLHR-OH-4499	4.99	24	40	80	6
KLHR-OH-4500	5	24	40	80	6
KLHR-OH-4501	5.01	24	40	80	6
KLHR-OH-4502	5.02	24	40	80	6
KLHR-OH-4503	5.03	24	40	80	6
KLHR-OH-4504	5.04	24	40	80	6
KLHR-OH-4505	5.05	24	40	80	6
KLHR-OH-4510	5.1	24	40	80	6
KLHR-OH-4520	5.2	24	40	80	6
KLHR-OH-4530	5.3	24	40	80	6
KLHR-OH-4540	5.4	24	40	80	6
KLHR-OH-4550	5.5	24	40	80	6
KLHR-OH-4560	5.6	24	40	80	6
KLHR-OH-4570	5.7	24	40	80	6
KLHR-OH-4580	5.8	24	40	80	6
KLHR-OH-4590	5.9	24	40	80	6

超硬リーマ

Carbide Reamer

KLHR-OH

[illegible][illegible]

KHR-4、KHRA-4、KLHR-OH

切削条件参考

Referential Cutting Conditions

被削材 Workpiece	切削速度 Cutting Speed m/min	送り速度 Feed mm/rev	リーマ代 Reamer Stock Removal mm	推奨切削油 Recommendable Cutting Oil
炭素工具鋼 Carbon Tool Steel	10~15	0.1 ~0.15	0.1	不水溶性 Non-Water Soluable
鋳鉄 Cast Iron	15~25	0.1 ~0.15	0.1 ~0.2	不水溶性 Non-Water Soluable
合金鋼 Alloy Steel	10~20	0.1 ~0.15	0.1	不水溶性 Non-Water Soluable
プリハードン鋼 Pre-Harden Steel	6~10	0.05以下	0.05~0.1	不水溶性 Non-Water Soluable
ステンレス Stainless Steel	10~15	0.05~0.1	0.05~0.1	不水溶性 Non-Water Soluable
銅・銅合金 Copper and Copper Alloy	25~30	0.05~0.1	0.1	不水溶性 Non-Water Soluable
チタン合金 Titanium Alloy	5~10	0.05以下	0.05~0.1	水溶性 Water Soluable
アルミ合金 Aluminum Alloy	20~40	0.05	0.1 ~0.2	不水溶性 Non-Water Soluable
樹脂 Resin	15~20	0.1 ~0.15	0.1 ~0.2	不水溶性 Non-Water Soluable
備考 Remarks	・使用する機械により切削速度、送り、仕上代を調整して下さい。 ・ Adjust Cutting Speed, Feed and Finishing Stock Removal according to Using Machine			

KHR-DLC

切削条件参考

Referential Cutting Conditions

被削材 Workpiece	切削速度 Cutting Speed m/min	送り速度 Feed mm/rev	リーマ代 Reamer Stock Removal mm	推奨切削油 Recommendable Cutting Oil
銅・銅合金 Copper and Copper Alloy	32~39	0.07~0.13	0.1	不水溶性 Non-Water Soluable
アルミ合金 Aluminum Alloy	26~52	0.07	0.1~0.2	不水溶性 Non-Water Soluable
樹脂 Resin	19~26	0.13~0.2	0.1~0.2	不水溶性 Non-Water Soluable
備考 Remarks	・使用する機械により切削速度、送り、仕上代を調整して下さい。 ・ Adjust Cutting Speed, Feed and Finishing Stock Removal according to Using Machine			

KSHR-4

超硬スパイラルリーマ Tungsten Carbide 4 Flutes Spiral Reamer

■小径穴仕上加工用 $\phi 0.5 \sim \phi 2.03$ まで 0.01 とびにラインナップ
Line-upped $\phi 0.5 \sim \phi 2.03$ at pitch 0.01

