# X5070 END MILLS

PLAIN SHANK **G8A45 SERIES**

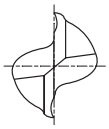
## CARBIDE, 2 FLUTE for RIB PROCESSING

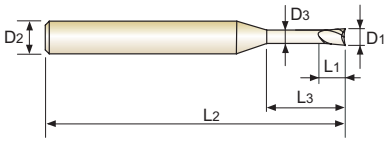
### VOLLHARTMETALL, 2 SCHNEIDEN für SCHMALE RIPPEN
### Fraise carbure, 2 dents pour usinage de rainure
### 2 TAGLIENTI PER NERVATURE

- Designed to machine high hardened materials.
- Suitable for dry cutting, high speed cutting thanks to newly developed raw-material and new coating.
- Excellent workpiece finish.
- Designed for high precision milling operation.
- Higher wear-resistance.

- Geeignet zum Fräsen hochgehärteter Stähle.
- Geeignet zum Trockenfräsen und HSC-Fräsen dank neuentwickeltem Material und Beschichtung.
- Excellente Werkstückoberflächen.
- Geeignet für hochpräzises Fräsen.
- Höhere Verschleißfestigkeit.








CARBIDE | 2 | 30° | PLAIN | BLUE

p.C193~C194

Recommended ToolHolder — Plain Shank: HYDRAULIC CHUCK SHRINK FIT HOLDER; POWER MILLING CHUCK; ER COLLET CHUCK SK SLIM CHUCK

Unit : mm

| EDP No. | Mill Diameter D1 | Shank Diameter D2 | Length of Cut L1 | Length Below Shank L3 | Overall Length L2 | Neck Diameter D3 |
|---|---|---|---|---|---|---|
| G8A45863 | 0.1 | 4 | 0.15 | 0.3 | 45 | 0.085 |
| G8A45864 | 0.1 | 4 | 0.15 | 0.5 | 45 | 0.085 |
| G8A45002 | 0.2 | 4 | 0.3 | 0.5 | 45 | 0.17 |
| G8A45815 | 0.2 | 4 | 0.3 | 1 | 45 | 0.17 |
| G8A45816 | 0.2 | 4 | 0.3 | 1.5 | 45 | 0.17 |
| G8A45003 | 0.3 | 4 | 0.45 | 1 | 45 | 0.27 |
| G8A45844 | 0.3 | 4 | 0.45 | 1.5 | 45 | 0.27 |
| G8A45817 | 0.3 | 4 | 0.45 | 2 | 45 | 0.27 |
| G8A45818 | 0.3 | 4 | 0.45 | 3 | 45 | 0.27 |
| G8A45842 | 0.3 | 4 | 0.45 | 4 | 45 | 0.27 |
| G8A45843 | 0.4 | 4 | 0.6 | 1 | 45 | 0.37 |
| G8A45004 | 0.4 | 4 | 0.6 | 2 | 45 | 0.37 |
| G8A45984 | 0.4 | 4 | 0.6 | 3 | 45 | 0.37 |
| G8A45985 | 0.4 | 4 | 0.6 | 4 | 45 | 0.37 |
| G8A45986 | 0.4 | 4 | 0.6 | 5 | 45 | 0.37 |
| G8A45005 | 0.5 | 4 | 0.7 | 2 | 45 | 0.45 |
| G8A45861 | 0.5 | 4 | 0.7 | 2.5 | 45 | 0.45 |
| G8A45988 | 0.5 | 4 | 0.7 | 4 | 45 | 0.45 |
| G8A45989 | 0.5 | 4 | 0.7 | 6 | 45 | 0.45 |
| G8A45990 | 0.5 | 4 | 0.7 | 8 | 45 | 0.45 |
| G8A45006 | 0.6 | 4 | 0.9 | 2 | 45 | 0.55 |
| G8A45860 | 0.6 | 4 | 0.9 | 3 | 45 | 0.55 |

Due to the characteristics of the blue decoration layer, it might be erased during short term use and the color layer might not be uniformed. However, it doesn't affect the performance of the tool.

