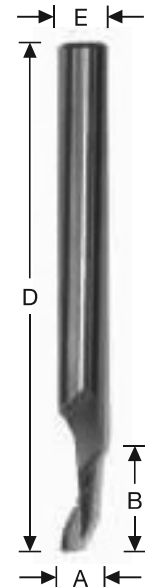


zum Fräsen und Bohren von Profilen aus Aluminium, Kunststoff und NE-Metallen

- verwendbar auf allen Kopierfräsen, Wasserschlitzzfräsen und Bearbeitungszentren: AFS, BJM, elumatec, Emmegi, FOM, Haffner, KABAN, Kombimatec, MLA, Pertici, Pressta-Eisele, Rapid, Rotox, Schirmer, Striffler, TEKNA, Thorwesten, Wegoma, etc.
- Drehzahlbereich ca. 8.000 - 20.000 UpM
- bei Aluminiumbearbeitung ist auf direkte und ausreichende Kühlung zu achten !

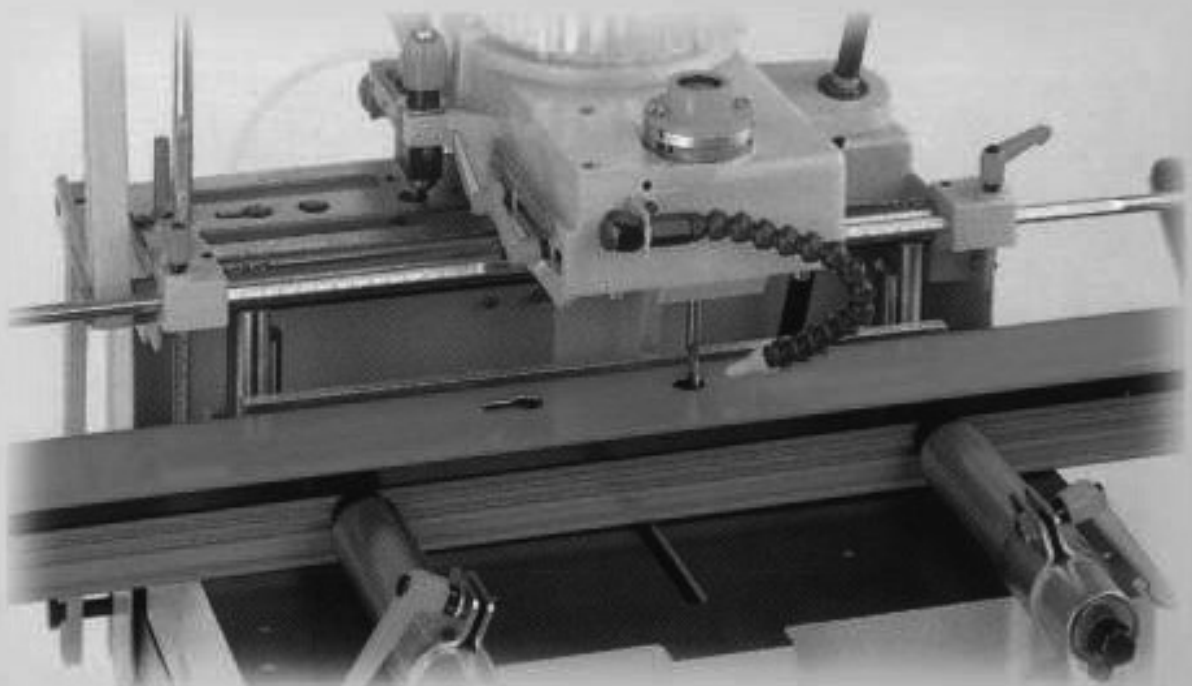
Single flute cutter HSS-E**for slotting and drilling in Aluminium- and UPVC-profiles**

- used on copyrouters, drainage slot routers and CNC-machining-centres: AFS, BJM, elumatec, Emmegi, FOM, Haffner, KABAN, Kombimatec, MLA, Pertici, Pressta-Eisele, Rapid, Rotox, Schirmer, Striffler, TEKNA, Thorwesten, Wegoma, etc.
- speed approx. 8.000 - 20.000 rpm
- direct and adequate cooling-spray is particularly important for aluminium working !



| Art.-Nr. | A | B | D | E |
|-------------|---|----|-----|---|
| 060 008 003 | 3 | 12 | 60 | 8 |
| 060 006 004 | 4 | 12 | 60 | 6 |
| 060 008 004 | 4 | 12 | 60 | 8 |
| 060 008 204 | 4 | 20 | 60 | 8 |
| 080 008 004 | 4 | 12 | 80 | 8 |
| 080 008 254 | 4 | 25 | 80 | 8 |
| 010 008 254 | 4 | 25 | 100 | 8 |
| 010 008 124 | 4 | 12 | 100 | 8 |
| 011 008 004 | 4 | 40 | 100 | 8 |
| 011 008 204 | 4 | 20 | 120 | 8 |
| 060 006 005 | 5 | 12 | 60 | 6 |
| 060 008 005 | 5 | 12 | 60 | 8 |
| 060 008 185 | 5 | 18 | 60 | 8 |
| 070 008 255 | 5 | 25 | 70 | 8 |
| 080 008 255 | 5 | 25 | 80 | 8 |
| 080 008 355 | 5 | 35 | 80 | 8 |
| 090 008 255 | 5 | 25 | 90 | 8 |
| 090 008 355 | 5 | 35 | 90 | 8 |
| 010 008 145 | 5 | 14 | 100 | 8 |
| 011 008 025 | 5 | 20 | 100 | 8 |
| 011 008 255 | 5 | 25 | 100 | 8 |
| 011 008 305 | 5 | 30 | 100 | 8 |
| 011 008 005 | 5 | 40 | 100 | 8 |
| 011 008 545 | 5 | 45 | 100 | 8 |
| 020 008 005 | 5 | 14 | 120 | 8 |
| 011 008 205 | 5 | 40 | 120 | 8 |
| 060 006 006 | 6 | 14 | 60 | 6 |
| 060 008 006 | 6 | 14 | 60 | 8 |
| 070 008 256 | 6 | 25 | 70 | 8 |
| 080 008 006 | 6 | 14 | 80 | 8 |
| 080 008 256 | 6 | 25 | 80 | 8 |
| 010 008 146 | 6 | 14 | 100 | 8 |
| 011 008 006 | 6 | 40 | 100 | 8 |
| 060 008 007 | 7 | 14 | 60 | 8 |
| 080 008 007 | 7 | 14 | 80 | 8 |
| 080 008 008 | 8 | 14 | 80 | 8 |
| 080 008 258 | 8 | 25 | 80 | 8 |
| 080 008 408 | 8 | 40 | 80 | 8 |
| 010 008 008 | 8 | 14 | 100 | 8 |
| 010 008 258 | 8 | 25 | 100 | 8 |