■左ネジレ右刃の貫通穴用リーマです
Left-hand threaded, right-hand blade reamer for through holes

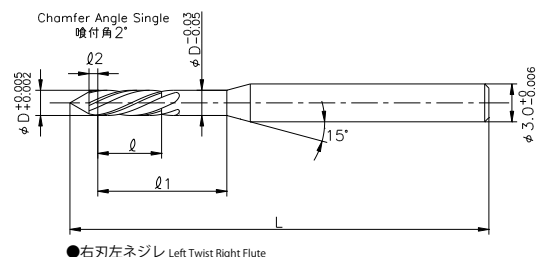


被削材 Workpiece					
一般構造鋼 General Structural Steel	炭素鋼 Carbon Steel	合金鋼・工具鋼 Alloy Steel Tool Steel	プリハードン鋼 Pre-Harden Steel	鋳鉄 Cast Iron	アルミ合金 Aluminum Alloy
○	○	○	○	○	○

●切削条件表はP280に記載

●Cutting conditions are recommended on page 280.

品番 Code No.	刃径 D Flute Diameter	刃長 ℓ Flute Length	有効長 ℓ_1 Effective Length	全長 L Total Length	柄径 Shank Diameter	喰付長 ℓ_2 Chamfer Length
KSHR-4050	0.5	8	13	60	3	1.3
KSHR-4051	0.51	8	13	60	3	1.3
KSHR-4052	0.52	8	13	60	3	1.3
KSHR-4053	0.53	8	13	60	3	1.3
KSHR-4054	0.54	8	13	60	3	1.3
KSHR-4055	0.55	8	13	60	3	1.3
KSHR-4056	0.56	8	13	60	3	1.3
KSHR-4057	0.57	8	13	60	3	1.3
KSHR-4058	0.58	8	13	60	3	1.3
KSHR-4059	0.59	8	13	60	3	1.3
KSHR-4060	0.6	8	13	60	3	1.5
KSHR-4061	0.61	8	13	60	3	1.5
KSHR-4062	0.62	8	13	60	3	1.5
KSHR-4063	0.63	8	13	60	3	1.5
KSHR-4064	0.64	8	13	60	3	1.5
KSHR-4065	0.65	8	13	60	3	1.5
KSHR-4066	0.66	8	13	60	3	1.5
KSHR-4067	0.67	8	13	60	3	1.5
KSHR-4068	0.68	8	13	60	3	1.5
KSHR-4069	0.69	8	13	60	3	1.5
KSHR-4070	0.7	8	13	60	3	2
KSHR-4071	0.71	8	13	60	3	2
KSHR-4072	0.72	8	13	60	3	2
KSHR-4073	0.73	8	13	60	3	2
KSHR-4074	0.74	8	13	60	3	2
KSHR-4075	0.75	8	13	60	3	2
KSHR-4076	0.76	8	13	60	3	2
KSHR-4077	0.77	8	13	60	3	2
KSHR-4078	0.78	8	13	60	3	2
KSHR-4079	0.79	8	13	60	3	2



単位 [寸法: mm]

Unit [size: mm]

品番 Code No.	刃径 D Flute Diameter	刃長 ℓ Flute Length	有効長 ℓ_1 Effective Length	全長 L Total Length	柄径 Shank Diameter	喰付長 ℓ_2 Chamfer Length
KSHR-4080	0.8	8	16	60	3	2
KSHR-4081	0.81	8	16	60	3	2
KSHR-4082	0.82	8	16	60	3	2
KSHR-4083	0.83	8	16	60	3	2
KSHR-4084	0.84	8	16	60	3	2
KSHR-4085	0.85	8	16	60	3	2
KSHR-4086	0.86	8	16	60	3	2
KSHR-4087	0.87	8	16	60	3	2
KSHR-4088	0.88	8	16	60	3	2
KSHR-4089	0.89	8	16	60	3	2
KSHR-4090	0.9	8	16	60	3	2
KSHR-4091	0.91	8	16	60	3	2
KSHR-4092	0.92	8	16	60	3	2
KSHR-4093	0.93	8	16	60	3	2
KSHR-4094	0.94	8	16	60	3	2
KSHR-4095	0.95	8	16	60	3	2
KSHR-4096	0.96	8	16	60	3	2
KSHR-4097	0.97	8	16	60	3	2
KSHR-4098	0.98	8	16	60	3	2
KSHR-4099	0.99	8	16	60	3	2
KSHR-4100	1	8	16	60	3	2
KSHR-4101	1.01	10	16	60	3	2.5
KSHR-4102	1.02	10	16	60	3	2.5
KSHR-4103	1.03	10	16	60	3	2.5
KSHR-4104	1.04	10	16	60	3	2.5
KSHR-4105	1.05	10	16	60	3	2.5
KSHR-4106	1.06	10	16	60	3	2.5
KSHR-4107	1.07	10	16	60	3	2.5
KSHR-4108	1.08	10	16	60	3	2.5
KSHR-4109	1.09	10	16	60	3	2.5

