

The logo features the text 'K-2' in a stylized font where the 'K' is blue with a white lightning bolt striking the top right, and the '2' is red. To the right of this, the words 'CARBIDE END MILLS' are written in a black, sans-serif font.

**K-2** CARBIDE END MILLS

*Solid Carbide End Mills for Multi Purpose!!*

** YG-1 CO., LTD.**

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Tool specifications are subject to change without notice.

**YE-K216**



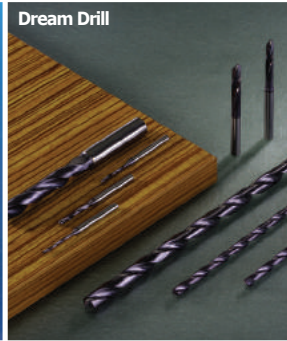
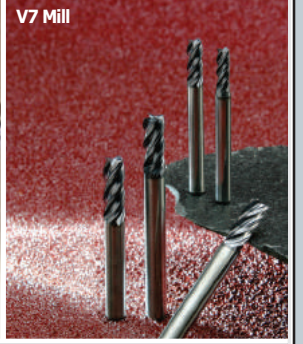
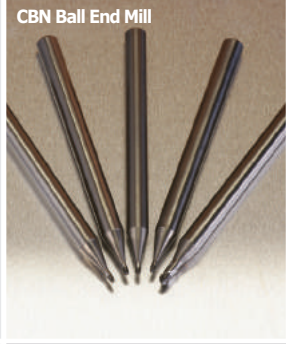
# **K-2**

## **CARBIDE END MILLS**

*Solid Carbide End Mills for Multi Purpose!!*

**Added  
chamfer edges**





# **K-2** CARBIDE END MILLS

**Added**  
chamfer edges

***Solid Carbide End Mills for Multi Purpose!!***  
***Vollhartmetallfräser für universellen Einsatz!!***

K-2 is micro grain size carbide end mills for multi purpose such as slotting, side cutting and profiling.

**K-2 ist ein Feinstkorn Vollhartmetallfräser für den universellen Einsatz und einer breiten Spanne von Anwendungen.**


































K-2 end mills get you increased productivity and decreased tooling cost with satisfaction.

**K-2 Fräser erhöhen Ihre Produktivität und senken Ihre Werkzeugkosten.**

Improved hot hardness and oxidation resistance will meet your needs in dry milling applications at high temperatures.

**Erhöhte Warmfestigkeit und verminderte Oxydierung verbessern die Einsatzbedingungen beim Trockenfräsen bei hohen Temperaturen.**

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ITEM	MODEL	DESCRIPTION	SIZE		PAGE
			MIN	MAX	
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G9A68		CARBIDE, 2 FLUTE SHORT LENGTH VOLLHARTMETALL, 2 SCHNEIDEN KURZ	D1.0	D20.0	7
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G9A70		CARBIDE, 2 FLUTE SHORT LENGTH BALL NOSE VOLLHARTMETALL, 2 SCHNEIDEN KURZ STIRNRADIUS	R0.5	R10.0	25
G9437		CARBIDE, 2 FLUTE SHORT LENGTH BALL NOSE VOLLHARTMETALL, 2 SCHNEIDEN KURZ STIRNRADIUS	R1.0	R10.0	26
G9438		CARBIDE, 2 FLUTE LONG LENGTH BALL NOSE VOLLHARTMETALL, 2 SCHNEIDEN LANG STIRNRADIUS	R1.0	R10.0	27
G9454		CARBIDE, 2 FLUTE LONG REACH BALL NOSE VOLLHARTMETALL, 2 SCHNEIDEN GROÙE REICHWEITE STIRNRADIUS	R1.5	R10.0	28
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# K-2 CARBIDE END MILLS

**G9424**SERIES  
PLAIN SHANK

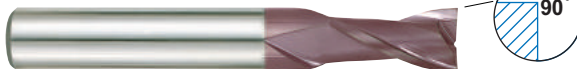
**G9G44**SERIES  
PLAIN SHANK

## CARBIDE, 2 FLUTE SHORT LENGTH VOLLHARTMETALL, 2 SCHNEIDEN KURZ

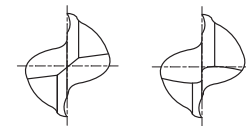
- ▶ Suitable for dry milling applications at high temperatures.
- ▶ Excellent high-performance end mills.
- ▶ 2 flute design for slotting.

- ▶ Für die Trockenbearbeitung geeignet.
- ▶ Exzellente Hochleistungs Mühlen.
- ▶ 2 Schneiden zum Nutenfräsen.

**G9424**  
Sharp Corner



**G9G44**  
Chamfer



Unit : mm

EDP No. (Corner Type)		Mill Diameter	Shank Diameter	Length of Cut	Overall Length	Chamfer Size
Sharp	<b>NEW</b> Chamfer					
G9424010	-	1.0	4	3	40	-
G9424015	-	1.5	4	4.5	40	-
G9424020	-	2.0	2	8	32	-
G9424025	-	2.5	2.5	8	32	-
G9424030	<b>G9G44030</b>	3.0	3	12	32	0.1
G9424035	-	3.5	3.5	12	32	-
G9424040	<b>G9G44040</b>	4.0	4	12	40	0.1
G9424045	-	4.5	4.5	14	50	-
G9424050	<b>G9G44050</b>	5.0	5	14	50	0.1
G9424055	-	5.5	5.5	16	50	-
G9424060	<b>G9G44060</b>	6.0	6	16	50	0.1
G9424070	-	7.0	7	20	60	-
G9424080	<b>G9G44080</b>	8.0	8	20	60	0.13
G9424090	-	9.0	9	20	60	-
G9424100	<b>G9G44100</b>	10.0	10	22	70	0.13
G9424120	<b>G9G44120</b>	12.0	12	22	70	0.18
G9424140	<b>G9G44140</b>	14.0	14	25	75	0.18
G9424160	<b>G9G44160</b>	16.0	16	25	75	0.18
G9424200	<b>G9G44200</b>	20.0	20	32	100	0.23

Mill Dia. Tolerance(mm)	Shank Dia. Tolerance
0~-0.03	h6

◎ : Excellent ○ : Good

Carbon Steels	Alloy Steels	Prehardened Steels	Hardened Steels		High Hardened Steels	Copper	Graphite	Cast Iron	Aluminum	Stainless Steels	Titanium	Inconel	Acrylic	CFRP
~HB225	HB225~325	HRc30~40	HRc40~45	HRc45~55	HRc55~70									
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# K-2 CARBIDE END MILLS

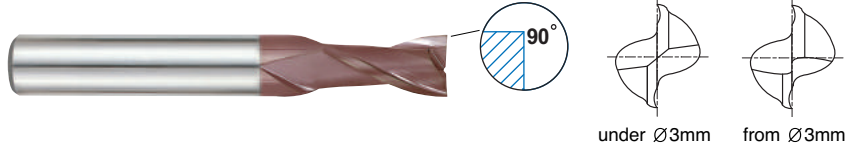
**G9A68**<sup>SERIES</sup>  
PLAIN SHANK

## CARBIDE, 2 FLUTE SHORT LENGTH VOLLHARTMETALL, 2 SCHNEIDEN KURZ

- ▶ Suitable for dry milling applications at high temperatures.
- ▶ Excellent high-performance end mills.
- ▶ 2 flute design for slotting.

- ▶ Für die Trockenbearbeitung geeignet.
- ▶ Exzellente Hochleistungs Mühlen.
- ▶ 2 Schneiden zum Nutenfräsen.

**G9A68**  
Sharp Corner



Unit : mm

EDP No.	Mill Diameter	Shank Diameter	Length of Cut	Overall Length
G9A68010	1.0	3	3	39
G9A68015	1.5	3	5	39
G9A68020	2.0	3	7	39
G9A68025	2.5	3	7	39
G9A68030	3.0	3	9	39
G9A68040	4.0	4	14	51
G9A68050	5.0	5	16	51
G9A68060	6.0	6	19	64
G9A68080	8.0	8	21	64
G9A68100	10.0	10	22	70
G9A68120	12.0	12	25	76
G9A68160	16.0	16	32	89
G9A68200	20.0	20	38	102

Mill Dia. Tolerance(mm)	Shank Dia. Tolerance
0~-0.03	h6

◎ : Excellent ○ : Good

Carbon Steels	Alloy Steels	Prehardened Steels	Hardened Steels		High Hardened Steels	Copper	Graphite	Cast Iron	Aluminum	Stainless Steels	Titanium	Inconel	Acrylic	CFRP
~HB225	HB225~325	HRc30~40	HRc40~45	HRc45~55	HRc55~70									
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# K-2 CARBIDE END MILLS

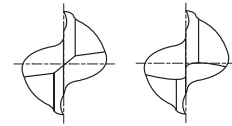
**G9444**SERIES  
FLAT SHANK

## CARBIDE, 2 FLUTE SHORT LENGTH VOLLHARTMETALL, 2 SCHNEIDEN KURZ

- ▶ Suitable for dry milling applications at high temperatures.
- ▶ Excellent high-performance end mills.
- ▶ 2 flute design for slotting.

- ▶ Für die Trockenbearbeitung geeignet.
- ▶ Exzellente Hochleistungs Mühlen.
- ▶ 2 Schneiden zum Nutenfräsen.

**G9444**  
Sharp Corner



up to Ø2mm over Ø2mm



Unit : mm

EDP No.	Mill Diameter	Shank Diameter	Length of Cut	Overall Length
G9444020	2.0	6	3	50
G9444030	3.0	6	4	50
G9444035	3.5	6	4	50
G9444040	4.0	6	5	54
G9444045	4.5	6	5	54
G9444050	5.0	6	6	54
G9444060	6.0	6	7	54
G9444070	7.0	8	8	58
G9444080	8.0	8	9	58
G9444090	9.0	10	10	66
G9444100	10.0	10	11	66
G9444120	12.0	12	12	73
G9444140	14.0	14	14	75
G9444160	16.0	16	16	82
G9444180	18.0	18	18	84
G9444200	20.0	20	20	92

Mill Dia. Tolerance(mm)	Shank Dia. Tolerance
0~-0.03	h6

◎ : Excellent ○ : Good

Carbon Steels	Alloy Steels	Prehardened Steels	Hardened Steels		High Hardened Steels	Copper	Graphite	Cast Iron	Aluminum	Stainless Steels	Titanium	Inconel	Acrylic	CFRP
~HB225	HB225~325	HRc30~40	HRc40~45	HRc45~55	HRc55~70									
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# K-2 CARBIDE END MILLS

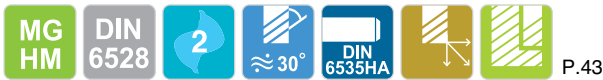
**G9527** SERIES  
PLAIN SHANK

## CARBIDE, 2 FLUTE LONG LENGTH VOLLHARTMETALL, 2 SCHNEIDEN LANG

- ▶ Suitable for dry milling applications at high temperatures.
- ▶ Excellent high-performance end mills.
- ▶ 2 flute design for slotting.

- ▶ Für die Trockenbearbeitung geeignet.
- ▶ Exzellente Hochleistungs Mühlen.
- ▶ 2 Schneiden zum Nutenfräsen.

**G9527**  
Sharp Corner



Unit : mm

EDP No.	Mill Diameter	Shank Diameter	Length of Cut	Overall Length
G9527035	3.5	3.5	7	50
G9527040	4.0	4	8	50
G9527045	4.5	4.5	8	50
G9527050	5.0	5	10	50
G9527055	5.5	5.5	10	57
G9527060	6.0	6	10	57
G9527065	6.5	6.5	13	60
G9527070	7.0	7	13	60
G9527075	7.5	7.5	16	63
G9527080	8.0	8	16	63
G9527085	8.5	8.5	16	67
G9527090	9.0	9	16	67
G9527095	9.5	9.5	19	72
G9527100	10.0	10	19	72
G9527110	11.0	11	22	83
G9527120	12.0	12	22	83
G9527130	13.0	13	22	83
G9527140	14.0	14	22	83
G9527150	15.0	15	26	92
G9527160	16.0	16	26	92
G9527180	18.0	18	26	92
G9527200	20.0	20	32	104

Mill Dia. Tolerance(mm)	Shank Dia. Tolerance
0~-0.03	h6

◎ : Excellent ○ : Good

Carbon Steels	Alloy Steels	Prehardened Steels	Hardened Steels		High Hardened Steels	Copper	Graphite	Cast Iron	Aluminum	Stainless Steels	Titanium	Inconel	Acrylic	CFRP
~HB225	HB225~325	HRc30~40	HRc40~45	HRc45~55	HRc55~70									
◎	◎	◎				○		○	○	○	○	○		

# K-2 CARBIDE END MILLS

**G9445**SERIES  
PLAIN SHANK, FLAT SHANK

**G9G45**SERIES  
FLAT SHANK

## CARBIDE, 2 FLUTE LONG LENGTH VOLLHARTMETALL, 2 SCHNEIDEN LANG

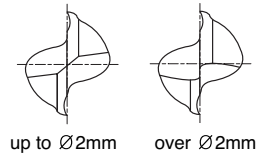
- ▶ Suitable for dry milling applications at high temperatures.
- ▶ Excellent high-performance end mills.
- ▶ 2 flute design for slotting.

- ▶ Für die Trockenbearbeitung geeignet.
- ▶ Exzellente Hochleistungs Mühlen.
- ▶ 2 Schneiden zum Nutenfräsen.

**G9445**  
Sharp Corner



**G9G45**  
Chamfer



Unit : mm

EDP No. (Corner Type)		Mill Diameter	Shank Diameter	Length of Cut	Overall Length	Chamfer Size
Sharp	<b>NEW</b> Chamfer					
G9445901	-	2.0	● 3	6	38	-
G9445028	-	2.8	6	7	57	-
G9445030	G9G45030	3.0	6	7	57	0.1
G9445035	-	3.5	6	7	57	-
G9445038	-	3.8	6	8	57	-
G9445040	G9G45040	4.0	6	8	57	0.1
G9445045	-	4.5	6	8	57	-
G9445048	-	4.8	6	10	57	-
G9445050	G9G45050	5.0	6	10	57	0.1
G9445957	-	5.75	6	10	57	-
G9445060	G9G45060	6.0	6	10	57	0.1
G9445967	-	6.75	8	13	63	-
G9445070	-	7.0	8	13	63	-
G9445977	-	7.75	8	16	63	-
G9445080	G9G45080	8.0	8	16	63	0.13
G9445087	-	8.7	10	16	72	-
G9445090	-	9.0	10	16	72	-
G9445097	-	9.7	10	19	72	-
G9445100	G9G45100	10.0	10	19	72	0.13
G9445117	-	11.7	12	22	83	-
G9445120	G9G45120	12.0	12	22	83	0.18
G9445137	-	13.7	14	22	83	-
G9445140	G9G45140	14.0	14	22	83	0.18
G9445157	-	15.7	16	26	92	-
G9445160	G9G45160	16.0	16	26	92	0.18
G9445177	-	17.7	18	26	92	-
G9445180	-	18.0	18	26	92	-
G9445197	-	19.7	20	32	104	-
G9445200	G9G45200	20.0	20	32	104	0.23

● with plain shank

Mill Dia. Tolerance(mm)	Shank Dia. Tolerance
0~-0.03	h6

◎ : Excellent ○ : Good

Carbon Steels	Alloy Steels	Prehardened Steels	Hardened Steels		High Hardened Steels	Copper	Graphite	Cast Iron	Aluminum	Stainless Steels	Titanium	Inconel	Acrylic	CFRP
~HB225	HB225~325	HRc30~40	HRc40~45	HRc45~55	HRc55~70									
◎	◎	◎				○		○	○	○	○	○		

# K-2 CARBIDE END MILLS

**G9452**<sup>SERIES</sup>  
PLAIN SHANK

## CARBIDE, 2 FLUTE EXTRA LONG LENGTH VOLLHARTMETALL, 2 SCHNEIDEN EXTRA LANG

- ▶ Suitable for dry milling applications at high temperatures.
- ▶ Excellent high-performance end mills.
- ▶ 2 flute design for slotting.

- ▶ Für die Trockenbearbeitung geeignet.
- ▶ Exzellente Hochleistungs Mühlen.
- ▶ 2 Schneiden zum Nutenfräsen.