| | | | | |
|-------------|----|----|-----|----|
| 011 008 008 | 8 | 40 | 100 | 8 |
| 020 008 008 | 8 | 14 | 120 | 8 |
| 020 008 258 | 8 | 25 | 120 | 8 |
| 020 008 408 | 8 | 40 | 120 | 8 |
| 080 008 009 | 9 | 14 | 80 | 8 |
| 011 008 009 | 9 | 40 | 100 | 8 |
| 080 008 010 | 10 | 14 | 80 | 8 |
| 010 008 140 | 10 | 14 | 100 | 8 |
| 010 008 010 | 10 | 22 | 100 | 8 |
| 080 010 010 | 10 | 14 | 80 | 10 |
| 020 010 010 | 10 | 14 | 120 | 10 |
| 080 008 011 | 11 | 14 | 80 | 8 |
| 080 008 012 | 12 | 14 | 80 | 8 |
| 090 008 512 | 12 | 50 | 90 | 8 |
| 010 008 012 | 12 | 28 | 100 | 8 |
| 080 010 012 | 12 | 14 | 80 | 10 |



Einzahnfräser HSS-E - Hals freigeschliffen -

91001

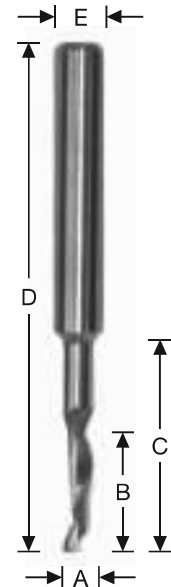
zum Fräsen und Bohren von Profilen aus Aluminium, Kunststoff und NE-Metallen

- verwendbar auf allen Kopierfräsen, Wasserschlitzfräsen und Bearbeitungszentren: AFS, BJM, elumatec, Emmegi, FOM, Haffner, KABAN, Kombimatec, MLA, Pertici, Pressta-Eisele, Rapid, Rotox, Schirmer, Striffler, TEKNA, Thorwesten, Wegoma, etc.
- Drehzahlbereich ca. 8.000 - 20.000 UpM
- bei Aluminiumbearbeitung ist auf direkte und ausreichende Kühlung zu achten !

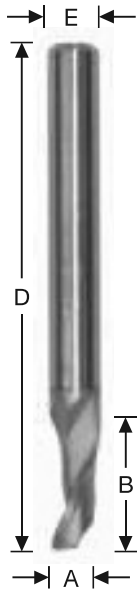
Single flute cutter HSS-E - stepped shank -

for slotting and drilling in Aluminium- and UPVC-profiles

- used on copyrouters, drainage slot routers and CNC-machining-centres: AFS, BJM, elumatec, Emmegi, FOM, Haffner, KABAN, Kombimatec, MLA, Pertici, Pressta-Eisele, Rapid, Rotox, Schirmer, Striffler, TEKNA, Thorwesten, Wegoma, etc.
- speed approx. 8.000 - 20.000 rpm
- direct and adequate cooling-spray is particularly important for aluminium working !



| Art.-Nr. | A | B | C | D | E |
|-------------|----|----|----|-----|----|
| 080 108 004 | 4 | 18 | 35 | 80 | 8 |
| 090 108 004 | 4 | 16 | 45 | 90 | 8 |
| 080 106 005 | 5 | 18 | 35 | 80 | 6 |
| 080 108 005 | 5 | 18 | 35 | 80 | 8 |
| 090 108 005 | 5 | 16 | 45 | 90 | 8 |
| 090 108 155 | 5 | 16 | 55 | 90 | 8 |
| 010 108 005 | 5 | 18 | 35 | 100 | 8 |
| 010 108 255 | 5 | 25 | 55 | 100 | 8 |
| 020 108 005 | 5 | 14 | 35 | 120 | 8 |
| 020 108 175 | 5 | 14 | 75 | 120 | 8 |
| 020 108 145 | 5 | 20 | 45 | 120 | 8 |
| 025 108 005 | 5 | 14 | 65 | 125 | 8 |
| 080 108 006 | 6 | 14 | 35 | 80 | 8 |
| 090 108 006 | 6 | 16 | 45 | 90 | 8 |
| 010 108 006 | 6 | 18 | 35 | 100 | 8 |
| 080 108 007 | 7 | 14 | 45 | 80 | 8 |
| 080 108 008 | 8 | 14 | 54 | 80 | 8 |
| 010 108 008 | 8 | 14 | 68 | 100 | 8 |
| 010 108 308 | 8 | 30 | 70 | 100 | 8 |
| 020 108 008 | 8 | 14 | 90 | 120 | 8 |
| 020 108 308 | 8 | 30 | 70 | 120 | 8 |
| 085 110 010 | 10 | 14 | 65 | 85 | 10 |
| 090 010 451 | 10 | 25 | 45 | 90 | 10 |
| 096 110 010 | 10 | 14 | 75 | 96 | 10 |
| 010 110 010 | 10 | 30 | 70 | 100 | 10 |
| 020 110 010 | 10 | 14 | 95 | 120 | 10 |
| 020 110 310 | 10 | 30 | 70 | 120 | 10 |