KSHR-4

品番 Code No.	刃径 D Flute Diameter	刃長 ℓ Flute Length	有効長 ℓ1 Effective Length	全長 L Total Length	柄径 Shank Diameter	喰付長 ℓ2 Chamfer Length
KSHR-4110	1.1	10	16	60	3	2.5
KSHR-4111	1.11	10	16	60	3	2.5
KSHR-4112	1.12	10	16	60	3	2.5
KSHR-4113	1.13	10	16	60	3	2.5
KSHR-4114	1.14	10	16	60	3	2.5
KSHR-4115	1.15	10	16	60	3	2.5
KSHR-4116	1.16	10	16	60	3	2.5
KSHR-4117	1.17	10	16	60	3	2.5
KSHR-4118	1.18	10	16	60	3	2.5
KSHR-4119	1.19	10	16	60	3	2.5
KSHR-4120	1.2	10	16	60	3	2.5
KSHR-4121	1.21	10	16	60	3	2.5
KSHR-4122	1.22	10	16	60	3	2.5
KSHR-4123	1.23	10	16	60	3	2.5
KSHR-4124	1.24	10	16	60	3	2.5
KSHR-4125	1.25	10	16	60	3	2.5
KSHR-4126	1.26	10	16	60	3	2.5
KSHR-4127	1.27	10	16	60	3	2.5
KSHR-4128	1.28	10	16	60	3	2.5
KSHR-4129	1.29	10	16	60	3	2.5
KSHR-4130	1.3	10	16	60	3	2.5
KSHR-4131	1.31	10	16	60	3	2.5
KSHR-4132	1.32	10	16	60	3	2.5
KSHR-4133	1.33	10	16	60	3	2.5
KSHR-4134	1.34	10	16	60	3	2.5
KSHR-4135	1.35	10	16	60	3	2.5
KSHR-4136	1.36	10	16	60	3	2.5
KSHR-4137	1.37	10	16	60	3	2.5
KSHR-4138	1.38	10	16	60	3	2.5
KSHR-4139	1.39	10	16	60	3	2.5
KSHR-4140	1.4	10	16	60	3	2.5
KSHR-4141	1.41	10	16	60	3	2.5
KSHR-4142	1.42	10	16	60	3	2.5
KSHR-4143	1.43	10	16	60	3	2.5
KSHR-4144	1.44	10	16	60	3	2.5
KSHR-4145	1.45	10	16	60	3	2.5
KSHR-4146	1.46	10	16	60	3	2.5
KSHR-4147	1.47	10	16	60	3	2.5
KSHR-4148	1.48	10	16	60	3	2.5
KSHR-4149	1.49	10	16	60	3	2.5
KSHR-4150	1.5	10	16	60	3	2.5
KSHR-4151	1.51	10	16	60	3	2.5
KSHR-4152	1.52	10	16	60	3	2.5
KSHR-4153	1.53	10	16	60	3	2.5
KSHR-4154	1.54	10	16	60	3	2.5
KSHR-4155	1.55	10	16	60	3	2.5
KSHR-4156	1.56	10	16	60	3	2.5
KSHR-4157	1.57	10	16	60	3	2.5