**G9452**  
Sharp Corner



P.43

Unit : mm

EDP No.	Mill Diameter	Shank Diameter	Length of Cut	Overall Length
<b>G9452903</b>	<b>3.0</b>	3	20	60
<b>G9452904</b>	<b>4.0</b>	4	20	60
<b>G9452905</b>	<b>5.0</b>	5	25	75
<b>G9452906</b>	<b>6.0</b>	6	30	75
<b>G9452908</b>	<b>8.0</b>	8	30	75
<b>G9452910</b>	<b>10.0</b>	10	40	100
<b>G9452912</b>	<b>12.0</b>	12	45	100
<b>G9452914</b>	<b>14.0</b>	14	45	100
<b>G9452916</b>	<b>16.0</b>	16	45	100
<b>G9452918</b>	<b>18.0</b>	18	45	100
<b>G9452920</b>	<b>20.0</b>	20	45	100

Mill Dia. Tolerance(mm)	Shank Dia. Tolerance
0~-0.03	h6

◎ : Excellent ○ : Good

Carbon Steels	Alloy Steels	Prehardened Steels	Hardened Steels		High Hardened Steels	Copper	Graphite	Cast Iron	Aluminum	Stainless Steels	Titanium	Inconel	Acrylic	CFRP
~HB225	HB225~325	HRc30~40	HRc40~45	HRc45~55	HRc55~70									
◎	◎	◎				○		○	○	○	○	○		

# K-2 CARBIDE END MILLS

**G9553**<sup>SERIES</sup>  
PLAIN SHANK

**G9410**<sup>SERIES</sup>  
FLAT SHANK

**G9G46**<sup>SERIES</sup>  
FLAT SHANK

## CARBIDE, 3 FLUTE SHORT LENGTH THROW AWAY VOLLHARTMETALL, 3 SCHNEIDEN KURZ EINWEGFRÄSER

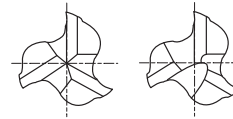
- ▶ Suitable for dry milling applications at high temperatures.
- ▶ Excellent high-performance end mills.
- ▶ 2 flute design for slotting.

- ▶ Für die Trockenbearbeitung geeignet.
- ▶ Exzellente Hochleistungs Mühlen.
- ▶ 2 Schneiden zum Nutenfräsen.

**G9553/G9410**  
Sharp Corner



**G9G46**  
Chamfer



under  $\varnothing 2$

from  $\varnothing 2$



Unit : mm

EDP No. (Corner Type)		Mill Diameter	Shank Diameter	Length of Cut	Overall Length	Chamfer Size
Sharp	<b>NEW</b> Chamfer					
G9553005	-	0.5	● 3	1.5	38	-
G9553006	-	0.6	● 3	1.5	38	-
G9553008	-	0.8	● 3	2	38	-
G9553010	-	1.0	● 3	2	38	-
G9553012	-	1.2	● 3	2	38	-
G9553015	-	1.5	● 3	2	38	-
G9553018	-	1.8	● 3	2	38	-
G9410020	-	2.0	6	4	35	-
G9410025	-	2.5	6	5	36	-
G9410030	G9G46030	3.0	6	5	36	0.1
G9410035	-	3.5	6	6	37	-
G9410040	G9G46040	4.0	6	7	38	0.1
G9410045	-	4.5	6	8	38	-
G9410050	G9G46050	5.0	6	8	39	0.1
G9410055	-	5.5	6	8	39	-
G9410957	-	5.75	6	8	39	-
G9410060	G9G46060	6.0	6	8	39	0.1
G9410967	-	6.75	8	10	42	-
G9410070	-	7.0	8	10	42	-
G9410977	-	7.75	8	10	42	-
G9410080	G9G46080	8.0	8	11	43	0.13
G9410087	-	8.7	10	11	48	-
G9410090	-	9.0	10	11	48	-
G9410097	-	9.7	10	11	48	-
G9410100	G9G46100	10.0	10	13	50	0.13
G9410120	G9G46120	12.0	12	15	55	0.18
G9410140	G9G46140	14.0	14	15	58	0.18
G9410160	G9G46160	16.0	16	18	62	0.18
G9410180	-	18.0	18	20	70	-
G9410200	G9G46200	20.0	20	22	75	0.23

● with plain shank

Mill Dia. Tolerance(mm)	Shank Dia. Tolerance
0~-0.03	h6

◎ : Excellent ○ : Good

Carbon Steels	Alloy Steels	Prehardened Steels	Hardened Steels		High Hardened Steels	Copper	Graphite	Cast Iron	Aluminum	Stainless Steels	Titanium	Inconel	Acrylic	CFRP
~HB225	HB225~325	HRc30~40	HRc40~45	HRc45~55	HRc55~70									
◎	◎	◎				○		○	○	○	○	○		

# K-2 CARBIDE END MILLS

**G9425**SERIES  
PLAIN SHANK

**G9G47**SERIES  
PLAIN SHANK

## CARBIDE, 3 FLUTE SHORT LENGTH VOLLHARTMETALL, 3 SCHNEIDEN KURZ

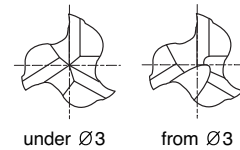
- ▶ Suitable for dry milling applications at high temperatures.
- ▶ Excellent high-performance end mills.
- ▶ 3 flute design possess the advantage of 2 flute and 4 flute end mill.

- ▶ Für die Trockenbearbeitung geeignet.
- ▶ Exzellente Hochleistungs Mühlen.
- ▶ 3 Schneiden verbinden die Vorteile von 2 - und 4 - schneidigen Schaftfräsern.

**G9425**  
Sharp Corner



**G9G47**  
Chamfer



Unit : mm

EDP No. (Corner Type)		Mill Diameter	Shank Diameter	Length of Cut	Overall Length	Chamfer Size
Sharp	<b>NEW</b> Chamfer					
G9425010	-	1.0	4	3	40	-
G9425015	-	1.5	4	4.5	40	-
G9425020	-	2.0	2	8	32	-
G9425025	-	2.5	2.5	8	32	-
G9425030	G9G47030	3.0	3	12	32	0.1
G9425035	-	3.5	3.5	12	32	-
G9425040	G9G47040	4.0	4	12	40	0.1
G9425045	-	4.5	4.5	14	50	-
G9425050	G9G47050	5.0	5	14	50	0.1
G9425055	-	5.5	5.5	16	50	-
G9425060	G9G47060	6.0	6	16	50	0.1
G9425070	-	7.0	7	20	60	-
G9425080	G9G47080	8.0	8	20	60	0.13
G9425090	-	9.0	9	20	60	-
G9425100	G9G47100	10.0	10	22	70	0.13
G9425120	G9G47120	12.0	12	22	70	0.18
G9425140	G9G47140	14.0	14	25	75	0.18
G9425160	G9G47160	16.0	16	25	75	0.18
G9425200	G9G47200	20.0	20	32	100	0.23

Mill Dia. Tolerance(mm)	Shank Dia. Tolerance
0~-0.03	h6

◎ : Excellent ○ : Good

Carbon Steels	Alloy Steels	Prehardened Steels	Hardened Steels		High Hardened Steels	Copper	Graphite	Cast Iron	Aluminum	Stainless Steels	Titanium	Inconel	Acrylic	CFRP
~HB225	HB225~325	HRc30~40	HRc40~45	HRc45~55	HRc55~70									
◎	◎	◎				○		○	○	○	○	○		

# K-2 CARBIDE END MILLS

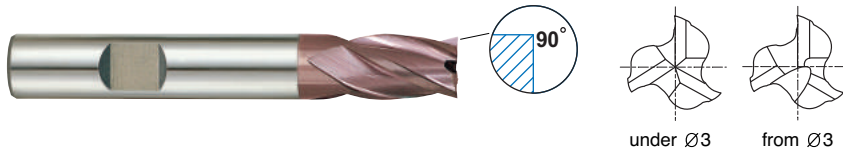
**G9439**SERIES  
FLAT SHANK

## CARBIDE, 3 FLUTE SHORT LENGTH VOLLHARTMETALL, 3 SCHNEIDEN KURZ

- ▶ Suitable for dry milling applications at high temperatures.
- ▶ Excellent high-performance end mills.
- ▶ 3 flute design possess the advantage of 2 flute and 4 flute end mill.

- ▶ Für die Trockenbearbeitung geeignet.
- ▶ Exzellente Hochleistungs Mühlen.
- ▶ 3 Schneiden verbinden die Vorteile von 2 - und 4 - schneidigen Schaftfräsern.

**G9439**  
Sharp Corner



Unit : mm

EDP No.	Mill Diameter	Shank Diameter	Length of Cut	Overall Length
G9439020	2.0	6	3	50
G9439030	3.0	6	4	50
G9439035	3.5	6	4	50
G9439040	4.0	6	5	54
G9439045	4.5	6	5	54
G9439050	5.0	6	6	54
G9439060	6.0	6	7	54
G9439070	7.0	8	8	58
G9439080	8.0	8	9	58
G9439090	9.0	10	10	66
G9439100	10.0	10	11	66
G9439120	12.0	12	12	73
G9439140	14.0	14	14	75
G9439160	16.0	16	16	82
G9439180	18.0	18	18	84
G9439200	20.0	20	20	92

Mill Dia. Tolerance(mm)	Shank Dia. Tolerance
0~-0.03	h6

◎ : Excellent ○ : Good

Carbon Steels	Alloy Steels	Prehardened Steels	Hardened Steels		High Hardened Steels	Copper	Graphite	Cast Iron	Aluminum	Stainless Steels	Titanium	Inconel	Acrylic	CFRP
~HB225	HB225~325	HRc30~40	HRc40~45	HRc45~55	HRc55~70									
◎	◎	◎				○		○	○	○	○	○		

# K-2 CARBIDE END MILLS

**G9528**<sup>SERIES</sup>  
PLAIN SHANK

## CARBIDE, 3 FLUTE LONG LENGTH VOLLHARTMETALL, 3 SCHNEIDEN LANG

- ▶ Suitable for dry milling applications at high temperatures.
- ▶ Excellent high-performance end mills.
- ▶ 3 flute design possess the advantage of 2 flute and 4 flute end mill.

- ▶ Für die Trockenbearbeitung geeignet.
- ▶ Exzellente Hochleistungs Mühlen.
- ▶ 3 Schneiden verbinden die Vorteile von 2 - und 4 - schneidigen Schaftfräsern.

**G9528**  
Sharp Corner



Unit : mm

EDP No.	Mill Diameter	Shank Diameter	Length of Cut	Overall Length
G9528035	3.5	3.5	7	50
G9528040	4.0	4	8	50
G9528045	4.5	4.5	8	50
G9528050	5.0	5	10	50
G9528055	5.5	5.5	10	57
G9528060	6.0	6	10	57
G9528065	6.5	6.5	13	60
G9528070	7.0	7	13	60
G9528075	7.5	7.5	16	63
G9528080	8.0	8	16	63
G9528085	8.5	8.5	16	67
G9528090	9.0	9	16	67
G9528095	9.5	9.5	19	72
G9528100	10.0	10	19	72
G9528110	11.0	11	22	83
G9528120	12.0	12	22	83
G9528130	13.0	13	22	83
G9528140	14.0	14	22	83
G9528150	15.0	15	26	92
G9528160	16.0	16	26	92
G9528180	18.0	18	26	92
G9528200	20.0	20	32	104

Mill Dia. Tolerance(mm)	Shank Dia. Tolerance
0~-0.03	h6

◎ : Excellent ○ : Good

Carbon Steels	Alloy Steels	Prehardened Steels	Hardened Steels		High Hardened Steels	Copper	Graphite	Cast Iron	Aluminum	Stainless Steels	Titanium	Inconel	Acrylic	CFRP
~HB225	HB225~325	HRc30~40	HRc40~45	HRc45~55	HRc55~70									
◎	◎	◎				○		○	○	○	○	○		

# K-2 CARBIDE END MILLS

**G9433**SERIES  
FLAT SHANK

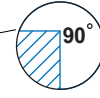
**G9G48**SERIES  
FLAT SHANK

## CARBIDE, 3 FLUTE LONG LENGTH VOLLHARTMETALL, 3 SCHNEIDEN LANG

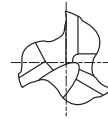
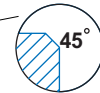
- ▶ Suitable for dry milling applications at high temperatures.
- ▶ Excellent high-performance end mills.
- ▶ 3 flute design possess the advantage of 2 flute and 4 flute end mill.

- ▶ Für die Trockenbearbeitung geeignet.
- ▶ Exzellente Hochleistungs Mühlen.
- ▶ 3 Schneiden verbinden die Vorteile von 2 - und 4 - schneidigen Schaffräsern.

**G9433**  
Sharp Corner



**G9G48**  
Chamfer



Unit : mm

EDP No. (Corner Type)		Mill Diameter	Shank Diameter	Length of Cut	Overall Length	Chamfer Size
Sharp	<b>NEW</b> Chamfer					
G9433030	G9G48030	3.0	6	7	57	0.1
G9433040	G9G48040	4.0	6	8	57	0.1
G9433050	G9G48050	5.0	6	10	57	0.1
G9433060	G9G48060	6.0	6	10	57	0.1
G9433080	G9G48080	8.0	8	16	63	0.13
G9433090	-	9.0	10	16	72	-
G9433100	G9G48100	10.0	10	19	72	0.13
G9433120	G9G48120	12.0	12	22	83	0.18
G9433140	G9G48140	14.0	14	22	83	0.18
G9433160	G9G48160	16.0	16	26	92	0.18
G9433180	-	18.0	18	26	92	-
G9433200	G9G48200	20.0	20	32	104	0.23

Mill Dia. Tolerance(mm)	Shank Dia. Tolerance
0~-0.03	h6

◎ : Excellent ○ : Good

Carbon Steels	Alloy Steels	Prehardened Steels	Hardened Steels		High Hardened Steels	Copper	Graphite	Cast Iron	Aluminum	Stainless Steels	Titanium	Inconel	Acrylic	CFRP
~HB225	HB225~325	HRc30~40	HRc40~45	HRc45~55	HRc55~70									
◎	◎	◎				○		○	○	○	○	○		

# K-2 CARBIDE END MILLS

**G9447**SERIES  
FLAT SHANK

**G9G49**SERIES  
FLAT SHANK

**CARBIDE, 3 FLUTE 45° HELIX, LONG LENGTH**

**VOLLHARTMETALL, 3 SCHNEIDEN 45° RECHTSSPIRALE LANG**

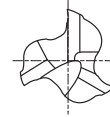
- ▶ Suitable for dry milling applications at high temperatures.
- ▶ Excellent high-performance end mills.

- ▶ Für die Trockenbearbeitung geeignet.
- ▶ Exzellente Hochleistungs Mühlen.

**G9447**  
Sharp Corner



**G9G49**  
Chamfer



Unit : mm

EDP No. (Corner Type)		Mill Diameter	Shank Diameter	Length of Cut	Overall Length	Chamfer Size
Sharp	<b>NEW</b> Chamfer					
G9447030	G9G49030	3.0	6	7	57	0.1
G9447035	-	3.5	6	7	57	-
G9447040	G9G49040	4.0	6	8	57	0.1
G9447045	-	4.5	6	8	57	-
G9447050	G9G49050	5.0	6	10	57	0.1
G9447060	G9G49060	6.0	6	10	57	0.1
G9447070	-	7.0	8	13	63	-
G9447080	G9G49080	8.0	8	16	63	0.13
G9447090	-	9.0	10	16	72	-
G9447100	G9G49100	10.0	10	19	72	0.13
G9447120	G9G49120	12.0	12	22	83	0.18
G9447140	G9G49140	14.0	14	22	83	0.18
G9447160	G9G49160	16.0	16	26	92	0.18
G9447180	-	18.0	18	26	92	-
G9447200	G9G49200	20.0	20	32	104	0.23

Mill Dia. Tolerance(mm)	Shank Dia. Tolerance
0~-0.03	h6

◎ : Excellent ○ : Good

Carbon Steels	Alloy Steels	Prehardened Steels	Hardened Steels		High Hardened Steels	Copper	Graphite	Cast Iron	Aluminum	Stainless Steels	Titanium	Inconel	Acrylic	CFRP
~HB225	HB225~325	HRc30~40	HRc40~45	HRc45~55	HRc55~70									
◎	◎	◎				◎		○	◎	○	○	○		

# K-2 CARBIDE END MILLS

**G9432**SERIES  
PLAIN SHANK

**G9G50**SERIES  
PLAIN SHANK

## CARBIDE, 4 FLUTE SHORT LENGTH VOLLHARTMETALL, 4 SCHNEIDEN KURZ

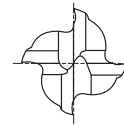
- ▶ Suitable for dry milling applications at high temperatures.
- ▶ Excellent high-performance end mills.
- ▶ 4 flute allows for better work piece finishes.

- ▶ Für die Trockenbearbeitung geeignet.
- ▶ Exzellente Hochleistungs Mühlen.
- ▶ 4 Schneiden erzeugen eine bessere Oberflächengüte des Werkstücks.