Ein Zahnfräser HSS-E

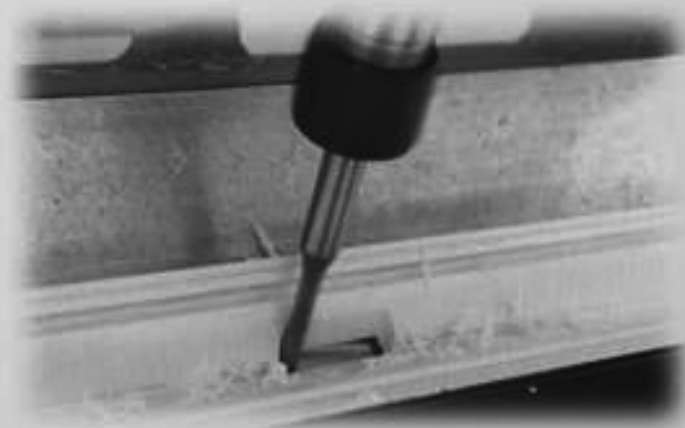
91003

- **TIN-beschichtet**
für längere Standzeit bei PVC-Bearbeitung

Single flute cutter HSS-E

- **TIN-coated**
for longer durability in UPVC-Profiles

| Art.-Nr. | A | B | C | D | E |
|-------------|---|----|----|-----|---|
| 060 018 004 | 4 | 12 | | 60 | 8 |
| 060 018 005 | 5 | 12 | | 60 | 8 |
| 060 018 185 | 5 | 18 | | 60 | 8 |
| 080 118 005 | 5 | 18 | 35 | 80 | 8 |
| 090 118 005 | 5 | 16 | 45 | 90 | 8 |
| 011 018 255 | 5 | 25 | | 100 | 8 |
| 011 018 005 | 5 | 40 | | 100 | 8 |
| 060 018 006 | 6 | 14 | | 60 | 8 |
| 080 018 008 | 8 | 14 | | 80 | 8 |
| 080 118 008 | 8 | 14 | 54 | 80 | 8 |
| 020 018 008 | 8 | 14 | | 120 | 8 |



Perfekte Wasserschlitze – für alle Anwendungsfälle den optimalen Fräser...

Perfect waterslots – for all scope the suitable drainage cutter

Einzahnfräser HSS-E

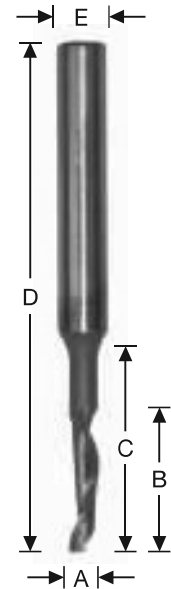
91004

- **CrN-beschichtet**
für längere Standzeit bei Aluminium-Bearbeitung

Single flute cutter HSS-E

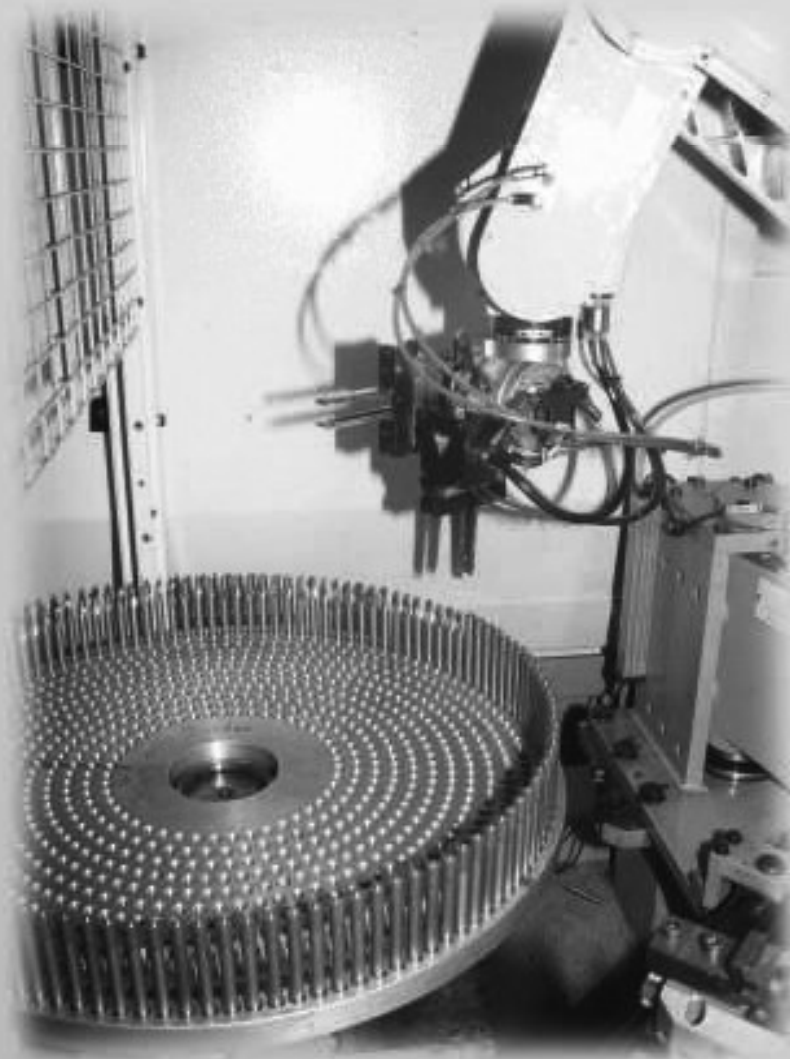
- **CrN-coated**
for longer durability in Aluminium-profiles