▶ NEXT PAGE

| Mill Dia. Tolerance (mm) | Shank Dia. Tolerance |
|---|---|
| 0 ~ - 0.012 | h5 |

◎ : Excellent ○ : Good

| ISO | P | | | | | | | | | | | M | | | K | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Material Description | Non-alloy steel | | | | | Low alloy steel | | | | High alloyed steel, and tool steel | | Stainless steel | | | Grey cast iron | | Nodular cast iron | | Malleable cast iron | |
| VDI 3323 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
| HRc | | 13 | 25 | 28 | 32 | 10 | 29 | 32 | 38 | 15 | 35 | 15 | 23 | 10 | 10 | 26 | 3 | 25 | | 21 |
| HB | 125 | 190 | 250 | 270 | 300 | 180 | 275 | 300 | 350 | 200 | 325 | 200 | 240 | 180 | 180 | 260 | 160 | 250 | 130 | 230 |
| Recommend | | | | | ○ | | | ○ | ○ | | ○ | | | | | | | | | |

| ISO | N | | | | | | | | | | S | | | | | | | H | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Material Description | Aluminum-wrought alloy | | Aluminum-cast, alloyed | | | Copper and Copper Alloys (Bronze / Brass) | | | Non Metallic Materials | | Heat Resistant Super Alloys | | | | | Titanium Alloys | | Hardened steel | | Chilled Cast Iron | Hardened Cast Iron |
| VDI 3323 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 |
| HRc | | | | | | | | | | | 15 | 30 | 25 | 38 | 34 | | | 55 | 60 | 42 | 55 |
| HB | 60 | 100 | 75 | 90 | 130 | 110 | 90 | 100 | | | 200 | 280 | 250 | 350 | 320 | 400 Rm | 1050 Rm | 550 | 630 | 400 | 550 |
| Recommend | | | | | | | | | | | | | | | | | | ◎ | ◎ | ○ | ◎ |

# X5070 END MILLS

PLAIN SHANK **G8A45 SERIES**

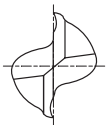
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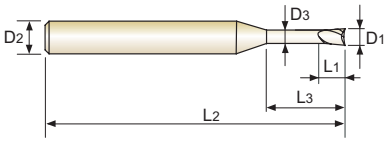
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**Fraise carbure, 2 dents pour usinage de rainure**
**2 TAGLIENTI PER NERVATURE**

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- Excellent workpiece finish.
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- Geeignet zum Trockenfräsen und HSC-Fräsen dank neuentwickeltem Material und Beschichtung.
- Excellente Werkstückoberflächen.
- Geeignet für hochpräzises Fräsen.
- Höhere Verschleißfestigkeit.