**G9432**  
Sharp Corner



**G9G50**  
Chamfer



Unit : mm

EDP No. (Corner Type)		Mill Diameter	Shank Diameter	Length of Cut	Overall Length	Chamfer Size
Sharp	<b>NEW</b> Chamfer					
G9432010	-	1.0	4	3	40	-
G9432015	-	1.5	4	4.5	40	-
G9432020	-	2.0	2	8	32	-
G9432025	-	2.5	2.5	8	32	-
G9432030	G9G50030	3.0	3	12	32	0.1
G9432035	-	3.5	3.5	12	32	-
G9432040	G9G50040	4.0	4	12	40	0.1
G9432045	-	4.5	4.5	14	50	-
G9432050	G9G50050	5.0	5	14	50	0.1
G9432055	-	5.5	5.5	16	50	-
G9432060	G9G50060	6.0	6	16	50	0.1
G9432070	-	7.0	7	20	60	-
G9432080	G9G50080	8.0	8	20	60	0.13
G9432090	-	9.0	9	20	60	-
G9432100	G9G50100	10.0	10	22	70	0.13
G9432120	G9G50120	12.0	12	22	70	0.18
G9432140	G9G50140	14.0	14	25	75	0.18
G9432160	G9G50160	16.0	16	25	75	0.18
G9432200	G9G50200	20.0	20	32	100	0.23

Mill Dia. Tolerance(mm)	Shank Dia. Tolerance
0~-0.03	h6

◎ : Excellent ○ : Good

Carbon Steels	Alloy Steels	Prehardened Steels	Hardened Steels		High Hardened Steels	Copper	Graphite	Cast Iron	Aluminum	Stainless Steels	Titanium	Inconel	Acrylic	CFRP
~HB225	HB225~325	HRc30~40	HRc40~45	HRc45~55	HRc55~70									
◎	◎	◎				○		○	○	○	○	○		

# K-2 CARBIDE END MILLS

**G9A69**<sup>SERIES</sup>  
PLAIN SHANK

## CARBIDE, 4 FLUTE SHORT LENGTH VOLLHARTMETALL, 4 SCHNEIDEN KURZ

- ▶ Suitable for dry milling applications at high temperatures.
- ▶ Excellent high-performance end mills.
- ▶ 4 flute allows for better work piece finishes.

- ▶ Für die Trockenbearbeitung geeignet.
- ▶ Exzellente Hochleistungs Mühlen.
- ▶ 4 Schneiden erzeugen eine bessere Oberflächengüte des Werkstücks.

**G9A69**  
Sharp Corner



Unit : mm

EDP No.	Mill Diameter	Shank Diameter	Length of Cut	Overall Length
G9A69010	1.0	3	3	39
G9A69015	1.5	3	5	39
G9A69020	2.0	3	7	39
G9A69025	2.5	3	7	39
G9A69030	3.0	3	10	39
G9A69040	4.0	4	14	51
G9A69050	5.0	5	16	51
G9A69060	6.0	6	19	64
G9A69080	8.0	8	21	64
G9A69100	10.0	10	22	70
G9A69120	12.0	12	25	76
G9A69160	16.0	16	32	89
G9A69200	20.0	20	38	102

Mill Dia. Tolerance(mm)	Shank Dia. Tolerance
0~-0.03	h6

◎ : Excellent ○ : Good

Carbon Steels	Alloy Steels	Prehardened Steels	Hardened Steels		High Hardened Steels	Copper	Graphite	Cast Iron	Aluminum	Stainless Steels	Titanium	Inconel	Acrylic	CFRP
~HB225	HB225~325	HRc30~40	HRc40~45	HRc45~55	HRc55~70									
◎	◎	◎				○		○	○	○	○	○		

# K-2 CARBIDE END MILLS

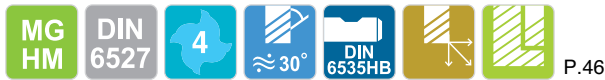
**G9448**SERIES  
FLAT SHANK

## CARBIDE, 4 FLUTE SHORT LENGTH VOLLHARTMETALL, 4 SCHNEIDEN KURZ

- ▶ Suitable for dry milling applications at high temperatures.
- ▶ Excellent high-performance end mills.
- ▶ 4 flute allows for better work piece finishes.

- ▶ Für die Trockenbearbeitung geeignet.
- ▶ Exzellente Hochleistungs Mühlen.
- ▶ 4 Schneiden erzeugen eine bessere Oberflächengüte des Werkstücks.

**G9448**  
Sharp Corner



Unit : mm

EDP No.	Mill Diameter	Shank Diameter	Length of Cut	Overall Length
G9448020	2.0	6	4	50
G9448025	2.5	6	4	50
G9448030	3.0	6	5	50
G9448035	3.5	6	6	50
G9448040	4.0	6	8	54
G9448045	4.5	6	8	54
G9448050	5.0	6	9	54
G9448060	6.0	6	10	54
G9448070	7.0	8	11	58
G9448080	8.0	8	12	58
G9448090	9.0	10	13	66
G9448100	10.0	10	14	66
G9448120	12.0	12	16	73
G9448140	14.0	14	18	75
G9448160	16.0	16	22	82
G9448180	18.0	18	24	84
G9448200	20.0	20	26	92

Mill Dia. Tolerance(mm)	Shank Dia. Tolerance
0~-0.03	h6

◎ : Excellent ○ : Good

Carbon Steels	Alloy Steels	Prehardened Steels	Hardened Steels		High Hardened Steels	Copper	Graphite	Cast Iron	Aluminum	Stainless Steels	Titanium	Inconel	Acrylic	CFRP
~HB225	HB225~325	HRc30~40	HRc40~45	HRc45~55	HRc55~70									
◎	◎	◎				○		○	○	○	○	○		

# K-2 CARBIDE END MILLS

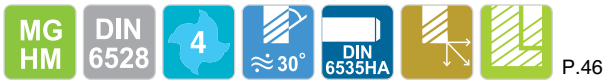
**G9540**<sup>SERIES</sup>  
PLAIN SHANK

## CARBIDE, 4 FLUTE LONG LENGTH VOLLHARTMETALL, 4 SCHNEIDEN LANG

- ▶ Suitable for dry milling applications at high temperatures.
- ▶ Excellent high-performance end mills.
- ▶ 4 flute allows for better work piece finishes.

- ▶ Für die Trockenbearbeitung geeignet.
- ▶ Exzellente Hochleistungs Mühlen.
- ▶ 4 Schneiden erzeugen eine bessere Oberflächengüte des Werkstücks.

**G9540**  
Sharp Corner



Unit : mm

EDP No.	Mill Diameter	Shank Diameter	Length of Cut	Overall Length
G9540035	3.5	3.5	10	50
G9540040	4.0	4	11	50
G9540045	4.5	4.5	11	50
G9540050	5.0	5	13	50
G9540055	5.5	5.5	13	57
G9540060	6.0	6	13	57
G9540065	6.5	6.5	16	60
G9540070	7.0	7	16	60
G9540075	7.5	7.5	19	63
G9540080	8.0	8	19	63
G9540085	8.5	8.5	19	67
G9540090	9.0	9	19	67
G9540095	9.5	9.5	22	72
G9540100	10.0	10	22	72
G9540110	11.0	11	26	83
G9540120	12.0	12	26	83
G9540130	13.0	13	26	83
G9540140	14.0	14	26	83
G9540150	15.0	15	32	92
G9540160	16.0	16	32	92
G9540180	18.0	18	32	92
G9540200	20.0	20	38	104

Mill Dia. Tolerance(mm)	Shank Dia. Tolerance
0~-0.03	h6

◎ : Excellent ○ : Good

Carbon Steels	Alloy Steels	Prehardened Steels	Hardened Steels		High Hardened Steels	Copper	Graphite	Cast Iron	Aluminum	Stainless Steels	Titanium	Inconel	Acrylic	CFRP
~HB225	HB225~325	HRc30~40	HRc40~45	HRc45~55	HRc55~70									
◎	◎	◎				○		○	○	○	○	○		

# K-2 CARBIDE END MILLS

**G9449**<sup>SERIES</sup>  
PLAIN SHANK, FLAT SHANK

**G9G51**<sup>SERIES</sup>  
FLAT SHANK

## CARBIDE, 4 FLUTE LONG LENGTH VOLLHARTMETALL, 4 SCHNEIDEN LANG

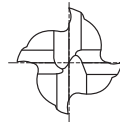
- ▶ Suitable for dry milling applications at high temperatures.
- ▶ Excellent high-performance end mills.
- ▶ 4 flute allows for better work piece finishes.

- ▶ Für die Trockenbearbeitung geeignet.
- ▶ Exzellente Hochleistungs Mühlen.
- ▶ 4 Schneiden erzeugen eine bessere Oberflächengüte des Werkstücks.

**G9449**  
Sharp Corner



**G9G51**  
Chamfer



Unit : mm

EDP No. (Corner Type)		Mill Diameter	Shank Diameter	Length of Cut	Overall Length	Chamfer Size
Sharp	<b>NEW</b> Chamfer					
G9449901	-	2.0	● 3	7	38	-
G9449030	G9G51030	3.0	6	8	57	0.1
G9449035	-	3.5	6	10	57	-
G9449040	G9G51040	4.0	6	11	57	0.1
G9449045	-	4.5	6	11	57	-
G9449050	G9G51050	5.0	6	13	57	0.1
G9449060	G9G51060	6.0	6	13	57	0.1
G9449070	-	7.0	8	16	63	-
G9449080	G9G51080	8.0	8	19	63	0.13
G9449090	-	9.0	10	19	72	-
G9449100	G9G51100	10.0	10	22	72	0.13
G9449120	G9G51120	12.0	12	26	83	0.18
G9449140	G9G51140	14.0	14	26	83	0.18
G9449160	G9G51160	16.0	16	32	92	0.18
G9449180	-	18.0	18	32	92	-
G9449200	G9G51200	20.0	20	38	104	0.23

● with plain shank

Mill Dia. Tolerance(mm)	Shank Dia. Tolerance
0~-0.03	h6

◎ : Excellent ○ : Good

Carbon Steels	Alloy Steels	Prehardened Steels	Hardened Steels		High Hardened Steels	Copper	Graphite	Cast Iron	Aluminum	Stainless Steels	Titanium	Inconel	Acrylic	CFRP
~HB225	HB225~325	HRc30~40	HRc40~45	HRc45~55	HRc55~70									
◎	◎	◎				○		○	○	○	○	○		

# K-2 CARBIDE END MILLS

**G9453**<sup>SERIES</sup>  
PLAIN SHANK

## CARBIDE, 4 FLUTE EXTRA LONG LENGTH VOLLHARTMETALL, 4 SCHNEIDEN EXTRA LANG

- ▶ Suitable for dry milling applications at high temperatures.
- ▶ Excellent high-performance end mills.
- ▶ 4 flute allows for better work piece finishes.

- ▶ Für die Trockenbearbeitung geeignet.
- ▶ Exzellente Hochleistungs Mühlen.
- ▶ 4 Schneiden erzeugen eine bessere Oberflächengüte des Werkstücks.

**G9453**  
Sharp Corner



Unit : mm

EDP No.	Mill Diameter	Shank Diameter	Length of Cut	Overall Length
G9453903	3.0	3	20	60
G9453904	4.0	4	20	60
G9453905	5.0	5	25	75
G9453906	6.0	6	30	75
G9453908	8.0	8	30	75
G9453910	10.0	10	40	100
G9453912	12.0	12	45	100
G9453914	14.0	14	45	100
G9453916	16.0	16	45	100
G9453918	18.0	18	45	100
G9453920	20.0	20	45	100

Mill Dia. Tolerance(mm)	Shank Dia. Tolerance
0~-0.03	h6

◎ : Excellent ○ : Good

Carbon Steels	Alloy Steels	Prehardened Steels	Hardened Steels		High Hardened Steels	Copper	Graphite	Cast Iron	Aluminum	Stainless Steels	Titanium	Inconel	Acrylic	CFRP
~HB225	HB225~325	HRc30~40	HRc40~45	HRc45~55	HRc55~70									
◎	◎	◎				○		○	○	○	○	○		

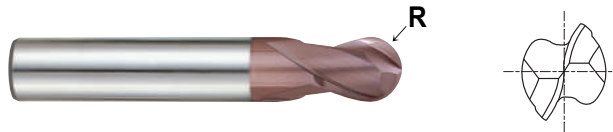
# K-2 CARBIDE END MILLS

**G9624**SERIES  
PLAIN SHANK

## CARBIDE, 2 FLUTE SHORT LENGTH BALL NOSE VOLLHARTMETALL, 2 SCHNEIDEN KURZ STIRNRADIUS

- ▶ Suitable for dry milling applications at high temperatures.
- ▶ Excellent high-performance end mills.
- ▶ Designed for milling of radius bottom slots, fillets and special contours.

- ▶ Für die Trockenbearbeitung geeignet.
- ▶ Exzellente Hochleistungs Mühlen.
- ▶ Bestimmt für das Fräsen von Nuten mit konvexem Grund, Sonderprofilen und zum Kopieren.



Unit : mm

EDP No.	Radius of Ball Nose	Mill Diameter	Shank Diameter	Length of Cut	Overall Length
	R (±0.02)				
G9624020	R 1.0	2.0	6	4	48
G9624025	R 1.25	2.5	6	4	48
G9624030	R 1.5	3.0	6	4	48
G9624040	R 2.0	4.0	6	6	50
G9624901	R 2.0	4.0	4	12	40
G9624050	R 2.5	5.0	6	7	51
G9624902	R 2.5	5.0	5	14	50
G9624060	R 3.0	6.0	6	7	51
G9624080	R 4.0	8.0	8	9	59
G9624100	R 5.0	10.0	10	10	60
G9624120	R 6.0	12.0	12	14	71
G9624140	R 7.0	14.0	14	14	71
G9624160	R 8.0	16.0	16	16	76
G9624180	R 9.0	18.0	18	18	76
G9624200	R 10.0	20.0	20	20	82

Mill Dia. Tolerance(mm)	Shank Dia. Tolerance
0~-0.03	h6

◎ : Excellent ○ : Good

Carbon Steels	Alloy Steels	Prehardened Steels	Hardened Steels		High Hardened Steels	Copper	Graphite	Cast Iron	Aluminum	Stainless Steels	Titanium	Inconel	Acrylic	CFRP
~HB225	HB225~325	HRc30~40	HRc40~45	HRc45~55	HRc55~70									
◎	◎	◎	○			○		○	○	○	○	○		

# K-2 CARBIDE END MILLS

**G9A70**<sup>SERIES</sup>  
PLAIN SHANK

## CARBIDE, 2 FLUTE SHORT LENGTH BALL NOSE VOLLHARTMETALL, 2 SCHNEIDEN KURZ STIRNRADIUS

- ▶ Suitable for dry milling applications at high temperatures.
- ▶ Excellent high-performance end mills.
- ▶ Designed for milling of radius bottom slots, fillets and special contours.

- ▶ Für die Trockenbearbeitung geeignet.
- ▶ Exzellente Hochleistungs Mühlen.
- ▶ Bestimmt für das Fräsen von Nuten mit konvexem Grund, Sonderprofilen und zum Kopieren.



Unit : mm

EDP No.	Radius of Ball Nose	Mill Diameter	Shank Diameter	Length of Cut	Overall Length
	R (±0.02)				
G9A70010	R 0.5	1.0	3	3	39
G9A70015	R 0.75	1.5	3	5	39
G9A70020	R 1.0	2.0	3	7	39
G9A70025	R 1.25	2.5	3	8	39
G9A70030	R 1.5	3.0	3	9	39
G9A70040	R 2.0	4.0	4	14	51
G9A70050	R 2.5	5.0	5	16	51
G9A70060	R 3.0	6.0	6	19	64
G9A70080	R 4.0	8.0	8	21	64
G9A70100	R 5.0	10.0	10	22	70
G9A70110	R 5.5	11.0	11	25	70
G9A70120	R 6.0	12.0	12	25	76
G9A70160	R 8.0	16.0	16	32	89
G9A70200	R 10.0	20.0	20	38	102

Mill Dia. Tolerance(mm)	Shank Dia. Tolerance
0~-0.03	h6

◎ : Excellent ○ : Good

Carbon Steels	Alloy Steels	Prehardened Steels	Hardened Steels		High Hardened Steels	Copper	Graphite	Cast Iron	Aluminum	Stainless Steels	Titanium	Inconel	Acrylic	CFRP
~HB225	HB225~325	HRc30~40	HRc40~45	HRc45~55	HRc55~70									
◎	◎	◎	○			○		○	○	○	○	○		

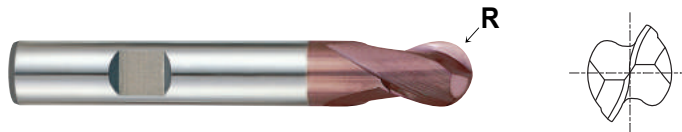
# K-2 CARBIDE END MILLS

**G9437**SERIES  
FLAT SHANK

## CARBIDE, 2 FLUTE SHORT LENGTH BALL NOSE VOLLHARTMETALL, 2 SCHNEIDEN KURZ STIRNRADIUS

- ▶ Suitable for dry milling applications at high temperatures.
- ▶ Excellent high-performance end mills.
- ▶ Designed for milling of radius bottom slots, fillets and special contours.

- ▶ Für die Trockenbearbeitung geeignet.
- ▶ Exzellente Hochleistungs Mühlen.
- ▶ Bestimmt für das Fräsen von Nuten mit konvexem Grund, Sonderprofilen und zum Kopieren.