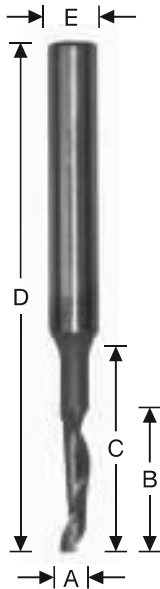
| Art.-Nr. | A | B | C | D | E |
|-------------|----|----|----|----|----|
| 060 028 003 | 3 | 12 | | 60 | 8 |
| 060 028 004 | 4 | 12 | | 60 | 8 |
| 060 028 005 | 5 | 12 | | 60 | 8 |
| 060 028 185 | 5 | 18 | | 60 | 8 |
| 080 128 005 | 5 | 18 | 35 | 80 | 8 |
| 080 028 355 | 5 | 35 | | 80 | 8 |
| 060 028 006 | 6 | 14 | | 60 | 8 |
| 060 028 007 | 7 | 14 | | 60 | 8 |
| 080 028 008 | 8 | 14 | | 80 | 8 |
| 080 128 008 | 8 | 14 | 54 | 80 | 8 |
| 080 028 258 | 8 | 25 | | 80 | 8 |
| 090 028 451 | 10 | 25 | 45 | 90 | 10 |



Vollautomatische CNC-Schleifzentren mit CBN-Schleiftechnologie ermöglichen höchste Präzision und Wiederholgenauigkeit

Fully automatic CNC grinding centres with CBN grinding technology guarantee highest precision and repetition





Einzahnfräser HSS-E

91005

- TiCN-beschichtet

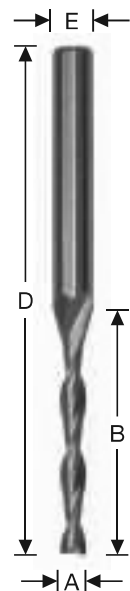
für längere Standzeit bei Aluminium- und PVC-Bearbeitung

Single flute cutter HSS-E

- TiCN-coated

for longer durability in Aluminium- and UPVC-profiles

| Art.-Nr. | A | B | C | D | E |
|-------------|---|----|----|----|---|
| 060 048 005 | 5 | 12 | | 60 | 8 |
| 060 048 006 | 6 | 14 | | 60 | 8 |
| 060 048 007 | 7 | 14 | | 60 | 8 |
| 080 048 008 | 8 | 14 | | 80 | 8 |
| 080 148 005 | 5 | 18 | 35 | 80 | 8 |
| 080 148 008 | 8 | 14 | 54 | 80 | 8 |



Wasserschlitzfräser HSS-E

91010

für Wasserschlitzfräsen

elumatec, Haffner, Kombimatec, MLA, ROTOX, Striffler, Wegoma, etc.

Zweischneidig, spiralig

Für Aluminium-Bearbeitung

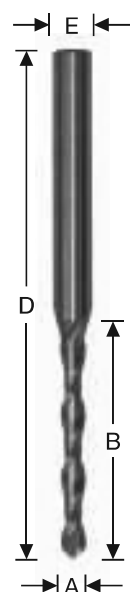
Waterslot cutter HSS-E

for elumatec, Haffner, Kombimatec, MLA, ROTOX, Striffler, Wegoma, etc.

Two flutes, spiral

For aluminium-working

| Art.-Nr. | A | B | D | E |
|-------------|---|----|-----|---|
| 012 008 905 | 5 | 30 | 90 | 8 |
| 012 008 005 | 5 | 40 | 100 | 8 |



Wasserschlitzfräser HSS-E

91011

für Wasserschlitzfräsen

elumatec, Haffner, Kombimatec, MLA, ROTOX, Striffler, Wegoma, etc.

Zweischneidig, spiralig mit Bohrerspitze

Für PVC-Bearbeitung

Waterslot cutter HSS-E

for elumatec, Haffner, Kombimatec, MLA, ROTOX, Striffler, Wegoma, etc.

Two flutes, spiral with drill point

For UPVC-working

| Art.-Nr. | A | B | D | E |
|-------------|---|----|-----|---|
| 014 006 005 | 5 | 45 | 100 | 6 |
| 014 008 305 | 5 | 30 | 90 | 8 |
| 014 008 495 | 5 | 40 | 90 | 8 |
| 014 008 405 | 5 | 40 | 100 | 8 |

Bohrnutenfräser HSS-E

91012

für elumatec, Haffner, Kombimatec, MLA, ROTOX, Pertici, etc.

Zweischneidig, spiralig, leichter Drall, Rechtslauf / Linksdrahl

für Aluminium- und PVC-Profilbearbeitung.

Spezialausführung für höchste Beanspruchung.