品番 Code No.	刃径 D Flute Diameter	刃長 ℓ Flute Length	有効長 ℓ1 Effective Length	全長 L Total Length	柄径 Shank Diameter	喰付長 ℓ2 Chamfer Length
KSHR-4158	1.58	10	16	60	3	2.5
KSHR-4159	1.59	10	16	60	3	2.5
KSHR-4160	1.6	10	16	60	3	3
KSHR-4161	1.61	10	16	60	3	3
KSHR-4162	1.62	10	16	60	3	3
KSHR-4163	1.63	10	16	60	3	3
KSHR-4164	1.64	10	16	60	3	3
KSHR-4165	1.65	10	16	60	3	3
KSHR-4166	1.66	10	16	60	3	3
KSHR-4167	1.67	10	16	60	3	3
KSHR-4168	1.68	10	16	60	3	3
KSHR-4169	1.69	10	16	60	3	3
KSHR-4170	1.7	10	16	60	3	3
KSHR-4171	1.71	10	16	60	3	3
KSHR-4172	1.72	10	16	60	3	3
KSHR-4173	1.73	10	16	60	3	3
KSHR-4174	1.74	10	16	60	3	3
KSHR-4175	1.75	10	16	60	3	3
KSHR-4176	1.76	10	16	60	3	3
KSHR-4177	1.77	10	16	60	3	3
KSHR-4178	1.78	10	16	60	3	3
KSHR-4179	1.79	10	16	60	3	3
KSHR-4180	1.8	10	16	60	3	3
KSHR-4181	1.81	10	16	60	3	3
KSHR-4182	1.82	10	16	60	3	3
KSHR-4183	1.83	10	16	60	3	3
KSHR-4184	1.84	10	16	60	3	3
KSHR-4185	1.85	10	16	60	3	3
KSHR-4186	1.86	10	16	60	3	3
KSHR-4187	1.87	10	16	60	3	3
KSHR-4188	1.88	10	16	60	3	3
KSHR-4189	1.89	10	16	60	3	3
KSHR-4190	1.9	10	16	60	3	3
KSHR-4191	1.91	10	16	60	3	3
KSHR-4192	1.92	10	16	60	3	3
KSHR-4193	1.93	10	16	60	3	3
KSHR-4194	1.94	10	16	60	3	3
KSHR-4195	1.95	10	16	60	3	3
KSHR-4196	1.96	10	16	60	3	3
KSHR-4197	1.97	10	16	60	3	3
KSHR-4198	1.98	10	16	60	3	3
KSHR-4199	1.99	10	16	60	3	3
KSHR-4200	2	10	16	60	3	3
KSHR-4201	2.01	12	18	60	3	3
KSHR-4202	2.02	12	18	60	3	3
KSHR-4203	2.03	12	18	60	3	3

KSHR-4

切削条件参考

Referential Cutting Conditions

被削材 Workpiece	切削速度 Cutting Speed m/min	送り速度 Feed mm/rev	リーマ代 Reamer Stock Removal mm	推奨切削油 Recommendable Cutting Oil
炭素工具鋼 Carbon Tool Steel	5～15	0.05～0.15	0.05～0.1	不水溶性 Non-Water Soluable
铸铁 Cast Iron	10～25	0.05～0.15	0.05～0.1	不水溶性 Non-Water Soluable
合金鋼 Alloy Steel	5～20	0.05～0.15	0.05～0.1	不水溶性 Non-Water Soluable
プリハードン鋼 Pre-Harden Steel	3～10	0.05以下	0.05～0.1	不水溶性 Non-Water Soluable
ステンレス Stainless Steel	5～15	0.05～0.1	0.05～0.1	不水溶性 Non-Water Soluable
銅・銅合金 Copper and Copper Alloy	15～30	0.05～0.1	0.1	不水溶性 Non-Water Soluable
チタン合金 Titanium Alloy	3～10	0.05以下	0.05～0.1	水溶性 Water Soluable
アルミ合金 Aluminum Alloy	20～40	0.05	0.1 ～0.2	不水溶性 Non-Water Soluable
樹脂 Resin	15～20	0.1 ～0.15	0.1 ～0.2	不水溶性 Non-Water Soluable
備考 Remarks	・使用する機械により条件を調整して下さい。・ Adjust Conditions according to Using Machine			