Unit : mm

EDP No.	Radius of Ball Nose	Mill Diameter	Shank Diameter	Length of Cut	Overall Length
	R (±0.02)				
G9437020	R 1.0	2.0	6	3	50
G9437030	R 1.5	3.0	6	4	50
G9437040	R 2.0	4.0	6	5	54
G9437050	R 2.5	5.0	6	6	54
G9437060	R 3.0	6.0	6	7	54
G9437080	R 4.0	8.0	8	9	58
G9437100	R 5.0	10.0	10	11	66
G9437120	R 6.0	12.0	12	12	73
G9437140	R 7.0	14.0	14	14	75
G9437180	R 9.0	18.0	18	18	84
G9437200	R 10.0	20.0	20	20	92

Mill Dia. Tolerance(mm)	Shank Dia. Tolerance
0~-0.03	h6

◎ : Excellent ○ : Good

Carbon Steels	Alloy Steels	Prehardened Steels	Hardened Steels		High Hardened Steels	Copper	Graphite	Cast Iron	Aluminum	Stainless Steels	Titanium	Inconel	Acrylic	CFRP
~HB225	HB225~325	HRc30~40	HRc40~45	HRc45~55	HRc55~70									
◎	◎	◎	○			○		○	○	○	○	○		

# K-2 CARBIDE END MILLS

**G9438**<sup>SERIES</sup>  
PLAIN SHANK, FLAT SHANK

## CARBIDE, 2 FLUTE LONG LENGTH BALL NOSE VOLLHARTMETALL, 2 SCHNEIDEN LANG STIRNRADIUS

- ▶ Suitable for dry milling applications at high temperatures.
- ▶ Excellent high-performance end mills.
- ▶ Designed for milling of radius bottom slots, fillets and special contours.
- ▶ Für die Trockenbearbeitung geeignet.
- ▶ Exzellente Hochleistungs Mühlen.
- ▶ Bestimmt für das Fräsen von Nuten mit konvexem Grund, Sonderprofilen und zum Kopieren.



Unit : mm

EDP No.	Radius of Ball Nose	Mill Diameter	Shank Diameter	Length of Cut	Overall Length
	R (±0.02)				
G9438020	R 1.0	2.0	● 3	6	38
G9438030	R 1.5	3.0	6	7	57
G9438040	R 2.0	4.0	6	8	57
G9438050	R 2.5	5.0	6	10	57
G9438060	R 3.0	6.0	6	10	57
G9438080	R 4.0	8.0	8	16	63
G9438100	R 5.0	10.0	10	19	72
G9438120	R 6.0	12.0	12	22	83
G9438140	R 7.0	14.0	14	22	83
G9438160	R 8.0	16.0	16	26	92
G9438180	R 9.0	18.0	18	26	92
G9438200	R 10.0	20.0	20	32	104

● with plain shank

Mill Dia. Tolerance(mm)	Shank Dia. Tolerance
0~-0.03	h6

◎ : Excellent ○ : Good

Carbon Steels	Alloy Steels	Prehardened Steels	Hardened Steels		High Hardened Steels	Copper	Graphite	Cast Iron	Aluminum	Stainless Steels	Titanium	Inconel	Acrylic	CFRP
~HB225	HB225~325	HRc30~40	HRc40~45	HRc45~55	HRc55~70									
◎	◎	◎	○			○		○	○	○	○	○		

# K-2 CARBIDE END MILLS

**G9454**SERIES  
PLAIN SHANK

## CARBIDE, 2 FLUTE LONG REACH BALL NOSE

## VOLLHARTMETALL, 2 SCHNEIDEN GROÙE REICHWEITE STIRNRADIUS

- ▶ Suitable for dry milling applications at high temperatures.
- ▶ Excellent high-performance end mills.
- ▶ Designed for milling of radius bottom slots, fillets and special contours.

- ▶ Für die Trockenbearbeitung geeignet.
- ▶ Exzellente Hochleistungs Mühlen.
- ▶ Bestimmt für das Fräsen von Nuten mit konvexem Grund, Sonderprofilen und zum Kopieren.



Unit : mm

EDP No.	Radius of Ball Nose	Mill Diameter	Shank Diameter	Length of Cut	Overall Length
	R (±0.02)				
G9454030	R 1.5	3.0	3	5	75
G9454040	R 2.0	4.0	4	8	75
G9454050	R 2.5	5.0	5	9	75
G9454060	R 3.0	6.0	6	10	100
G9454080	R 4.0	8.0	8	12	100
G9454100	R 5.0	10.0	10	14	100
G9454120	R 6.0	12.0	12	16	100
G9454140	R 7.0	14.0	14	18	100
G9454160	R 8.0	16.0	16	22	150
G9454200	R 10.0	20.0	20	26	150

Mill Dia. Tolerance(mm)	Shank Dia. Tolerance
0~-0.03	h6

◎ : Excellent ○ : Good

Carbon Steels	Alloy Steels	Prehardened Steels	Hardened Steels		High Hardened Steels	Copper	Graphite	Cast Iron	Aluminum	Stainless Steels	Titanium	Inconel	Acrylic	CFRP
~HB225	HB225~325	HRc30~40	HRc40~45	HRc45~55	HRc55~70									
◎	◎	◎	○			○		○	○	○	○	○		

# K-2 CARBIDE END MILLS

**G9455**<sup>SERIES</sup>  
PLAIN SHANK

## CARBIDE, 2 FLUTE EXTRA LONG LENGTH BALL NOSE VOLLHARTMETALL, 2 SCHNEIDEN EXTRA LANG STIRNRADIUS

- ▶ Suitable for dry milling applications at high temperatures.
- ▶ Excellent high-performance end mills.
- ▶ Designed for milling of radius bottom slots, fillets and special contours.

- ▶ Für die Trockenbearbeitung geeignet.
- ▶ Exzellente Hochleistungs Mühlen.
- ▶ Bestimmt für das Fräsen von Nuten mit konvexem Grund, Sonderprofilen und zum Kopieren.



Unit : mm

EDP No.	Radius of Ball Nose	Mill Diameter	Shank Diameter	Length of Cut	Overall Length
	R (±0.02)				
<b>G9455903</b>	R 1.5	<b>3.0</b>	3	20	60
<b>G9455904</b>	R 2.0	<b>4.0</b>	4	20	60
<b>G9455905</b>	R 2.5	<b>5.0</b>	5	25	75
<b>G9455906</b>	R 3.0	<b>6.0</b>	6	30	75
<b>G9455908</b>	R 4.0	<b>8.0</b>	8	30	75
<b>G9455910</b>	R 5.0	<b>10.0</b>	10	40	100
<b>G9455912</b>	R 6.0	<b>12.0</b>	12	45	100
<b>G9455914</b>	R 7.0	<b>14.0</b>	14	45	100
<b>G9455916</b>	R 8.0	<b>16.0</b>	16	45	100
<b>G9455918</b>	R 9.0	<b>18.0</b>	18	45	100
<b>G9455920</b>	R 10.0	<b>20.0</b>	20	45	100

Mill Dia. Tolerance(mm)	Shank Dia. Tolerance
0~-0.03	h6

◎ : Excellent ○ : Good

Carbon Steels	Alloy Steels	Prehardened Steels	Hardened Steels		High Hardened Steels	Copper	Graphite	Cast Iron	Aluminum	Stainless Steels	Titanium	Inconel	Acrylic	CFRP
~HB225	HB225~325	HRc30~40	HRc40~45	HRc45~55	HRc55~70									
◎	◎	◎	○			○		○	○	○	○	○		

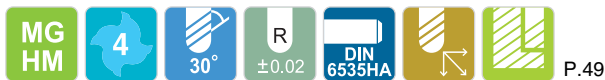
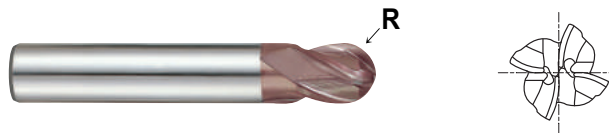
# K-2 CARBIDE END MILLS

**G9634**SERIES  
PLAIN SHANK

## CARBIDE, 4 FLUTE SHORT LENGTH BALL NOSE VOLLHARTMETALL, 4 SCHNEIDEN KURZ STIRNRADIUS

- ▶ Suitable for dry milling applications at high temperatures.
- ▶ Excellent high-performance end mills.
- ▶ 4 flute allows for better work piece finishes.
- ▶ Designed for milling of radius bottom slots, fillets and special contours.

- ▶ Für die Trockenbearbeitung geeignet.
- ▶ Exzellente Hochleistungs Mühlen.
- ▶ 4 Schneiden erzeugen eine bessere Oberflächengüte des Werkstücks.
- ▶ Bestimmt für das Fräsen von Nuten mit konvexem Grund, Sonderprofilen und zum Kopieren.



Unit : mm

EDP No.	Radius of Ball Nose	Mill Diameter	Shank Diameter	Length of Cut	Overall Length
	R (±0.02)				
G9634020	R 1.0	2.0	6	4	48
G9634030	R 1.5	3.0	6	4	48
G9634040	R 2.0	4.0	6	6	50
G9634050	R 2.5	5.0	6	7	51
G9634060	R 3.0	6.0	6	7	51
G9634080	R 4.0	8.0	8	9	59
G9634100	R 5.0	10.0	10	10	60
G9634120	R 6.0	12.0	12	14	71
G9634140	R 7.0	14.0	14	14	71
G9634160	R 8.0	16.0	16	16	76
G9634180	R 9.0	18.0	18	18	76
G9634200	R 10.0	20.0	20	20	82

Mill Dia. Tolerance(mm)	Shank Dia. Tolerance
0~-0.03	h6

◎ : Excellent ○ : Good

Carbon Steels	Alloy Steels	Prehardened Steels	Hardened Steels		High Hardened Steels	Copper	Graphite	Cast Iron	Aluminum	Stainless Steels	Titanium	Inconel	Acrylic	CFRP
~HB225	HB225~325	HRc30~40	HRc40~45	HRc45~55	HRc55~70									
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# K-2 CARBIDE END MILLS

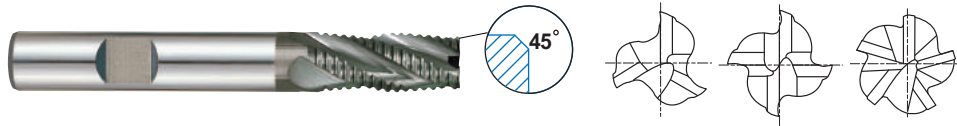
**G9A42**<sub>SERIES</sub>  
FLAT SHANK

## CARBIDE, MULTI FLUTE LONG LENGTH ROUGHING - COARSE VOLLHARTMETALL, MEHRSCHEIDEN LANG SCHRUPPFÄRER - GROB

- ▶ Suitable for dry milling applications at high temperatures.
- ▶ Excellent high-performance end mills.
- ▶ Fast chip ejection.

- ▶ Für die Trockenbearbeitung geeignet.
- ▶ Exzellente Hochleistungs Mühlen.
- ▶ Guter Spanauswurf.

**G9A42**  
Chamfer



Unit : mm

EDP No.	Mill Diameter	Shank Diameter	Length of Cut	Overall Length	No. of Flute
	h10	h6			
G9A42060	6.0	6	16	57	3
G9A42080	8.0	8	16	63	3
G9A42100	10.0	10	22	72	4
G9A42120	12.0	12	26	83	4
G9A42140	14.0	14	26	83	4
G9A42160	16.0	16	32	92	4
G9A42180	18.0	18	32	92	4
G9A42200	20.0	20	38	104	4
G9A42250	25.0	25	45	121	5

### Tolerances according to DIN 7160 & 7161 Toleranzen nach DIN 7160 & 7161

Tolerance range in $\mu\text{m}$ / Toleranzwerte in $\mu\text{m}$					
Nominal-Diameter in mm / Nennmaßbereich in mm					
	from 1 to 3 von 1 bis 3	over 3 to 6 über 3 bis 6	over 6 to 10 über 6 bis 10	over 10 to 18 über 10 bis 18	over 18 to 30 über 18 bis 30
<b>h10</b>	0 - 40	0 - 48	0 - 58	0 - 70	0 - 84
<b>h6</b>	0 - 6	0 - 8	0 - 9	0 - 11	0 - 13

◎ : Excellent ○ : Good

Carbon Steels	Alloy Steels	Prehardened Steels	Hardened Steels		High Hardened Steels	Copper	Graphite	Cast Iron	Aluminum	Stainless Steels	Titanium	Inconel	Acrylic	CFRP
~HB225	HB225~325	HRC30~40	HRC40~45	HRC45~55	HRC55~70									
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# K-2 CARBIDE END MILLS

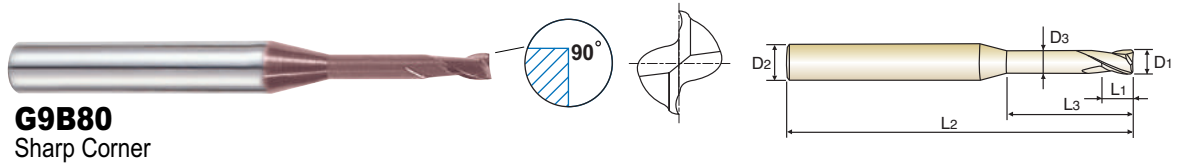
**G9B80**SERIES  
PLAIN SHANK

## CARBIDE, 2 FLUTE RIB PROCESSING

## VOLLHARTMETALL, 2 SCHNEIDEN SCHMALE RIPPEN

- ▶ Suitable for dry milling applications at high temperatures.
- ▶ Excellent high-performance end mills.
- ▶ 2 flute design for slotting.

- ▶ Für die Trockenbearbeitung geeignet.
- ▶ Exzellente Hochleistungs Mühlen.
- ▶ 2 Schneiden zum Nutenfräsen.



**G9B80**  
Sharp Corner



Unit : mm

EDP No.	Mill Diameter	Shank Diameter	Length of Cut	Length Below Shank	Overall Length	Neck Diameter
	D1	D2	L1	L3	L2	D3
G9B80004	0.4	4	0.7	2	50	0.37
G9B80901	0.4	4	0.7	4	50	0.37
G9B80005	0.5	4	0.75	2	50	0.45
G9B80902	0.5	4	0.75	4	50	0.45
G9B80903	0.5	4	0.75	6	50	0.45
G9B80006	0.6	4	0.9	2	50	0.55
G9B80904	0.6	4	0.9	4	50	0.55
G9B80905	0.6	4	0.9	6	50	0.55
G9B80007	0.7	4	1.1	4	50	0.65
G9B80906	0.7	4	1.1	6	50	0.65
G9B80008	0.8	4	1.2	4	50	0.75
G9B80907	0.8	4	1.2	6	50	0.75
G9B80908	0.8	4	1.2	8	50	0.75
G9B80009	0.9	4	1.4	6	50	0.85
G9B80909	0.9	4	1.4	8	50	0.85
G9B80910	0.9	4	1.4	10	50	0.85
G9B80010	1.0	4	1.5	6	50	0.95
G9B80911	1.0	4	1.5	8	50	0.95
G9B80912	1.0	4	1.5	10	50	0.95
G9B80913	1.0	4	1.5	12	50	0.95
G9B80012	1.2	4	1.8	6	50	1.15
G9B80914	1.2	4	1.8	8	50	1.15
G9B80915	1.2	4	1.8	10	50	1.15
G9B80916	1.2	4	1.8	12	50	1.15
G9B80015	1.5	4	2.3	6	50	1.45
G9B80917	1.5	4	2.3	8	50	1.45
G9B80918	1.5	4	2.3	10	50	1.45
G9B80919	1.5	4	2.3	12	50	1.45
G9B80920	1.5	4	2.3	14	50	1.45
G9B80921	1.5	4	2.3	16	50	1.45

◎ : Excellent ○ : Good

Carbon Steels	Alloy Steels	Prehardened Steels	Hardened Steels		High Hardened Steels	Copper	Graphite	Cast Iron	Aluminum	Stainless Steels	Titanium	Inconel	Acrylic	CFRP
~HB225	HB225~325	HRc30~40	HRc40~45	HRc45~55	HRc55~70									
◎	◎	◎				○		○	○	○				

# K-2 CARBIDE END MILLS

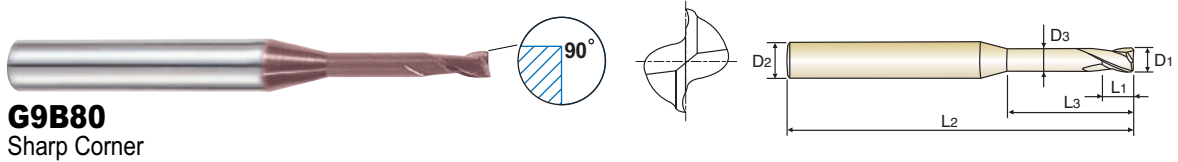
**G9B80**SERIES  
PLAIN SHANK

## CARBIDE, 2 FLUTE RIB PROCESSING

## VOLLHARTMETALL, 2 SCHNEIDEN SCHMALE RIPPEN

- ▶ Suitable for dry milling applications at high temperatures.
- ▶ Excellent high-performance end mills.
- ▶ 2 flute design for slotting.

- ▶ Für die Trockenbearbeitung geeignet.
- ▶ Exzellente Hochleistungs Mühlen.
- ▶ 2 Schneiden zum Nutenfräsen.