Milling cutter HSS-E

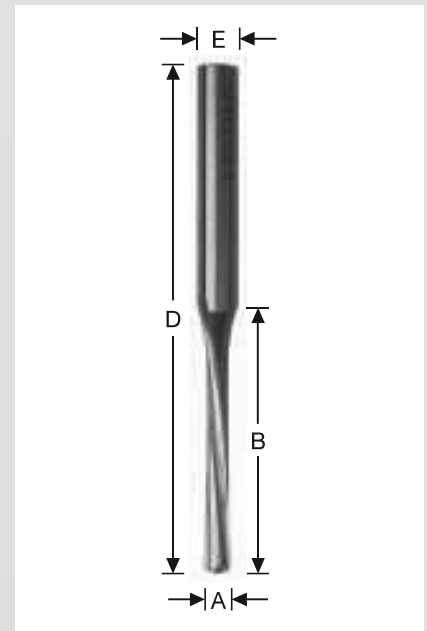
for elumatec, Haffner, Kombimatec, MLA, ROTOX, Pertici, etc.

Two flutes, spiral, slow spiral, RH cut / LH spiral

for aluminium- and UPVC-routing and waterslotting.

Specially designed to give added strength and prevent breakages.

| Art.-Nr. | A | B | D | E |
|-------------|---|----|-----|---|
| 015 008 440 | 4 | 40 | 100 | 8 |
| 015 008 535 | 5 | 35 | 80 | 8 |
| 015 008 540 | 5 | 40 | 100 | 8 |
| 015 008 545 | 5 | 45 | 120 | 8 |



Wasserschlitzfräser HSS-E

91021

für Wasserschlitzfräsen

elumatec, Haffner, Kombimatec, MLA, ROTOX, Striffler, Wegoma, etc.

Einschneidig, gerade, mit Bohrerspitze

Für PVC-Bearbeitung

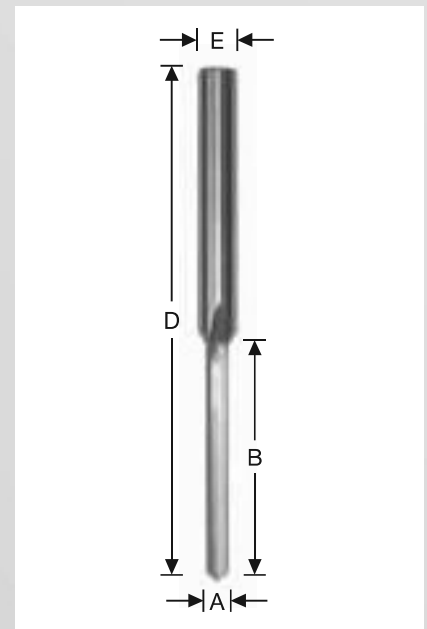
Waterslot cutter HSS-E

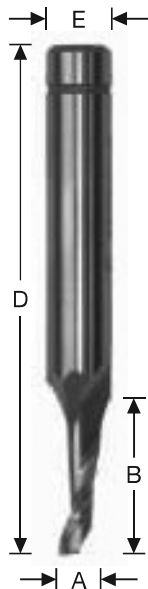
for elumatec, Haffner, Kombimatec, MLA, ROTOX, Striffler, Wegoma, etc.

Single flute, straight, with drill point

For UPVC-working

| Art.-Nr. | A | B | C | D | E |
|-------------|---|----|----|-----|---|
| 013 008 254 | 4 | 25 | | 100 | 8 |
| 013 008 705 | 5 | 30 | | 70 | 8 |
| 013 008 305 | 5 | 35 | | 80 | 8 |
| 013 008 485 | 5 | 45 | | 90 | 8 |
| 013 008 355 | 5 | 35 | | 100 | 8 |
| 013 008 455 | 5 | 45 | | 100 | 8 |
| 013 008 555 | 5 | 55 | | 100 | 8 |
| 013 120 545 | 5 | 45 | | 120 | 8 |
| 013 008 306 | 6 | 30 | | 100 | 8 |
| 013 008 456 | 6 | 45 | | 100 | 8 |
| 013 108 308 | 8 | 30 | 62 | 100 | 8 |
| 013 708 305 | 5 | 30 | | 100 | 8 |





Ein Zahnfräser HSS-E

91022

Spezialausführung für Stahlprofile

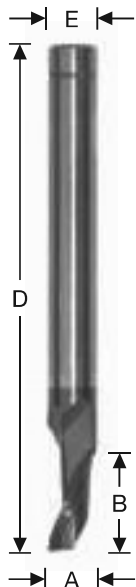
- verwendbar auf allen Kopierfräsen und Bearbeitungszentren:
elumatec, Emmegi, Haffner, MLA, Pertici, Pressta-Eisele, Rapid, Rotox, Striffler, TEKNA, Wegoma, etc.
- Drehzahlbereich ca. 6.000 - 12.000 UpM
- auf direkte und ausreichende Kühlung ist zu achten !

Single flute cutter HSS-E

Special cutters for steel cutting

- used on copyrouters and CNC-machining-centres:
elumatec, Emmegi, Haffner, MLA, Pertici, Pressta-Eisele, Rapid, Rotox, Striffler, TEKNA, Wegoma, etc.
- speed approx. 6.000 - 12.000 rpm
- direct and adequate cooling-spray is particulary important for steel working !

| Art.-Nr. | A | B | D | E |
|-------------|---|----|----|---|
| 160 008 005 | 5 | 12 | 60 | 8 |
| 180 008 008 | 8 | 14 | 80 | 8 |



Ein Zahnfräser HSS-E

91023

Spezialausführung für Stahlprofile

- **beschichtet für längere Standzeit**
- verwendbar auf allen Kopierfräsen und Bearbeitungszentren:
elumatec, Emmegi, Haffner, MLA, Pertici, Pressta-Eisele, Rapid, Rotox, Striffler, TEKNA, Wegoma, etc.
- Drehzahlbereich ca. 6.000 - 12.000 UpM
- auf direkte und ausreichende Kühlung ist zu achten !