CARBIDE | 2 | 30° | PLAIN | BLUE

p.C193~C194

Recommended ToolHolder

Plain Shank
- HYDRAULIC CHUCK SHRINK FIT HOLDER
- POWER MILLING CHUCK
- ER COLLET CHUCK SK SLIM CHUCK

Unit : mm

| EDP No. | Mill Diameter D1 | Shank Diameter D2 | Length of Cut L1 | Length Below Shank L3 | Overall Length L2 | Neck Diameter D3 |
|---|---|---|---|---|---|---|
| G8A45991 | 0.6 | 4 | 0.9 | 4 | 45 | 0.55 |
| G8A45992 | 0.6 | 4 | 0.9 | 6 | 45 | 0.55 |
| G8A45993 | 0.6 | 4 | 0.9 | 8 | 45 | 0.55 |
| G8A45819 | 0.6 | 4 | 0.9 | 10 | 45 | 0.55 |
| G8A45862 | 0.8 | 4 | 1.2 | 2 | 45 | 0.75 |
| G8A45008 | 0.8 | 4 | 1.2 | 4 | 45 | 0.75 |
| G8A45908 | 0.8 | 4 | 1.2 | 6 | 45 | 0.75 |
| G8A45909 | 0.8 | 4 | 1.2 | 8 | 45 | 0.75 |
| G8A45994 | 0.8 | 4 | 1.2 | 10 | 45 | 0.75 |
| G8A45995 | 0.8 | 4 | 1.2 | 12 | 45 | 0.75 |
| G8A45996 | 1.0 | 4 | 1.5 | 4 | 45 | 0.95 |
| G8A45010 | 1.0 | 4 | 1.5 | 6 | 45 | 0.95 |
| G8A45912 | 1.0 | 4 | 1.5 | 8 | 45 | 0.95 |
| G8A45913 | 1.0 | 4 | 1.5 | 10 | 45 | 0.95 |
| G8A45914 | 1.0 | 4 | 1.5 | 12 | 45 | 0.95 |
| G8A45997 | 1.0 | 4 | 1.5 | 16 | 50 | 0.95 |
| G8A45998 | 1.0 | 4 | 1.5 | 20 | 55 | 0.95 |
| G8A45012 | 1.2 | 4 | 1.8 | 6 | 45 | 1.15 |
| G8A45915 | 1.2 | 4 | 1.8 | 8 | 45 | 1.15 |
| G8A45916 | 1.2 | 4 | 1.8 | 10 | 45 | 1.15 |
| G8A45917 | 1.2 | 4 | 1.8 | 12 | 45 | 1.15 |
| G8A45999 | 1.2 | 4 | 1.8 | 16 | 50 | 1.15 |

Due to the characteristics of the blue decoration layer, it might be erased during short term use and the color layer might not be uniformed. However, it doesn't affect the performance of the tool.

▶ NEXT PAGE

| Mill Dia. Tolerance (mm) | Shank Dia. Tolerance |
|---|---|
| 0 ~ - 0.012 | h5 |

◎ : Excellent ○ : Good

| ISO | P | | | | | | | | | | | M | | | K | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Material Description | Non-alloy steel | | | | | Low alloy steel | | | | High alloyed steel, and tool steel | | Stainless steel | | | Grey cast iron | | Nodular cast iron | | Malleable cast iron | |
| VDI 3323 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
| HRc | | 13 | 25 | 28 | 32 | 10 | 29 | 32 | 38 | 15 | 35 | 15 | 23 | 10 | 10 | 26 | 3 | 25 | | 21 |
| HB | 125 | 190 | 250 | 270 | 300 | 180 | 275 | 300 | 350 | 200 | 325 | 200 | 240 | 180 | 180 | 260 | 160 | 250 | 130 | 230 |
| Recommend | | | | | ○ | | | ○ | ○ | | ○ | | | | | | | | | |

| ISO | N | | | | | | | | | | S | | | | | | | H | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Material Description | Aluminum-wrought alloy | | Aluminum-cast, alloyed | | | Copper and Copper Alloys (Bronze / Brass) | | | Non Metallic Materials | | Heat Resistant Super Alloys | | | | | Titanium Alloys | | Hardened steel | | Chilled Cast Iron | Hardened Cast Iron |
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| HRc | | | | | | | | | | | 15 | 30 | 25 | 38 | 34 | | | 55 | 60 | 42 | 55 |
| HB | 60 | 100 | 75 | 90 | 130 | 110 | 90 | 100 | | | 200 | 280 | 250 | 350 | 320 | 400 Rm | 1050 Rm | 550 | 630 | 400 | 550 |
| Recommend | | | | | | | | | | | | | | | | | | ◎ | ◎ | ○ | ◎ |