**G9B80**  
Sharp Corner



Unit : mm

EDP No.	Mill Diameter	Shank Diameter	Length of Cut	Length Below Shank	Overall Length	Neck Diameter
	D1	D2	L1	L3	L2	D3
G9B80922	1.5	4	2.3	18	50	1.45
G9B80923	1.5	4	2.3	20	50	1.45
G9B80020	2.0	4	3	6	50	1.95
G9B80924	2.0	4	3	8	50	1.95
G9B80925	2.0	4	3	10	50	1.95
G9B80926	2.0	4	3	12	50	1.95
G9B80927	2.0	4	3	14	50	1.95
G9B80928	2.0	4	3	16	50	1.95
G9B80929	2.0	4	3	18	50	1.95
G9B80930	2.0	4	3	20	50	1.95
G9B80025	2.5	4	3.7	8	50	2.40
G9B80931	2.5	4	3.7	12	50	2.40
G9B80932	2.5	4	3.7	16	50	2.40
G9B80933	2.5	4	3.7	20	50	2.40
G9B80030	3.0	6	4.5	8	50	2.85
G9B80934	3.0	6	4.5	12	50	2.85
G9B80935	3.0	6	4.5	16	60	2.85
G9B80936	3.0	6	4.5	20	60	2.85
G9B80937	3.0	6	4.5	25	75	2.85
G9B80040	4.0	6	6	12	50	3.85
G9B80938	4.0	6	6	16	60	3.85
G9B80939	4.0	6	6	20	75	3.85
G9B80940	4.0	6	6	25	75	3.85
G9B80941	4.0	6	6	30	75	3.85
G9B80942	4.0	6	6	35	75	3.85

Mill Dia. Tolerance(mm)	Shank Dia. Tolerance
0~-0.03	h6

◎ : Excellent ○ : Good

Carbon Steels	Alloy Steels	Prehardened Steels	Hardened Steels		High Hardened Steels	Copper	Graphite	Cast Iron	Aluminum	Stainless Steels	Titanium	Inconel	Acrylic	CFRP
~HB225	HB225~325	HRc30~40	HRc40~45	HRc45~55	HRc55~70									
◎	◎	◎				○		○	○	○				

# K-2 CARBIDE END MILLS

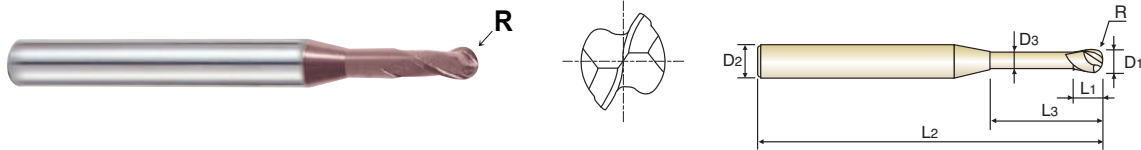
**G9B81**SERIES  
PLAIN SHANK

## CARBIDE, 2 FLUTE BALL NOSE for RIB PROCESSING

## VOLLHARTMETALL, 2 SCHNEIDEN STIRNRADIUS für SCHMALE RIPPEN

- ▶ Suitable for dry milling applications at high temperatures.
- ▶ Excellent high-performance end mills.
- ▶ Designed for milling of radius bottom slots, fillets and special contours.

- ▶ Für die Trockenbearbeitung geeignet.
- ▶ Exzellente Hochleistungs Mühlen.
- ▶ Bestimmt für das Fräsen von Nuten mit konvexem Grund, Sonderprofilen und zum Kopieren.



Unit : mm

EDP No.	Radius of Ball Nose	Mill Diameter	Shank Diameter	Length of Cut	Length Below Shank	Overall Length	Neck Diameter
	R (±0.02)	D1	D2	L1	L3	L2	D3
G9B81004	RO.2	0.4	4	0.7	2	50	0.37
G9B81005	RO.25	0.5	4	0.75	2	50	0.45
G9B81901	RO.25	0.5	4	0.75	4	50	0.45
G9B81902	RO.25	0.5	4	0.75	6	50	0.45
G9B81006	RO.3	0.6	4	0.9	2	50	0.55
G9B81903	RO.3	0.6	4	0.9	4	50	0.55
G9B81904	RO.3	0.6	4	0.9	6	50	0.55
G9B81008	RO.4	0.8	4	1.2	4	50	0.75
G9B81905	RO.4	0.8	4	1.2	6	50	0.75
G9B81906	RO.4	0.8	4	1.2	8	50	0.75
G9B81010	RO.5	1.0	4	1.5	6	50	0.95
G9B81907	RO.5	1.0	4	1.5	8	50	0.95
G9B81908	RO.5	1.0	4	1.5	10	50	0.95
G9B81909	RO.5	1.0	4	1.5	12	50	0.95
G9B81012	RO.6	1.2	4	1.8	8	50	1.15
G9B81910	RO.6	1.2	4	1.8	12	50	1.15
G9B81014	RO.7	1.4	4	2.1	16	50	1.35
G9B81015	RO.75	1.5	4	2.3	6	50	1.45
G9B81911	RO.75	1.5	4	2.3	8	50	1.45
G9B81912	RO.75	1.5	4	2.3	10	50	1.45
G9B81913	RO.75	1.5	4	2.3	12	50	1.45
G9B81914	RO.75	1.5	4	2.3	16	50	1.45
G9B81915	RO.75	1.5	4	2.3	20	50	1.45
G9B81016	RO.8	1.6	4	2.4	8	50	1.55
G9B81916	RO.8	1.6	4	2.4	12	50	1.55
G9B81917	RO.8	1.6	4	2.4	16	50	1.55

◎ : Excellent ○ : Good

Carbon Steels	Alloy Steels	Prehardened Steels	Hardened Steels		High Hardened Steels	Copper	Graphite	Cast Iron	Aluminum	Stainless Steels	Titanium	Inconel	Acrylic	CFRP
~HB225	HB225~325	HRc30~40	HRc40~45	HRc45~55	HRc55~70									
◎	◎	◎				○		○	○	○				

# K-2 CARBIDE END MILLS

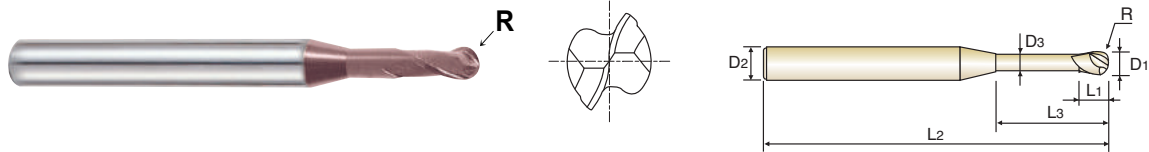
**G9B81** SERIES  
PLAIN SHANK

## CARBIDE, 2 FLUTE BALL NOSE for RIB PROCESSING

### VOLLHARTMETALL, 2 SCHNEIDEN STIRNRADIUS für SCHMALE RIPPEN

- ▶ Suitable for dry milling applications at high temperatures.
- ▶ Excellent high-performance end mills.
- ▶ Designed for milling of radius bottom slots, fillets and special contours.

- ▶ Für die Trockenbearbeitung geeignet.
- ▶ Exzellente Hochleistungs Mühlen.
- ▶ Bestimmt für das Fräsen von Nuten mit konvexem Grund, Sonderprofilen und zum Kopieren.



Unit : mm

EDP No.	Radius of Ball Nose	Mill Diameter	Shank Diameter	Length of Cut	Length Below Shank	Overall Length	Neck Diameter
	R (±0.02)	D1	D2	L1	L3	L2	D3
G9B81020	R1.0	2.0	4	3	8	50	1.95
G9B81919	R1.0	2.0	4	3	10	50	1.95
G9B81920	R1.0	2.0	4	3	12	50	1.95
G9B81921	R1.0	2.0	4	3	14	50	1.95
G9B81922	R1.0	2.0	4	3	16	50	1.95
G9B81923	R1.0	2.0	4	3	20	50	1.95
G9B81030	R1.5	3.0	6	4.5	10	50	2.85
G9B81924	R1.5	3.0	6	4.5	12	50	2.85
G9B81925	R1.5	3.0	6	4.5	16	60	2.85
G9B81926	R1.5	3.0	6	4.5	20	60	2.85
G9B81927	R1.5	3.0	6	4.5	25	75	2.85
G9B81040	R2.0	4.0	6	6	12	50	3.85
G9B81928	R2.0	4.0	6	6	16	60	3.85
G9B81929	R2.0	4.0	6	6	20	75	3.85
G9B81930	R2.0	4.0	6	6	25	75	3.85
G9B81931	R2.0	4.0	6	6	30	75	3.85

Mill Dia. Tolerance(mm)	Shank Dia. Tolerance
0~-0.03	h6

◎ : Excellent ○ : Good

Carbon Steels	Alloy Steels	Prehardened Steels	Hardened Steels		High Hardened Steels	Copper	Graphite	Cast Iron	Aluminum	Stainless Steels	Titanium	Inconel	Acrylic	CFRP
~HB225	HB225~325	HRc30~40	HRc40~45	HRc45~55	HRc55~70									
◎	◎	◎				○		○	○	○				

# K-2 CARBIDE END MILLS

**G9B82**SERIES  
PLAIN SHANK

## CARBIDE, 2 FLUTE SHORT LENGTH CORNER RADIUS VOLLHARTMETALL, 2 SCHNEIDEN KURZ ECKENRADIUS

- ▶ Suitable for dry milling applications at high temperatures.
- ▶ Excellent high-performance end mills.
- ▶ 2 flute design for slotting.

- ▶ Suitable for dry milling applications at high temperatures.
- ▶ Excellent high-performance end mills.
- ▶ 2 flute design for slotting.



Unit : mm

EDP No.	Corner Radius	Mill Diameter	Shank Diameter	Length of Cut	Overall Length
	R				
G9B82020	RO.2	2.0	4	4	50
G9B82901	RO.3	2.0	4	4	50
G9B82902	RO.5	2.0	4	4	50
G9B82025	RO.2	2.5	4	5	50
G9B82903	RO.3	2.5	4	5	50
G9B82904	RO.5	2.5	4	5	50
G9B82030	RO.2	3.0	4	6	50
G9B82905	RO.3	3.0	4	6	50
G9B82906	RO.5	3.0	4	6	50
G9B82907	R1.0	3.0	4	6	50
G9B82040	RO.2	4.0	4	8	50
G9B82908	RO.3	4.0	4	8	50
G9B82909	RO.5	4.0	4	8	50
G9B82910	R1.0	4.0	4	8	50
G9B82050	RO.2	5.0	6	10	50
G9B82911	RO.3	5.0	6	10	50
G9B82912	RO.5	5.0	6	10	50
G9B82913	R1.0	5.0	6	10	50
G9B82060	RO.2	6.0	6	12	50
G9B82914	RO.3	6.0	6	12	50
G9B82915	RO.5	6.0	6	12	50
G9B82916	R1.0	6.0	6	12	50

◎ : Excellent ○ : Good

Carbon Steels	Alloy Steels	Prehardened Steels	Hardened Steels		High Hardened Steels	Copper	Graphite	Cast Iron	Aluminum	Stainless Steels	Titanium	Inconel	Acrylic	CFRP
~HB225	HB225~325	HRc30~40	HRc40~45	HRc45~55	HRc55~70									
◎	◎	◎				○		○	○	○				

# K-2 CARBIDE END MILLS

**G9B82**<sup>SERIES</sup>  
PLAIN SHANK

## CARBIDE, 2 FLUTE SHORT LENGTH CORNER RADIUS VOLLHARTMETALL, 2 SCHNEIDEN KURZ ECKENRADIUS

- ▶ Suitable for dry milling applications at high temperatures.
- ▶ Excellent high-performance end mills.
- ▶ 2 flute design for slotting.

- ▶ Für die Trockenbearbeitung geeignet.
- ▶ Exzellente Hochleistungs Mühlen.
- ▶ 2 Schneiden zum Nutenfräsen.



Unit : mm

EDP No.	Corner Radius	Mill Diameter	Shank Diameter	Length of Cut	Overall Length
	R				
G9B82080	R0.5	8.0	8	16	60
G9B82917	R1.0	8.0	8	16	60
G9B82918	R1.5	8.0	8	16	60
G9B82919	R2.0	8.0	8	16	60
G9B82920	R2.5	8.0	8	16	60
G9B82100	R0.5	10.0	10	20	75
G9B82921	R1.0	10.0	10	20	75
G9B82922	R1.5	10.0	10	20	75
G9B82923	R2.0	10.0	10	20	75
G9B82924	R2.5	10.0	10	20	75
G9B82120	R0.5	12.0	12	24	75
G9B82925	R1.0	12.0	12	24	75
G9B82926	R1.5	12.0	12	24	75
G9B82927	R2.0	12.0	12	24	75
G9B82928	R2.5	12.0	12	24	75

Mill Dia. Tolerance(mm)	Shank Dia. Tolerance
0~-0.03	h6

◎ : Excellent ○ : Good

Carbon Steels	Alloy Steels	Prehardened Steels	Hardened Steels		High Hardened Steels	Copper	Graphite	Cast Iron	Aluminum	Stainless Steels	Titanium	Inconel	Acrylic	CFRP
~HB225	HB225~325	HRc30~40	HRc40~45	HRc45~55	HRc55~70									
◎	◎	◎				○		○	○	○				

# K-2 CARBIDE END MILLS

**G9B83**SERIES  
PLAIN SHANK

## CARBIDE, 2 FLUTE LONG REACH CORNER RADIUS

## VOLLHARTMETALL, 2 SCHNEIDEN GROÙE REICHWEITE ECKENRADIUS

- ▶ Suitable for dry milling applications at high temperatures.
- ▶ Excellent high-performance end mills.
- ▶ 2 flute design for slotting.

- ▶ Für die Trockenbearbeitung geeignet.
- ▶ Exzellente Hochleistungs Mühlen.
- ▶ 2 Schneiden zum Nutenfräsen.



Unit : mm

EDP No.	Corner Radius	Mill Diameter	Shank Diameter	Length of Cut	Overall Length
	R				
G9B83030	R0.5	3.0	4	6	75
G9B83901	R1.0	3.0	4	6	75
G9B83040	R0.5	4.0	4	8	75
G9B83902	R1.0	4.0	4	8	75
G9B83050	R0.5	5.0	6	10	75
G9B83903	R1.0	5.0	6	10	75
G9B83060	R0.5	6.0	6	12	75
G9B83904	R1.0	6.0	6	12	75
G9B83080	R0.5	8.0	8	16	100
G9B83905	R1.0	8.0	8	16	100
G9B83906	R1.5	8.0	8	16	100
G9B83907	R2.0	8.0	8	16	100
G9B83908	R2.5	8.0	8	16	100
G9B83100	R0.5	10.0	10	20	100
G9B83909	R1.0	10.0	10	20	100
G9B83910	R1.5	10.0	10	20	100
G9B83911	R2.0	10.0	10	20	100
G9B83912	R2.5	10.0	10	20	100
G9B83120	R0.5	12.0	12	24	100
G9B83913	R1.0	12.0	12	24	100
G9B83914	R1.5	12.0	12	24	100
G9B83915	R2.0	12.0	12	24	100
G9B83916	R2.5	12.0	12	24	100

Mill Dia. Tolerance(mm)	Shank Dia. Tolerance
0~-0.03	h6

◎ : Excellent ○ : Good

Carbon Steels	Alloy Steels	Prehardened Steels	Hardened Steels		High Hardened Steels	Copper	Graphite	Cast Iron	Aluminum	Stainless Steels	Titanium	Inconel	Acrylic	CFRP
~HB225	HB225~325	HRc30~40	HRc40~45	HRc45~55	HRc55~70									
◎	◎	◎				○		○	○	○				

# K-2 CARBIDE END MILLS

**G9B84**<sup>SERIES</sup>  
PLAIN SHANK

## CARBIDE, 4 FLUTE SHORT LENGTH CORNER RADIUS VOLLHARTMETALL, 4 SCHNEIDEN KURZ ECKENRADIUS

- ▶ Suitable for dry milling applications at high temperatures.
- ▶ Excellent high-performance end mills.
- ▶ Designed for milling of radius bottom slots, fillets and special contours.

- ▶ Für die Trockenbearbeitung geeignet.
- ▶ Exzellente Hochleistungs Mühlen.
- ▶ Bestimmt für das Fräsen von Nuten mit konvexem Grund, Sonderprofilen und zum Kopieren.