Single flute cutter HSS-E

Special cutters for steel cutting

- **coated for longer durability**
- used on copyrouters and CNC-machining-centres:
elumatec, Emmegi, Haffner, MLA, Pertici, Pressta-Eisele, Rapid, Rotox, Striffler, TEKNA, Wegoma, etc.
- speed approx. 6.000 - 12.000 rpm
- direct and adequate cooling-spray is particulary important for steel working !

| Art.-Nr. | A | B | D | E |
|-------------|---|----|----|---|
| 160 038 005 | 5 | 12 | 60 | 8 |
| 180 038 008 | 8 | 14 | 80 | 8 |

Einschneidig, spiralig

Spezialausführung für Stahlprofile

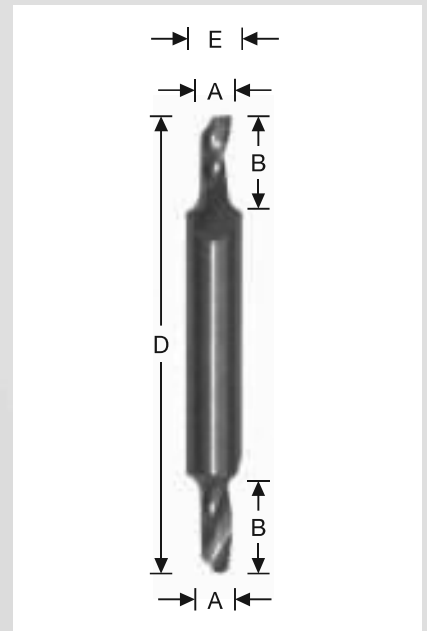
- verwendbar auf allen Kopierfräsen und Bearbeitungszentren:
elumatec, Emmegi, Haffner, MLA, Pertici, Pressta-Eisele, Rapid, Rotox, Striffler, TEKNA, Wegoma, etc.
 - Drehzahlbereich ca. 6.000 - 12.000 UpM
 - bei Stahlbearbeitung ist auf direkte und ausreichende Kühlung zu achten !
- Zur Bearbeitung von Stahlprofilen auf Kopierfräsen