# X5070 END MILLS

PLAIN SHANK **G8A45 SERIES**

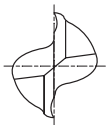
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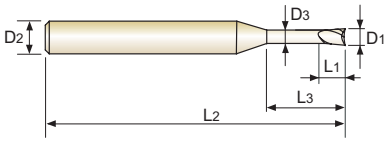
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CARBIDE | 2 | 30° | PLAIN | BLUE

p.C193~C194

Recommended ToolHolder — Plain Shank: HYDRAULIC CHUCK SHRINK FIT HOLDER; POWER MILLING CHUCK; ER COLLET CHUCK SK SLIM CHUCK

Unit : mm

| EDP No. | Mill Diameter D1 | Shank Diameter D2 | Length of Cut L1 | Length Below Shank L3 | Overall Length L2 | Neck Diameter D3 |
|---|---|---|---|---|---|---|
| G8A45015 | 1.5 | 4 | 2.3 | 6 | 45 | 1.45 |
| G8A45923 | 1.5 | 4 | 2.3 | 8 | 45 | 1.45 |
| G8A45924 | 1.5 | 4 | 2.3 | 10 | 45 | 1.45 |
| G8A45925 | 1.5 | 4 | 2.3 | 12 | 45 | 1.45 |
| G8A45926 | 1.5 | 4 | 2.3 | 14 | 50 | 1.45 |
| G8A45927 | 1.5 | 4 | 2.3 | 16 | 50 | 1.45 |
| G8A45928 | 1.5 | 4 | 2.3 | 18 | 55 | 1.45 |
| G8A45810 | 1.5 | 4 | 2.3 | 20 | 55 | 1.45 |
| G8A45958 | 2.0 | 4 | 3.0 | 6 | 45 | 1.95 |
| G8A45020 | 2.0 | 4 | 3.0 | 8 | 45 | 1.95 |
| G8A45959 | 2.0 | 4 | 3.0 | 10 | 45 | 1.95 |
| G8A45960 | 2.0 | 4 | 3.0 | 12 | 45 | 1.95 |
| G8A45961 | 2.0 | 4 | 3.0 | 14 | 50 | 1.95 |
| G8A45962 | 2.0 | 4 | 3.0 | 16 | 50 | 1.95 |
| G8A45963 | 2.0 | 4 | 3.0 | 18 | 55 | 1.95 |
| G8A45964 | 2.0 | 4 | 3.0 | 20 | 55 | 1.95 |
| G8A45966 | 2.0 | 4 | 3.0 | 25 | 60 | 1.95 |
| G8A45814 | 2.0 | 4 | 3.0 | 30 | 70 | 1.95 |
| G8A45975 | 3.0 | 6 | 4.5 | 10 | 45 | 2.85 |
| G8A45976 | 3.0 | 6 | 4.5 | 12 | 45 | 2.85 |
| G8A45977 | 3.0 | 6 | 4.5 | 14 | 50 | 2.85 |
| G8A45978 | 3.0 | 6 | 4.5 | 16 | 55 | 2.85 |

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▶ NEXT PAGE

| Mill Dia. Tolerance (mm) | Shank Dia. Tolerance |
|---|---|
| 0 ~ - 0.012 | h5 |

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| ISO | P | | | | | | | | | | | M | | | K | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Material Description | Non-alloy steel | | | | | Low alloy steel | | | | High alloyed steel, and tool steel | | Stainless steel | | | Grey cast iron | | Nodular cast iron | | Malleable cast iron | |
| VDI 3323 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
| HRc | | 13 | 25 | 28 | 32 | 10 | 29 | 32 | 38 | 15 | 35 | 15 | 23 | 10 | 10 | 26 | 3 | 25 | | 21 |
| HB | 125 | 190 | 250 | 270 | 300 | 180 | 275 | 300 | 350 | 200 | 325 | 200 | 240 | 180 | 180 | 260 | 160 | 250 | 130 | 230 |
| Recommend | | | | | ○ | | | ○ | ○ | | ○ | | | | | | | | | |

| ISO | N | | | | | | | | | | S | | | | | | | H | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
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| HRc | | | | | | | | | | | 15 | 30 | 25 | 38 | 34 | | | 55 | 60 | 42 | 55 |
| HB | 60 | 100 | 75 | 90 | 130 | 110 | 90 | 100 | | | 200 | 280 | 250 | 350 | 320 | 400 Rm | 1050 Rm | 550 | 630 | 400 | 550 |
| Recommend | | | | | | | | | | | | | | | | | | ◎ | ◎ | ○ | ◎ |