Unit : mm

EDP No.	Corner Radius	Mill Diameter	Shank Diameter	Length of Cut	Overall Length
	R				
G9B84020	R0.2	2.0	4	4	50
G9B84901	R0.3	2.0	4	4	50
G9B84902	R0.5	2.0	4	4	50
G9B84025	R0.2	2.5	4	5	50
G9B84903	R0.3	2.5	4	5	50
G9B84904	R0.5	2.5	4	5	50
G9B84030	R0.2	3.0	4	6	50
G9B84905	R0.3	3.0	4	6	50
G9B84906	R0.5	3.0	4	6	50
G9B84907	R1.0	3.0	4	6	50
G9B84040	R0.2	4.0	4	8	50
G9B84908	R0.3	4.0	4	8	50
G9B84909	R0.5	4.0	4	8	50
G9B84910	R1.0	4.0	4	8	50
G9B84050	R0.2	5.0	6	10	50
G9B84911	R0.3	5.0	6	10	50
G9B84912	R0.5	5.0	6	10	50
G9B84913	R1.0	5.0	6	10	50
G9B84060	R0.2	6.0	6	12	50
G9B84914	R0.3	6.0	6	12	50
G9B84915	R0.5	6.0	6	12	50
G9B84916	R1.0	6.0	6	12	50

◎ : Excellent ○ : Good

Carbon Steels	Alloy Steels	Prehardened Steels	Hardened Steels		High Hardened Steels	Copper	Graphite	Cast Iron	Aluminum	Stainless Steels	Titanium	Inconel	Acrylic	CFRP
~HB225	HB225~325	HRc30~40	HRc40~45	HRc45~55	HRc55~70									
◎	◎	◎				○		○	○	○				

# K-2 CARBIDE END MILLS

**G9B84 SERIES**  
PLAIN SHANK

## CARBIDE, 4 FLUTE SHORT LENGTH CORNER RADIUS VOLLHARTMETALL, 4 SCHNEIDEN KURZ ECKENRADIUS

- ▶ Suitable for dry milling applications at high temperatures.
- ▶ Excellent high-performance end mills.
- ▶ Designed for milling of radius bottom slots, fillets and special contours.

- ▶ Für die Trockenbearbeitung geeignet.
- ▶ Exzellente Hochleistungs Mühlen.
- ▶ Bestimmt für das Fräsen von Nuten mit konvexem Grund, Sonderprofilen und zum Kopieren.



Unit : mm

EDP No.	Corner Radius	Mill Diameter	Shank Diameter	Length of Cut	Overall Length
	R				
G9B84080	R0.5	8.0	8	16	60
G9B84917	R1.0	8.0	8	16	60
G9B84918	R1.5	8.0	8	16	60
G9B84919	R2.0	8.0	8	16	60
G9B84920	R2.5	8.0	8	16	60
G9B84100	R0.5	10.0	10	20	75
G9B84921	R1.0	10.0	10	20	75
G9B84922	R1.5	10.0	10	20	75
G9B84923	R2.0	10.0	10	20	75
G9B84924	R2.5	10.0	10	20	75
G9B84120	R0.5	12.0	12	24	75
G9B84925	R1.0	12.0	12	24	75
G9B84926	R1.5	12.0	12	24	75
G9B84927	R2.0	12.0	12	24	75
G9B84928	R2.5	12.0	12	24	75

Mill Dia. Tolerance(mm)	Shank Dia. Tolerance
0~-0.03	h6

◎ : Excellent ○ : Good

Carbon Steels	Alloy Steels	Prehardened Steels	Hardened Steels		High Hardened Steels	Copper	Graphite	Cast Iron	Aluminum	Stainless Steels	Titanium	Inconel	Acrylic	CFRP
~HB225	HB225~325	HRc30~40	HRc40~45	HRc45~55	HRc55~70									
◎	◎	◎				○		○	○	○				

# K-2 CARBIDE END MILLS

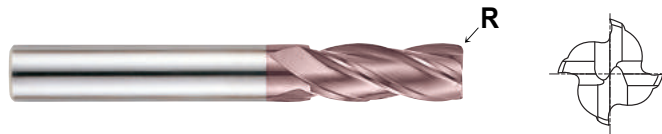
**G9B85** SERIES  
PLAIN SHANK

## CARBIDE, 4 FLUTE LONG REACH CORNER RADIUS

## VOLLHARTMETALL, 4 SCHNEIDEN GROÙE REICHWEITE ECKENRADIUS

- ▶ Suitable for dry milling applications at high temperatures.
- ▶ Excellent high-performance end mills.
- ▶ Designed for milling of radius bottom slots, fillets and special contours.

- ▶ Für die Trockenbearbeitung geeignet.
- ▶ Exzellente Hochleistungs Mühlen.
- ▶ Bestimmt für das Fräsen von Nuten mit konvexem Grund, Sonderprofilen und zum Kopieren.



Unit : mm

EDP No.	Corner Radius	Mill Diameter	Shank Diameter	Length of Cut	Overall Length
	R				
G9B85030	R0.5	3.0	4	6	75
G9B85901	R1.0	3.0	4	6	75
G9B85040	R0.5	4.0	4	8	75
G9B85902	R1.0	4.0	4	8	75
G9B85050	R0.5	5.0	6	10	75
G9B85903	R1.0	5.0	6	10	75
G9B85060	R0.5	6.0	6	12	75
G9B85904	R1.0	6.0	6	12	75
G9B85080	R0.5	8.0	8	16	100
G9B85905	R1.0	8.0	8	16	100
G9B85906	R1.5	8.0	8	16	100
G9B85907	R2.0	8.0	8	16	100
G9B85908	R2.5	8.0	8	16	100
G9B85100	R0.5	10.0	10	20	100
G9B85909	R1.0	10.0	10	20	100
G9B85910	R1.5	10.0	10	20	100
G9B85911	R2.0	10.0	10	20	100
G9B85912	R2.5	10.0	10	20	100
G9B85120	R0.5	12.0	12	24	100
G9B85913	R1.0	12.0	12	24	100
G9B85914	R1.5	12.0	12	24	100
G9B85915	R2.0	12.0	12	24	100
G9B85916	R2.5	12.0	12	24	100

Mill Dia. Tolerance(mm)	Shank Dia. Tolerance
0~-0.03	h6

◎ : Excellent ○ : Good

Carbon Steels	Alloy Steels	Prehardened Steels	Hardened Steels		High Hardened Steels	Copper	Graphite	Cast Iron	Aluminum	Stainless Steels	Titanium	Inconel	Acrylic	CFRP
~HB225	HB225~325	HRc30~40	HRc40~45	HRc45~55	HRc55~70									
◎	◎	◎				○		○	○	○				

# K-2 CARBIDE END MILLS

**G9F45**<sup>SERIES</sup>  
PLAIN SHANK

**G9F46**<sup>SERIES</sup>  
PLAIN SHANK

## CARBIDE, 4&6 FLUTE 45° HELIX SHORT / LONG LENGTH VOLLHARTMETALL, 4&6 SCHNEIDEN 45° RECHTSSPIRALE KURZ / LANG

- ▶ Suitable for dry milling applications at high temperatures.
- ▶ Excellent high-performance end mills.

- ▶ Für die Trockenbearbeitung geeignet.
- ▶ Exzellente Hochleistungs Mühlen.

**G9F45 / G9F46**  
Sharp Corner



### SHORT

Unit : mm

EDP No.	Mill Diameter	Shank Diameter	Length of Cut	Overall Length	No of Flute
G9F45030	3.0	4	8	50	4
G9F45040	4.0	4	11	50	4
G9F45050	5.0	6	13	50	6
G9F45060	6.0	6	16	50	6
G9F45080	8.0	8	19	60	6
G9F45100	10.0	10	22	75	6
G9F45120	12.0	12	26	75	6
G9F45140	14.0	14	30	90	6
G9F45160	16.0	16	32	100	6
G9F45180	18.0	18	38	100	6
G9F45200	20.0	20	38	100	6

### LONG

Unit : mm

EDP No.	Mill Diameter	Shank Diameter	Length of Cut	Overall Length	No of Flute
G9F46120	12.0	12	50	100	6
G9F46160	16.0	16	65	150	6
G9F46200	20.0	20	70	150	6

Mill Dia. Tolerance(mm)	Shank Dia. Tolerance
0~-0.03	h6

◎ : Excellent ○ : Good

Carbon Steels	Alloy Steels	Prehardened Steels	Hardened Steels	High Hardened Steels	Copper	Graphite	Cast Iron	Aluminum	Stainless Steels	Titanium	Inconel	Acrylic	CFRP
~HB225	HB225~325	HRc30~40	HRc40~45 HRc45~55	HRc55~70									
	○	◎	◎	○				○					

# K-2 CARBIDE END MILLS

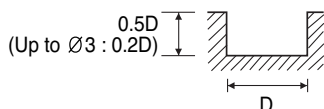
## CARBIDE, 2 FLUTE

## VOLLHARTMETALL, 2 SCHNEIDEN

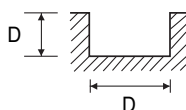
### RECOMMENDED CUTTING CONDITIONS

#### G9424, G9G44, G9A68, G9444, G9527, G9445, G9G45, G9452 SERIES

MATERIAL	P								M			
	NON-ALLOYED STEELS ALLOY STEELS TOOL STEELS				ALLOY STEELS, HEAT RESISTANT STEELS				STAINLESS STEELS			
HARDNESS	~ HRC 30				HRC 30 ~ HRC 45							
STRENGTH	~1000N/mm <sup>2</sup>				1000~1500N/mm <sup>2</sup>							
DIAMETER	RPM	FEED	Vc	fz	RPM	FEED	Vc	fz	RPM	FEED	Vc	fz
1.0	14300	105	45	0.004	8500	65	25	0.004	7150	50	20	0.003
1.5	9350	150	45	0.008	5550	85	25	0.008	5600	80	25	0.007
2.0	7850	160	50	0.010	5150	100	30	0.010	4300	80	25	0.009
3.0	6100	180	55	0.015	3800	120	35	0.016	3150	100	30	0.016
4.0	5150	255	65	0.025	3150	155	40	0.025	2650	130	35	0.025
5.0	4300	270	70	0.031	2550	160	40	0.031	2150	135	35	0.031
6.0	3800	300	70	0.039	2300	190	45	0.041	1950	155	35	0.040
8.0	2850	325	70	0.057	1700	170	45	0.050	1450	155	35	0.053
10.0	2200	280	70	0.064	1350	135	40	0.050	1150	135	35	0.059
12.0	1850	240	70	0.065	1150	110	45	0.048	950	110	35	0.058
14.0	1700	215	75	0.063	1050	100	45	0.048	850	100	35	0.059
16.0	1500	185	75	0.062	950	95	50	0.050	700	95	35	0.068
20.0	1150	145	70	0.063	700	70	45	0.050	550	70	35	0.064



MATERIAL	K				N							
	CAST IRON				ALUMINUM ALLOYS				COPPER, BRASS NON-FERROUS METALS			
HARDNESS												
STRENGTH												
DIAMETER	RPM	FEED	Vc	fz	RPM	FEED	Vc	fz	RPM	FEED	Vc	fz
1.0	18700	205	60	0.005	44000	330	140	0.004	24700	200	80	0.004
1.5	12100	205	55	0.008	27500	385	130	0.007	20300	300	95	0.007
2.0	9350	220	60	0.012	22000	460	140	0.010	16500	340	105	0.010
3.0	6050	220	55	0.018	15400	460	145	0.015	11000	340	105	0.015
4.0	4600	220	60	0.024	11000	460	140	0.021	8800	340	110	0.019
5.0	3650	220	55	0.030	9150	460	145	0.025	6800	340	105	0.025
6.0	2950	255	55	0.043	7600	485	145	0.032	5700	375	105	0.033
8.0	2200	275	55	0.063	5700	485	145	0.043	4400	375	110	0.043
10.0	1850	285	60	0.077	4600	485	145	0.053	3400	375	105	0.055
12.0	1450	295	55	0.102	3750	485	140	0.065	2850	375	105	0.066
14.0	1300	310	55	0.119	3300	485	145	0.073	2400	375	105	0.078
16.0	1100	320	55	0.145	2850	485	145	0.085	2200	375	110	0.085
20.0	900	340	55	0.189	2200	485	140	0.110	1700	375	105	0.110



※ The FEED, in long & extra long types, should be reduced by around 50%

RPM = rev./min.  
FEED = mm/min.  
Vc = m/min.  
fz = mm/t

# K-2 CARBIDE END MILLS

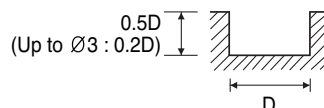
## CARBIDE, 3 FLUTE FINISH SLOTTING

## VOLLHARTMETALL, 3 SCHNEIDEN SCHLICHTEN NUTENFRÄSEN

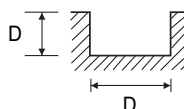
### RECOMMENDED CUTTING CONDITIONS

#### G9553, G9G46, G9410, G9425, G9G47, G9439, G9528, G9433, G9G48, G9447, G9G49 SERIES

MATERIAL	P								M			
	NON-ALLOYED STEELS ALLOY STEELS TOOL STEELS				ALLOY STEELS, HEAT RESISTANT STEELS				STAINLESS STEELS			
HARDNESS	~ HRc 30				HRc 30 ~ HRc 45							
STRENGTH	~1000N/mm <sup>2</sup>				1000~1500N/mm <sup>2</sup>							
DIAMETER	RPM	FEED	V <sub>c</sub>	f <sub>z</sub>	RPM	FEED	V <sub>c</sub>	f <sub>z</sub>	RPM	FEED	V <sub>c</sub>	f <sub>z</sub>
1.0	14300	75	45	0.002	8500	45	25	0.002	7150	35	20	0.002
1.5	12750	105	60	0.003	5550	60	25	0.004	5600	55	25	0.003
2.0	7850	110	50	0.005	5150	70	30	0.005	4300	55	25	0.004
3.0	6100	125	55	0.007	3800	85	35	0.007	3150	70	30	0.007
4.0	5150	180	65	0.012	3150	110	40	0.012	2650	90	35	0.011
5.0	4300	190	70	0.015	2550	110	40	0.014	2150	95	35	0.015
6.0	3800	210	70	0.018	2300	135	45	0.020	1950	110	35	0.019
8.0	2850	230	70	0.027	1700	120	45	0.024	1450	110	35	0.025
10.0	2200	195	70	0.030	1350	95	40	0.023	1150	95	35	0.028
12.0	1850	170	70	0.031	1150	75	45	0.022	950	75	35	0.026
14.0	1700	150	75	0.029	1050	70	45	0.022	850	70	35	0.027
16.0	1500	130	75	0.029	950	65	50	0.023	700	65	35	0.031
20.0	1150	100	70	0.029	700	50	45	0.024	550	50	35	0.030



MATERIAL	K				N							
	CAST IRON				ALUMINUM ALLOYS				COPPER, BRASS NON-FERROUS METALS			
HARDNESS												
STRENGTH												
DIAMETER	RPM	FEED	V <sub>c</sub>	f <sub>z</sub>	RPM	FEED	V <sub>c</sub>	f <sub>z</sub>	RPM	FEED	V <sub>c</sub>	f <sub>z</sub>
1.0	18700	185	60	0.003	44000	300	140	0.002	24700	180	80	0.002
1.5	12100	185	55	0.005	27500	345	130	0.004	20300	270	95	0.004
2.0	9350	200	60	0.007	22000	420	140	0.006	16500	310	105	0.006
3.0	6050	200	55	0.011	15400	430	145	0.009	11000	310	105	0.009
4.0	4600	185	60	0.013	11000	420	140	0.013	8800	310	110	0.012
5.0	3650	200	55	0.018	9150	420	145	0.015	6800	310	105	0.015
6.0	2950	230	55	0.026	7600	440	145	0.019	5700	340	105	0.020
8.0	2200	240	55	0.036	5700	440	145	0.026	4400	330	110	0.025
10.0	1850	255	60	0.046	4600	440	145	0.032	3400	330	105	0.032
12.0	1450	275	55	0.063	3750	430	140	0.038	2850	330	105	0.039
14.0	1300	285	55	0.073	3300	430	145	0.043	2400	330	105	0.046
16.0	1100	285	55	0.086	2850	430	145	0.050	2200	330	110	0.050
20.0	900	310	55	0.115	2200	430	140	0.065	1700	330	105	0.065



※ The FEED, in long & extra long types, should be reduced by around 50%

RPM = rev./min.  
FEED = mm/min.  
V<sub>c</sub> = m/min.  
f<sub>z</sub> = mm/t

# K-2 CARBIDE END MILLS

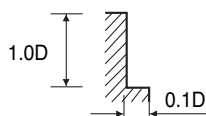
## CARBIDE, 3 FLUTE FINISH SIDE CUTTING

## VOLLHARTMETALL, 3 SCHNEIDEN SCHLICHTEN SEITENFRÄSEN

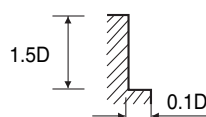
### RECOMMENDED CUTTING CONDITIONS

#### G9553, G9G46, G9410, G9425, G9G47, G9439, G9528, G9433, G9G48, G9447, G9G49 SERIES

MATERIAL	P								M			
	NON-ALLOYED STEELS ALLOY STEELS TOOL STEELS				ALLOY STEELS, HEAT RESISTANT STEELS				STAINLESS STEELS			
HARDNESS	~ HRC 30				HRC 30 ~ HRC 45							
STRENGTH	~1000N/mm <sup>2</sup>				1000~1500N/mm <sup>2</sup>							
DIAMETER	RPM	FEED	Vc	fz	RPM	FEED	Vc	fz	RPM	FEED	Vc	fz
1.0	17600	110	55	0.002	10250	65	30	0.002	8650	55	25	0.002
1.5	11800	160	55	0.005	7050	85	35	0.004	7050	90	35	0.004
2.0	9850	180	60	0.006	6450	120	40	0.006	5350	100	35	0.006
3.0	7600	205	70	0.009	4750	130	45	0.009	3950	105	35	0.009
4.0	6450	365	80	0.019	3950	220	50	0.019	3300	180	40	0.018
5.0	5350	385	85	0.024	3200	230	50	0.024	2700	195	40	0.024
6.0	4750	425	90	0.030	2850	265	55	0.031	2400	215	45	0.030
8.0	3550	450	90	0.042	2150	245	55	0.038	1800	225	45	0.042
10.0	2750	390	85	0.047	1700	195	55	0.038	1450	195	45	0.045
12.0	2350	330	90	0.047	1450	160	55	0.037	1150	155	45	0.045
14.0	2100	465	90	0.074	1300	145	55	0.037	1050	140	45	0.044
16.0	1850	265	95	0.048	1150	130	60	0.038	900	130	45	0.048
20.0	1450	205	90	0.047	900	100	55	0.037	700	100	45	0.048