Double-ended single flute cutter -solid carbide-

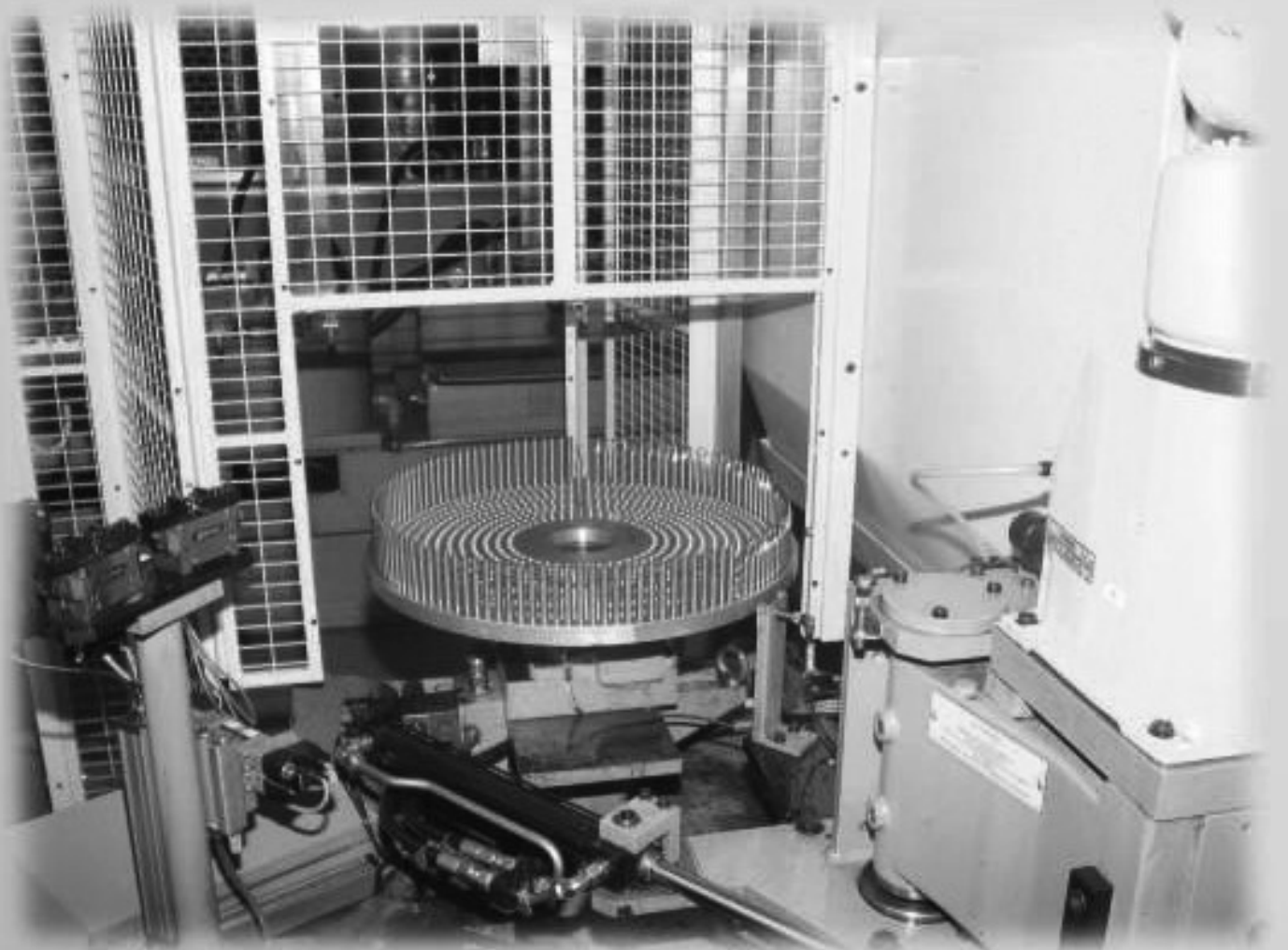
Single flute, spiral

Special cutters for steel cutting

- used on copyrouters and CNC-machining-centres:
elumatec, Emmegi, Haffner, MLA, Pertici, Pressta-Eisele, Rapid, Rotox, Striffler, TEKNA, Wegoma, etc.
 - speed approx. 6.000 - 12.000 rpm
 - direct and adequate cooling-spray is particularly important for steel working !
- For working steel profiles on copy-routers



| Art.-Nr. | A | B | D | E |
|-------------|---|----|----|---|
| 065 708 005 | 5 | 11 | 65 | 8 |



Fräser-Produktion auf modernem Maschinenpark mit CNC-Technik

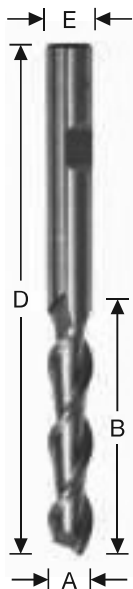
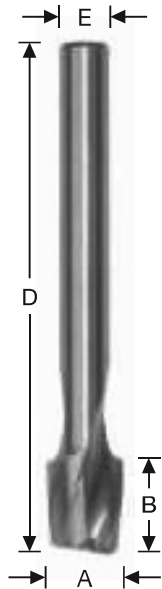
Production on modern machine plants combined with up-to-date CNC technique

Bohrnutenfräser HSS-E

mit Spezial-Stirnanschliff für leichtes Eintauchen

Zweischneidig, spiralig

Für Aluminium und Kunststoff

Milling cutter HSS-E*special grinded for easy drilling***Two flutes, spiral***For aluminium and UPVC*

| Art.-Nr. | A | B | C | D | E |
|-------------|----|----|----|-----|----|
| 082 008 004 | 4 | 12 | | 60 | 8 |
| 082 008 005 | 5 | 12 | | 60 | 8 |
| 082 008 006 | 6 | 14 | | 60 | 8 |
| 082 008 007 | 7 | 14 | | 60 | 8 |
| 082 008 008 | 8 | 14 | | 80 | 8 |
| 082 008 208 | 8 | 30 | | 100 | 8 |
| 082 008 308 | 8 | 40 | | 100 | 8 |
| 082 108 258 | 8 | 25 | 80 | 120 | 8 |
| 082 010 008 | 8 | 38 | | 88 | 10 |
| 082 008 010 | 10 | 14 | | 80 | 8 |
| 082 010 010 | 10 | 45 | | 95 | 10 |
| 012 010 010 | 10 | 25 | | 120 | 10 |
| 082 008 012 | 12 | 14 | | 80 | 8 |
| 082 012 012 | 12 | 35 | | 90 | 12 |
| 012 012 012 | 12 | 30 | | 120 | 12 |
| 082 012 112 | 12 | 53 | | 110 | 12 |
| 082 012 013 | 13 | 26 | | 73 | 12 |
| 082 012 014 | 14 | 35 | | 90 | 12 |
| 082 012 114 | 14 | 53 | | 110 | 12 |
| 082 012 016 | 16 | 35 | | 90 | 12 |
| 082 016 016 | 16 | 63 | | 123 | 16 |
| 082 012 018 | 18 | 35 | | 90 | 12 |
| 082 016 018 | 18 | 63 | | 123 | 16 |
| 082 012 020 | 20 | 35 | | 90 | 12 |
| 082 020 020 | 20 | 75 | | 141 | 20 |

Bohrnutenfräser HSS-E

91026

Zweischneidig, gerade genutet

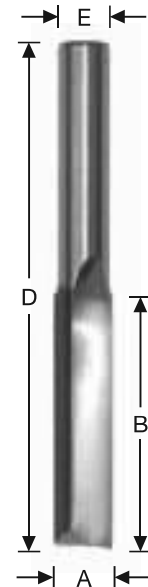
Für PVC-Bearbeitung auf Kopierfräsen (z.B. Schlosskästen)