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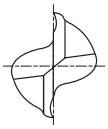
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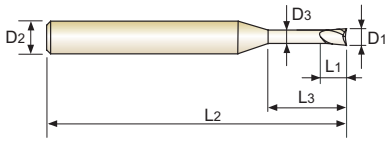
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p.C193~C194

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Unit : mm

| EDP No. | Mill Diameter D1 | Shank Diameter D2 | Length of Cut L1 | Length Below Shank L3 | Overall Length L2 | Neck Diameter D3 |
|---|---|---|---|---|---|---|
| G8A45979 | 3.0 | 6 | 4.5 | 18 | 55 | 2.85 |
| G8A45980 | 3.0 | 6 | 4.5 | 20 | 60 | 2.85 |
| G8A45981 | 3.0 | 6 | 4.5 | 25 | 65 | 2.85 |
| G8A45832 | 3.0 | 6 | 4.5 | 30 | 70 | 2.85 |
| G8A45833 | 3.0 | 6 | 4.5 | 35 | 80 | 2.85 |
| G8A45983 | 3.0 | 6 | 4.5 | 40 | 90 | 2.85 |
| G8A45040 | 4.0 | 6 | 6 | 12 | 50 | 3.85 |
| G8A45801 | 4.0 | 6 | 6 | 16 | 60 | 3.85 |
| G8A45802 | 4.0 | 6 | 6 | 20 | 60 | 3.85 |
| G8A45803 | 4.0 | 6 | 6 | 25 | 70 | 3.85 |
| G8A45834 | 4.0 | 6 | 6 | 30 | 70 | 3.85 |
| G8A45835 | 4.0 | 6 | 6 | 35 | 80 | 3.85 |
| G8A45836 | 4.0 | 6 | 6 | 40 | 90 | 3.85 |
| G8A45837 | 4.0 | 6 | 6 | 45 | 90 | 3.85 |
| G8A45838 | 4.0 | 6 | 6 | 50 | 100 | 3.85 |

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| Mill Dia. Tolerance (mm) | Shank Dia. Tolerance |
|---|---|
| 0 ~ - 0.012 | h5 |

◎ : Excellent ○ : Good

| ISO | P | | | | | | | | | | | M | | | K | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Material Description | Non-alloy steel | | | | | Low alloy steel | | | | High alloyed steel, and tool steel | | Stainless steel | | | Grey cast iron | | Nodular cast iron | | Malleable cast iron | |
| VDI 3323 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
| HRc | | 13 | 25 | 28 | 32 | 10 | 29 | 32 | 38 | 15 | 35 | 15 | 23 | 10 | 10 | 26 | 3 | 25 | | 21 |
| HB | 125 | 190 | 250 | 270 | 300 | 180 | 275 | 300 | 350 | 200 | 325 | 200 | 240 | 180 | 180 | 260 | 160 | 250 | 130 | 230 |
| Recommend | | | | | ○ | | | ○ | ○ | | ○ | | | | | | | | | |

| ISO | N | | | | | | | | | | S | | | | | | | H | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
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| HRc | | | | | | | | | | | 15 | 30 | 25 | 38 | 34 | | | 55 | 60 | 42 | 55 |
| HB | 60 | 100 | 75 | 90 | 130 | 110 | 90 | 100 | | | 200 | 280 | 250 | 350 | 320 | 400 Rm | 1050 Rm | 550 | 630 | 400 | 550 |
| Recommend | | | | | | | | | | | | | | | | | | ◎ | ◎ | ○ | ◎ |


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YG-1 CO., LTD.