MATERIAL	K				N							
	CAST IRON				ALUMINUM ALLOYS				COPPER. BRASS NON-FERROUS METALS			
HARDNESS												
STRENGTH												
DIAMETER	RPM	FEED	Vc	fz	RPM	FEED	Vc	fz	RPM	FEED	Vc	fz
1.0	18700	460	60	0.008	44000	750	140	0.006	24700	450	80	0.006
1.5	12100	460	55	0.013	27500	860	130	0.010	20300	675	95	0.011
2.0	9350	475	60	0.017	22000	1035	140	0.016	16500	770	105	0.016
3.0	6050	475	55	0.026	15400	990	145	0.021	11000	760	105	0.023
4.0	4600	485	60	0.035	11000	1035	140	0.031	8800	770	110	0.029
5.0	3650	485	55	0.044	9150	1010	145	0.037	6800	760	105	0.037
6.0	2950	570	55	0.064	7600	1100	145	0.048	5700	825	105	0.048
8.0	2200	615	55	0.093	5700	1100	145	0.064	4400	825	110	0.063
10.0	1850	640	60	0.115	4600	1100	145	0.080	3400	825	105	0.081
12.0	1450	670	55	0.154	3750	1100	140	0.098	2850	825	105	0.096
14.0	1300	705	55	0.181	3300	1100	145	0.111	2400	825	105	0.115
16.0	1100	725	55	0.220	2850	1100	145	0.129	2200	825	110	0.125
20.0	900	770	55	0.285	2200	1100	140	0.167	1700	825	105	0.162



※ The FEED, in long & extra long types, should be reduced by around 50%

RPM = rev./min.  
FEED = mm/min.  
Vc = m/min.  
fz = mm/t

# K-2 CARBIDE END MILLS

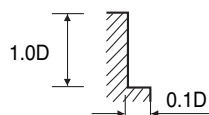
## CARBIDE, 4 FLUTE FINISH SIDE CUTTING

## VOLLHARTMETALL, 4 SCHNEIDEN SCHLICHTEN SEITENFRÄSEN

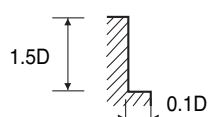
### RECOMMENDED CUTTING CONDITIONS

#### G9432, G9G50, G9A69, G9448, G9540, G9449, G9G51, G9453 SERIES

MATERIAL	P								M			
	NON-ALLOYED STEELS ALLOY STEELS TOOL STEELS				ALLOY STEELS, HEAT RESISTANT STEELS				STAINLESS STEELS			
HARDNESS	~ HRc 30				HRc 30 ~ HRc 45							
STRENGTH	~1000N/mm <sup>2</sup>				1000~1500N/mm <sup>2</sup>							
DIAMETER	RPM	FEED	V <sub>c</sub>	f <sub>z</sub>	RPM	FEED	V <sub>c</sub>	f <sub>z</sub>	RPM	FEED	V <sub>c</sub>	f <sub>z</sub>
1.0	17600	150	55	0.002	10250	85	30	0.002	8650	75	25	0.002
1.5	11800	215	55	0.005	7050	115	35	0.004	7050	120	35	0.004
2.0	9850	240	60	0.006	6450	145	40	0.006	5350	120	35	0.006
3.0	7600	270	70	0.009	4750	170	45	0.009	3950	145	35	0.009
4.0	6450	485	80	0.019	3950	300	50	0.019	3300	240	40	0.018
5.0	5350	510	85	0.024	3200	305	50	0.024	2700	255	40	0.024
6.0	4750	560	90	0.029	2850	350	55	0.031	2400	280	45	0.029
8.0	3550	605	90	0.043	2150	325	55	0.038	1800	300	45	0.042
10.0	2750	520	85	0.047	1700	255	55	0.038	1450	255	45	0.044
12.0	2350	440	90	0.047	1450	215	55	0.037	1150	205	45	0.045
14.0	2100	395	90	0.047	1300	195	55	0.038	1050	190	45	0.045
16.0	1850	350	95	0.047	1150	170	60	0.037	950	170	50	0.045
20.0	1450	270	90	0.047	900	135	55	0.038	700	130	45	0.046



MATERIAL	K				N							
	CAST IRON				ALUMINUM ALLOYS				COPPER, BRASS NON-FERROUS METALS			
HARDNESS												
STRENGTH												
DIAMETER	RPM	FEED	V <sub>c</sub>	f <sub>z</sub>	RPM	FEED	V <sub>c</sub>	f <sub>z</sub>	RPM	FEED	V <sub>c</sub>	f <sub>z</sub>
1.0	18700	620	60	0.008	44000	1050	140	0.006	24700	605	80	0.006
1.5	12100	620	55	0.013	27500	1160	130	0.011	20300	910	95	0.011
2.0	9350	640	60	0.017	22000	1320	140	0.015	16500	1035	105	0.016
3.0	6050	640	55	0.026	15400	1320	145	0.021	11000	1035	105	0.024
4.0	4600	640	60	0.035	11000	1320	140	0.030	8800	1035	110	0.029
5.0	3650	640	55	0.044	9150	1320	145	0.036	6800	1035	105	0.038
6.0	2950	770	55	0.065	7600	1430	145	0.047	5700	1100	105	0.048
8.0	2200	815	55	0.093	5700	1430	145	0.063	4400	1100	110	0.063
10.0	1850	860	60	0.116	4600	1430	145	0.078	3400	1100	105	0.081
12.0	1450	900	55	0.155	3750	1430	140	0.095	2850	1100	105	0.096
14.0	1300	945	55	0.182	3300	1430	145	0.108	2400	1100	105	0.115
16.0	1100	970	55	0.220	2850	1430	145	0.125	2200	1100	110	0.125
20.0	900	1035	55	0.288	2200	1430	140	0.163	1700	1100	105	0.162



※ The FEED, in long & extra long types, should be reduced by around 50%

RPM = rev./min.  
FEED = mm/min.  
V<sub>c</sub> = m/min.  
f<sub>z</sub> = mm/t

# K-2 CARBIDE END MILLS

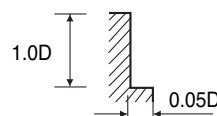
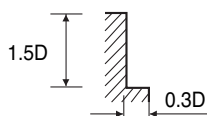
## CARBIDE, MULTI FLUTE ROUGHING SIDE CUTTING

## VOLLHARTMETALL, MULTI SCHNEIDEN SCHRUPPFRÄSER SEITENFRÄSEN

### RECOMMENDED CUTTING CONDITIONS

#### G9A42 SERIES

MATERIAL	P				M				S							
	NON-ALLOYED STEELS ALLOY STEELS TOOL STEELS				ALLOY STEELS HEAT RESISTANT STEELS				STAINLESS STEELS				INCONEL			
HARDNESS	~ HRC30				HRC30 ~ HRC38				HRC38 ~ HRC45							
STRENGTH	1000N/mm <sup>2</sup>				1000 ~ 1200N/mm <sup>2</sup>				1200 ~ 1400N/mm <sup>2</sup>							
DIAMETER	RPM	FEED	Vc	fz	RPM	FEED	Vc	fz	RPM	FEED	Vc	fz	RPM	FEED	Vc	fz
6.0	13250	1970	250	0.050	10550	710	200	0.022	7150	480	135	0.022	2050	160	40	0.026
8.0	9850	1970	250	0.067	7800	710	195	0.023	5350	480	135	0.022	1550	150	40	0.024
10.0	7800	1970	245	0.063	6450	710	205	0.028	4350	480	135	0.028	1100	160	35	0.036
12.0	6800	2040	255	0.075	5100	680	190	0.033	3550	480	135	0.034	1000	160	40	0.040
14.0	5800	2040	255	0.088	4400	710	195	0.040	3050	480	135	0.039	750	110	35	0.037
16.0	5100	2040	255	0.100	4100	650	205	0.040	2800	430	140	0.038	700	90	35	0.032
18.0	4400	1970	250	0.112	3750	610	210	0.041	2300	360	130	0.039	600	90	35	0.038
20.0	4100	1840	260	0.112	3050	480	190	0.039	2050	310	130	0.038	550	90	35	0.041
25.0	3650	1830	285	0.100	2700	530	210	0.039	1850	350	145	0.038	500	90	40	0.060



※ The FEED, in long & extra long types, should be reduced by around 50%

RPM = rev./min.  
FEED = mm/min.  
Vc = m/min.  
fz = mm/t

# K-2 CARBIDE END MILLS

## CARBIDE, 2 FLUTE BALL NOSE

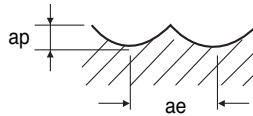
### VOLLHARTMETALL, 2 SCHNEIDEN STIRNRADIUS

#### RECOMMENDED CUTTING CONDITIONS

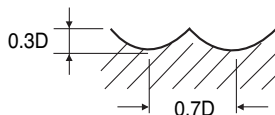
#### G9624, G9A70, G9437, G9438, G9454, G9455 SERIES

MATERIAL	P											
	CARBON STEELS ALLOY STEELS TOOL STEELS				CARBON STEELS ALLOY STEELS TOOL STEELS				HARDENED STEELS			
HARDNESS	~ HRc 30				HRc 30 ~ HRc 45				HRc 45 ~ HRc 50			
STRENGTH	~1000N/mm <sup>2</sup>				1000~1500N/mm <sup>2</sup>				1500N/mm <sup>2</sup> ~			
DIAMETER	RPM	FEED	V <sub>c</sub>	fz	RPM	FEED	V <sub>c</sub>	fz	RPM	FEED	V <sub>c</sub>	fz
R1.0 × 2.0	12350	640	80	0.026	9150	415	55	0.023	4000	125	25	0.016
R1.5 × 3.0	11400	575	105	0.025	8550	390	80	0.023	3800	125	35	0.016
R2.0 × 4.0	8950	630	110	0.035	7150	450	90	0.031	3600	150	45	0.021
R2.5 × 5.0	7800	700	125	0.045	6200	490	95	0.040	3100	150	50	0.024
R3.0 × 6.0	7250	870	135	0.060	5900	705	110	0.060	2700	160	50	0.030
R4.0 × 8.0	6100	1090	155	0.089	4900	785	125	0.080	2050	190	50	0.046
R5.0 × 10.0	5450	1330	170	0.122	4350	870	135	0.100	1750	190	55	0.054
R6.0 × 12.0	4990	1500	190	0.150	3950	950	150	0.120	1500	210	55	0.070
R7.0 × 14.0	4530	1495	200	0.165	3600	925	160	0.128	1300	210	55	0.081
R8.0 × 16.0	4085	1470	205	0.180	3200	905	160	0.141	1150	210	60	0.091
R9.0 × 18.0	3800	1425	215	0.188	3000	890	170	0.148	1050	210	60	0.100
R10.0 × 20.0	3550	1425	225	0.201	2800	885	175	0.158	950	210	60	0.111

ap : D1~D6=0.2mm  
D8~D20=0.3mm  
ae : 0.2D



MATERIAL	K				N			
	CAST IRON				ALUMINUM ALLOYS			
HARDNESS								
STRENGTH								
DIAMETER	RPM	FEED	V <sub>c</sub>	fz	RPM	FEED	V <sub>c</sub>	fz
R1.0 × 2.0	10500	220	65	0.010	30800	395	195	0.006
R1.5 × 3.0	7050	230	65	0.016	20500	395	195	0.010
R2.0 × 4.0	5150	285	65	0.028	15400	395	195	0.013
R2.5 × 5.0	4150	330	65	0.040	12100	470	190	0.019
R3.0 × 6.0	3400	360	65	0.053	10300	470	195	0.023
R4.0 × 8.0	2500	460	65	0.092	7900	540	200	0.034
R5.0 × 10.0	2050	460	65	0.112	6150	540	195	0.044
R6.0 × 12.0	1750	460	65	0.131	5150	630	195	0.061
R7.0 × 14.0	1400	460	60	0.164	4300	630	190	0.073
R8.0 × 16.0	1300	460	65	0.177	3850	540	195	0.070
R9.0 × 18.0	1100	460	60	0.209	3400	540	190	0.079
R10.0 × 20.0	1050	420	65	0.200	2950	540	185	0.092



※ The FEED, in long & extra long types, should be reduced by around 50%

RPM = rev./min.  
FEED = mm/min.  
V<sub>c</sub> = m/min.  
fz = mm/t

# K-2 CARBIDE END MILLS

## CARBIDE, 4 FLUTE BALL NOSE

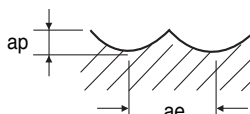
## VOLLHARTMETALL, 4 SCHNEIDEN STIRNRADIUS

### RECOMMENDED CUTTING CONDITIONS

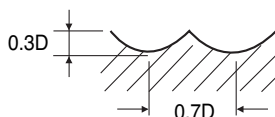
#### G9634 SERIES

MATERIAL	P											
	CARBON STEELS ALLOY STEELS TOOL STEELS				CARBON STEELS ALLOY STEELS TOOL STEELS				HARDENED STEELS			
HARDNESS	~ HRc 30				HRc 30 ~ HRc 45				HRc 45 ~ HRc 50			
STRENGTH	~1000N/mm <sup>2</sup>				1000~1500N/mm <sup>2</sup>				1500N/mm <sup>2</sup> ~			
DIAMETER	RPM	FEED	Vc	fz	RPM	FEED	Vc	fz	RPM	FEED	Vc	fz
R1.0 × 2.0	13300	680	85	0.013	10000	405	65	0.010	4100	135	25	0.008
R1.5 × 3.0	11500	870	110	0.019	8550	585	80	0.017	3850	190	35	0.012
R2.0 × 4.0	8950	950	110	0.027	7150	680	90	0.024	3600	230	45	0.016
R2.5 × 5.0	7800	1045	125	0.033	6200	745	95	0.030	3100	230	50	0.019
R3.0 × 6.0	7250	1330	135	0.046	5900	1090	110	0.046	2700	235	50	0.022
R4.0 × 8.0	6100	1660	155	0.068	4900	1185	125	0.060	2100	285	55	0.034
R5.0 × 10.0	5450	1950	170	0.089	4350	1330	135	0.076	1750	290	55	0.041
R6.0 × 12.0	4985	2230	190	0.112	4000	1425	150	0.089	1500	320	55	0.053
R7.0 × 14.0	4500	2230	200	0.124	3600	1425	160	0.099	1300	320	55	0.062
R8.0 × 16.0	4085	2230	205	0.136	3200	1380	160	0.108	1100	320	55	0.073
R9.0 × 18.0	3800	2135	215	0.140	3000	1330	170	0.111	1050	320	60	0.076
R10.0 × 20.0	3550	2135	225	0.150	2800	1330	175	0.119	950	320	60	0.084

ap : D1~D6=0.2mm  
D8~D20=0.3mm  
ae : 0.2D



MATERIAL	K				N			
	CAST IRON				ALUMINUM ALLOYS			
HARDNESS	~ HRc 30				HRc 30 ~ HRc 45			
STRENGTH	~1000N/mm <sup>2</sup>				1000~1500N/mm <sup>2</sup>			
DIAMETER	RPM	FEED	Vc	fz	RPM	FEED	Vc	fz
R1.0 × 2.0	10500	330	65	0.008	30800	605	195	0.005
R1.5 × 3.0	7050	340	65	0.012	20500	605	195	0.007
R2.0 × 4.0	5150	430	65	0.021	15400	605	195	0.010
R2.5 × 5.0	4150	495	65	0.030	12100	715	190	0.015
R3.0 × 6.0	3400	540	65	0.040	10300	715	195	0.017
R4.0 × 8.0	2500	680	65	0.068	7900	820	200	0.026
R5.0 × 10.0	2050	680	65	0.083	6150	820	195	0.033
R6.0 × 12.0	1750	680	65	0.097	5150	945	195	0.046
R7.0 × 14.0	1400	700	60	0.125	4300	945	190	0.055
R8.0 × 16.0	1300	700	65	0.135	3850	820	195	0.053
R9.0 × 18.0	1100	700	60	0.159	3400	820	190	0.060
R10.0 × 20.0	1050	630	65	0.150	2950	820	185	0.069



※ The FEED, in long & extra long types, should be reduced by around 50%

RPM = rev./min.  
FEED = mm/min.  
Vc = m/min.  
fz = mm/t

# K-2 CARBIDE END MILLS

## CARBIDE, 2 FLUTE for RIB PROCESSING

## VOLLHARTMETALL, 2 SCHNEIDEN für SCHMALE RIPPEN

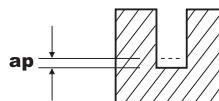
### RECOMMENDED CUTTING CONDITIONS

#### G9B80 SERIES

MATERIAL	P				
	NON-ALLOYED STEELS ALLOY STEELS				
HARDNESS	~ HRC30				
STRENGTH	~ 1000N/mm <sup>2</sup>				
DIAMETER	RPM	RPM	ap (mm)	Vc	fz
0.4	26500~34000	170~370	0.007~0.018	33~43	0.003~0.005
0.5	26500~34000	170~370	0.009~0.022	42~53	0.003~0.005
0.6	26500~34000	210~485	0.011~0.026	50~64	0.004~0.007
0.7	26500~34000	210~485	0.012~0.031	58~75	0.004~0.007
0.8	23000~30000	240~535	0.014~0.035	58~75	0.005~0.009
0.9	21500~27000	240~610	0.030~0.060	61~76	0.006~0.011
1.0	19000~24000	240~690	0.045~0.090	60~75	0.006~0.014
1.2	15500~19000	240~765	0.055~0.100	58~72	0.008~0.020
1.4	13600~17000	240~765	0.062~0.125	60~75	0.009~0.023
1.5	12500~15500	240~765	0.070~0.135	59~73	0.010~0.025
1.6	12000~15000	240~765	0.075~0.145	60~75	0.010~0.026
1.8	11000~14000	240~765	0.080~0.160	62~79	0.011~0.027
2.0	10000~12500	240~765	0.090~0.180	63~79	0.012~0.031
2.5	8000~10000	240~765	0.112~0.235	63~79	0.015~0.038
3.0	6800~8500	240~765	0.135~0.270	64~80	0.018~0.045
4.0	5100~6500	240~765	0.180~0.360	64~82	0.024~0.059

MATERIAL	P				
	ALLOY STEELS HEAT RESISTANT STEELS				
HARDNESS	HRC30 ~ HRC45				
STRENGTH	1000 ~ 1500N/mm <sup>2</sup>				
DIAMETER	RPM	RPM	ap (mm)	Vc	fz
0.4	19000~24000	72~290	0.007~0.018	24~30	0.002~0.006
0.5	19000~24000	72~290	0.009~0.022	30~38	0.002~0.006
0.6	19000~24000	95~365	0.011~0.026	36~45	0.003~0.008
0.7	19000~24000	95~365	0.012~0.031	42~53	0.003~0.008
0.8	16500~21000	100~410	0.014~0.035	41~53	0.003~0.010
0.9	15000~19000	135~460	0.030~0.060	42~54	0.005~0.012
1.0	13500~17000	160~510	0.045~0.090	42~53	0.006~0.015
1.2	11000~14000	160~510	0.055~0.100	41~53	0.007~0.018
1.4	9800~12000	160~510	0.062~0.125	43~53	0.008~0.021
1.5	8950~11500	160~510	0.070~0.135	42~54	0.009~0.022
1.6	8700~10900	160~510	0.075~0.145	44~55	0.009~0.023
1.8	7800~9800	160~510	0.080~0.160	44~55	0.010~0.026
2.0	7000~8950	160~510	0.090~0.180	44~56	0.011~0.028
2.5	5700~7200	160~510	0.112~0.235	45~57	0.014~0.035
3.0	4700~6000	160~510	0.135~0.270	44~57	0.017~0.043
4.0	3500~4500	160~510	0.180~0.360	44~57	0.023~0.057

(Depth of Cut per one pass)



※ The FEED, in long & extra long types, should be reduced by around 50%

RPM = rev./min.  
FEED = mm/min.  
Vc = m/min.  
fz = mm/t

# K-2 CARBIDE END MILLS

## CARBIDE, 2 FLUTE BALL NOSE for RIB PROCESSING

## VOLLHARTMETALL, 2 SCHNEIDEN STIRNRADIUS für SCHMALE RIPPEN

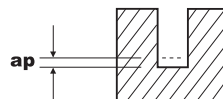
### RECOMMENDED CUTTING CONDITIONS

#### G9B81 SERIES

MATERIAL	P				
	NON-ALLOYED STEELS ALLOY STEELS				
HARDNESS	~ HRC30				
STRENGTH	~ 1000N/mm <sup>2</sup>				
DIAMETER	RPM	RPM	ap (mm)	Vc	fz
0.4	26350~34000	150~415	0.018~0.036	33~43	0.003~0.006
0.5	26350~34000	150~415	0.023~0.045	41~53	0.003~0.006
0.6	26350~34000	190~535	0.027~0.054	50~64	0.004~0.008
0.8	26350~34000	190~535	0.036~0.072	66~85	0.004~0.008
1.0	24650~31000	210~595	0.045~0.090	77~97	0.004~0.010
1.2	20500~26000	210~665	0.055~0.100	77~98	0.005~0.013
1.4	18000~22000	210~665	0.062~0.125	79~97	0.006~0.015
1.5	16000~20500	210~665	0.070~0.135	75~97	0.007~0.016
1.6	15500~20000	210~665	0.075~0.145	78~101	0.007~0.017
1.8	14500~18200	210~665	0.080~0.160	82~103	0.007~0.018
2.0	13000~16000	210~665	0.090~0.180	82~101	0.008~0.021
3.0	9000~11000	210~665	0.135~0.270	85~104	0.012~0.030
4.0	7200~9350	210~665	0.180~0.360	90~117	0.015~0.036

MATERIAL	P				
	ALLOY STEELS HEAT RESISTANT STEELS				
HARDNESS	HRC30 ~ HRC45				
STRENGTH	1000 ~ 1500N/mm <sup>2</sup>				
DIAMETER	RPM	RPM	ap (mm)	Vc	fz
0.4	19100~24200	75~230	0.018~0.036	24~30	0.002~0.005
0.5	19100~24200	75~230	0.023~0.045	30~38	0.002~0.005
0.6	19100~24200	95~300	0.027~0.054	36~46	0.002~0.006
0.8	19100~24200	95~300	0.036~0.072	48~61	0.002~0.006
1.0	17400~22100	105~330	0.045~0.090	55~69	0.003~0.007
1.2	14500~18300	105~330	0.055~0.100	55~69	0.004~0.009
1.4	12800~15300	105~330	0.062~0.125	56~67	0.004~0.011
1.5	11500~14900	105~330	0.070~0.135	54~70	0.005~0.011
1.6	11200~14000	105~330	0.075~0.145	56~70	0.005~0.012
1.8	10200~12800	105~330	0.080~0.160	58~72	0.005~0.013
2.0	9400~11500	105~330	0.090~0.180	59~72	0.006~0.014
3.0	6000~11500	105~330	0.135~0.270	57~108	0.009~0.014
4.0	5000~6600	105~330	0.180~0.360	63~83	0.011~0.025

(Depth of Cut per one pass)



※ The FEED, in long & extra long types, should be reduced by around 50%

RPM = rev./min.  
FEED = mm/min.  
Vc = m/min.  
fz = mm/t

# K-2 CARBIDE END MILLS

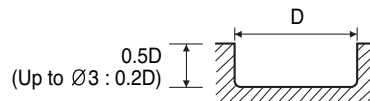
## CARBIDE, 2 FLUTE CORNER RADIUS FINISH SLOTTING

## VOLLHARTMETALL, 2 SCHNEIDEN ECKENRADIUS SCHLICHTEN NUTENFRÄSEN

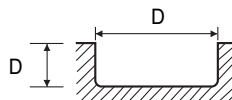
### RECOMMENDED CUTTING CONDITIONS

#### G9B82, G9B83 SERIES

MATERIAL	P								M			
	NON-ALLOYED STEELS ALLOY STEELS TOOL STEELS				ALLOY STEELS, HEAT RESISTANT STEELS				STAINLESS STEELS			
HARDNESS	~ HRc 30				HRc 30 ~ HRc 45							
STRENGTH	~1000N/mm <sup>2</sup>				1000~1500N/mm <sup>2</sup>							
DIAMETER	RPM	FEED	V <sub>c</sub>	f <sub>z</sub>	RPM	FEED	V <sub>c</sub>	f <sub>z</sub>	RPM	FEED	V <sub>c</sub>	f <sub>z</sub>
2.0	7850	160	50	0.010	5150	100	30	0.010	4300	80	25	0.009
3.0	6100	180	55	0.015	3800	120	35	0.016	3150	100	30	0.016
4.0	5150	255	65	0.025	3150	155	40	0.025	2650	130	35	0.025
5.0	4300	270	70	0.031	2550	160	40	0.031	2150	135	35	0.031
6.0	3800	300	70	0.039	2300	190	45	0.041	1950	155	35	0.040
8.0	2850	325	70	0.057	1700	170	45	0.050	1450	155	35	0.053
10.0	2200	280	70	0.064	1350	135	40	0.050	1150	135	35	0.059
12.0	1850	240	70	0.065	1150	110	45	0.048	950	110	35	0.058



MATERIAL	K				N							
	CAST IRON				ALUMINUM ALLOYS				COPPER. BRASS NON-FERROUS METALS			
HARDNESS												
STRENGTH												
DIAMETER	RPM	FEED	V <sub>c</sub>	f <sub>z</sub>	RPM	FEED	V <sub>c</sub>	f <sub>z</sub>	RPM	FEED	V <sub>c</sub>	f <sub>z</sub>
2.0	9350	220	60	0.012	22000	460	140	0.010	16500	340	105	0.010
3.0	6050	220	55	0.018	15400	460	145	0.015	11000	340	105	0.015
4.0	4600	220	60	0.024	11000	460	140	0.021	8800	340	110	0.019
5.0	3650	220	55	0.030	9150	460	145	0.025	6800	340	105	0.025
6.0	2950	255	55	0.043	7600	485	145	0.032	5700	375	105	0.033
8.0	2200	275	55	0.063	5700	485	145	0.043	4400	375	110	0.043
10.0	1850	285	60	0.077	4600	485	145	0.053	3400	375	105	0.055
12.0	1450	295	55	0.102	3750	485	140	0.065	2850	375	105	0.066



※ The FEED, in long & extra long types, should be reduced by around 50%

RPM = rev./min.  
FEED = mm/min.  
V<sub>c</sub> = m/min.  
f<sub>z</sub> = mm/t

# K-2 CARBIDE END MILLS

## CARBIDE, 4 FLUTE CORNER RADIUS FINISH SIDE CUTTING

## VOLLHARTMETALL, 4 SCHNEIDEN ECKENRADIUS SCHLICHTEN SEITENFRÄSEN

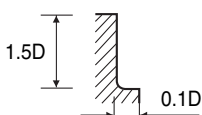
### RECOMMENDED CUTTING CONDITIONS

#### G9B84, G9B85 SERIES

MATERIAL	P								M			
	NON-ALLOYED STEELS ALLOY STEELS TOOL STEELS				ALLOY STEELS, HEAT RESISTANT STEELS				STAINLESS STEELS			
HARDNESS	~ HRC 30				HRC 30 ~ HRC 45							
STRENGTH	~1000N/mm <sup>2</sup>				1000~1500N/mm <sup>2</sup>							
DIAMETER	RPM	FEED	Vc	fz	RPM	FEED	Vc	fz	RPM	FEED	Vc	fz
1.0	17600	150	55	0.002	10250	85	30	0.002	8650	75	25	0.002
1.5	11800	215	55	0.005	7050	115	35	0.004	7050	120	35	0.004
2.0	9850	240	60	0.006	6450	145	40	0.006	5350	120	35	0.006
3.0	7600	270	70	0.009	4750	170	45	0.009	3950	145	35	0.009
4.0	6450	485	80	0.019	3950	300	50	0.019	3300	240	40	0.018
5.0	5350	510	85	0.024	3200	305	50	0.024	2700	255	40	0.024
6.0	4750	560	90	0.029	2850	350	55	0.031	2400	280	45	0.029
8.0	3550	605	90	0.043	2150	325	55	0.038	1800	300	45	0.042
10.0	2750	520	85	0.047	1700	255	55	0.038	1450	255	45	0.044
12.0	2350	440	90	0.047	1450	215	55	0.037	1150	205	45	0.045



MATERIAL	K				N							
	CAST IRON				ALUMINUM ALLOYS				COPPER, BRASS NON-FERROUS METALS			
HARDNESS												
STRENGTH												
DIAMETER	RPM	FEED	Vc	fz	RPM	FEED	Vc	fz	RPM	FEED	Vc	fz
1.0	18700	620	60	0.008	44000	1050	140	0.006	24700	605	80	0.006
1.5	12100	620	55	0.013	27500	1160	130	0.011	20300	910	95	0.011
2.0	9350	640	60	0.017	22000	1320	140	0.015	16500	1035	105	0.016
3.0	6050	640	55	0.026	15400	1320	145	0.021	11000	1035	105	0.024
4.0	4600	640	60	0.035	11000	1320	140	0.030	8800	1035	110	0.029
5.0	3650	640	55	0.044	9150	1320	145	0.036	6800	1035	105	0.038
6.0	2950	770	55	0.065	7600	1430	145	0.047	5700	1100	105	0.048
8.0	2200	815	55	0.093	5700	1430	145	0.063	4400	1100	110	0.063
10.0	1850	860	60	0.116	4600	1430	145	0.078	3400	1100	105	0.081
12.0	1450	900	55	0.155	3750	1430	140	0.095	2850	1100	105	0.096



※ The FEED, in long & extra long types, should be reduced by around 50%

RPM = rev./min.  
FEED = mm/min.  
Vc = m/min.  
fz = mm/t

# K-2 CARBIDE END MILLS

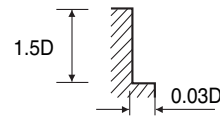
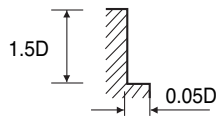
## CARBIDE, 4&6 FLUTE 45° HELIX SIDE CUTTING

## VOLLHARTMETALL, 4&6 SCHNEIDEN 45° RECHTSSPIRALE SEITENFRASEN

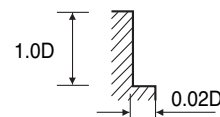
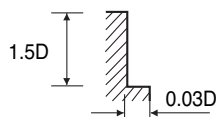
### RECOMMENDED CUTTING CONDITIONS

#### G9F45, G9F46 SERIES

MATERIAL	P							
	NON-ALLOYED STEELS ALLOY STEELS CAST IRON				ALLOY STEELS HEAT RESISTANT STEELS			
HARDNESS	~ HRc 30				HRc 30 ~ HRc 50			
STRENGTH	~1000N/mm <sup>2</sup>				1000 ~ 1750N/mm <sup>2</sup>			
DIAMETER	RPM	FEED	Vc	fz	RPM	FEED	Vc	fz
3.0	8650	825	82	0.024	5750	555	54	0.024
4.0	6600	858	83	0.033	4400	581	55	0.033
5.0	6250	990	98	0.026	4150	660	65	0.027
6.0	5175	924	98	0.030	3450	627	65	0.030
8.0	3900	891	98	0.038	2600	594	65	0.038
10.0	3075	831	97	0.045	2050	555	64	0.045
12.0	2625	831	99	0.053	1750	555	66	0.053
14.0	2230	770	98	0.058	1500	515	66	0.057
16.0	1950	726	98	0.062	1300	482	65	0.062
18.0	1720	670	97	0.065	1150	455	65	0.066
20.0	1550	641	97	0.069	1025	429	64	0.070



MATERIAL	P							
	HARDENED STEELS							
HARDNESS	HRc 50 ~ HRc 60				HRc 60 ~ HRc 65			
STRENGTH	1750 ~ 2080N/mm <sup>2</sup>				2080N/mm <sup>2</sup>			
DIAMETER	RPM	FEED	Vc	fz	RPM	FEED	Vc	fz
3.0	4750	344	45	0.018	3750	212	35	0.014
4.0	3600	357	45	0.025	2800	221	35	0.020
5.0	3200	383	50	0.020	2550	245	40	0.016
6.0	2650	369	50	0.023	2100	231	40	0.018
8.0	2000	344	50	0.029	1600	218	40	0.023
10.0	1600	317	50	0.033	1275	204	40	0.027
12.0	1825	317	69	0.029	1050	198	40	0.031
14.0	1130	280	50	0.041	900	185	40	0.034
16.0	1000	278	50	0.046	800	179	40	0.037
18.0	880	265	50	0.050	700	165	40	0.039
20.0	800	251	50	0.052	650	165	41	0.042



※ The FEED, in long & extra long types, should be reduced by around 50%

RPM = rev./min.  
FEED = mm/min.  
Vc = m/min.  
fz = mm/t

# **K-2** CARBIDE END MILLS

MEMO