Slot milling cutter HSS-E

Two flutes, straight

For UPVC-working, used on copyrouters

| Art.-Nr. | A | B | D | E | | |
|-------------|----|----|-----|----|----------|------------|
| 080 008 275 | 5 | 27 | 80 | 8 | | |
| 010 008 305 | 5 | 35 | 100 | 8 | | |
| 010 008 306 | 6 | 30 | 100 | 8 | | |
| 010 008 307 | 7 | 30 | 100 | 8 | | |
| 090 008 158 | 8 | 15 | 90 | 8 | | |
| 010 008 308 | 8 | 30 | 100 | 8 | | |
| 075 010 008 | 8 | 30 | 75 | 10 | | |
| 075 008 010 | 10 | 40 | 75 | 8 | | |
| 097 010 010 | 10 | 40 | 97 | 10 | | |
| 097 010 110 | 10 | 50 | 100 | 10 | | |
| 020 010 251 | 10 | 25 | 120 | 10 | | |
| 075 008 012 | 12 | 40 | 75 | 8 | | |
| 075 010 012 | 12 | 40 | 75 | 10 | | |
| 097 010 012 | 12 | 48 | 97 | 10 | | |
| 097 010 014 | 14 | 48 | 97 | 10 | | |
| 097 010 016 | 16 | 48 | 97 | 10 | | |
| 097 010 018 | 18 | 48 | 97 | 10 | | |
| 097 710 010 | 10 | 40 | 97 | 10 | HM-best. | Carb. tip. |
| 097 710 012 | 12 | 40 | 97 | 10 | HM-best. | Carb. tip. |
| 097 710 014 | 14 | 40 | 97 | 10 | HM-best. | Carb. tip. |
| 090 778 016 | 16 | 30 | 90 | 8 | HM-best. | Carb. tip. |
| 097 710 016 | 16 | 45 | 97 | 10 | HM-best. | Carb. tip. |



Schlosskastenfräser HSS-E

91027

Zweischneidig, spiralg

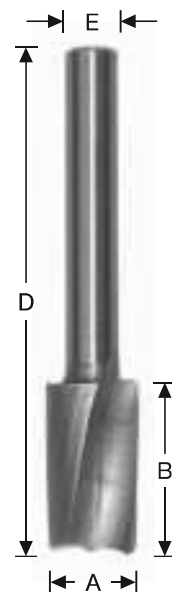
Für PVC-Bearbeitung

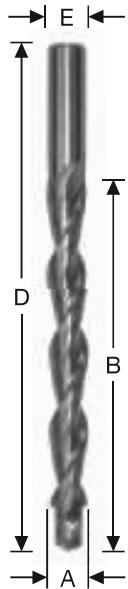
Slot milling cutter HSS-E

Two flutes, spiral

For UPVC-working

| Art.-Nr. | A | B | D | E | | |
|-------------|----|----|----|---|--|--|
| 082 008 312 | 12 | 25 | 75 | 8 | | |
| 082 008 412 | 12 | 25 | 85 | 8 | | |
| 082 008 512 | 12 | 50 | 90 | 8 | | |
| 082 008 314 | 14 | 25 | 75 | 8 | | |





Fräsbohrer HSS-E - elumatec -

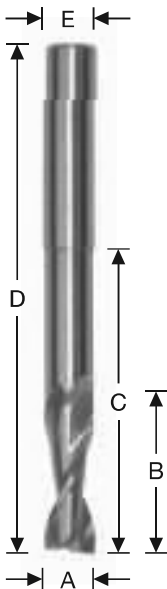
91029

passend zu elumatec KF 78/60

Routing drill HSS-E - elumatec -

for elumatec KF 78/60

| Art.-Nr. | A | B | D | E |
|-------------|----|----|-----|----|
| 078 365 100 | 10 | 90 | 148 | 10 |
| 078 365 101 | 10 | 72 | 126 | 10 |



Schafffräser HSS-E - elumatec -

91030

passend zu elumatec KF 178

Zweischneidig, spiralig

R = Rechtslauf - L = Linkslauf

Milling cutter HSS-E - elumatec -

for elumatec KF 178

Two flutes, spiral

R = RH-rotation - L = LH-rotation

| Art.-Nr. | A | B | C | D | E | |
|-------------|----|----|----|-----|----|---|
| 178 366 010 | 10 | 22 | 60 | 100 | 10 | R |
| 178 366 110 | 10 | 22 | 40 | 100 | 10 | L |
| 178 366 210 | 10 | 22 | 70 | 120 | 10 | R |

Stufenfräser HSS-E

91031

für **ROTOX-Kopierfräsen**

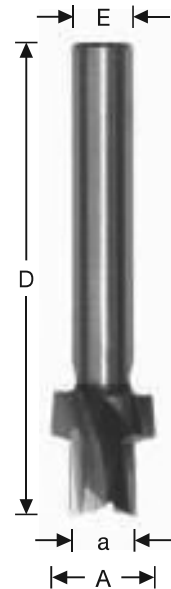
R = Rechtslauf - L = Linkslauf

Stepped cutter HSS-E

for **ROTOX-copy routers**

R = RH-rotation - L = LH-rotation

| Art.-Nr. | a | A | D | E | |
|-------------|------|------|----|----|---|
| 015 361 017 | 10,5 | 17,5 | 75 | 10 | R |
| 015 361 117 | 10,5 | 17,5 | 75 | 10 | L |
| 015 361 617 | 10,5 | 17,5 | 95 | 10 | R |
| 015 361 717 | 10,5 | 17,5 | 95 | 10 | L |



Innenfalz- / Dichtungsnutfräser HSS-E

91032

für **Schweißraupen-Verputzmaschinen**

z.B. elumatec, Stürtz, Urban, Rotox, Wegoma, etc.

Vollhartmetall auf Anfrage.

TIN-Beschichtung auf Anfrage

Router cutter & gasket groove cutter HSS-E

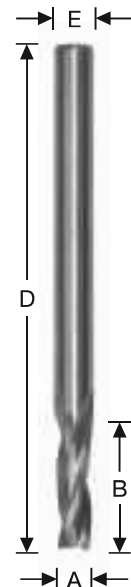
for **corner cleaning machines**

as elumatec, Stürtz, Urban, Rotox, Wegoma, etc.

Solid-carbide on demand.

TIN-coating on demand

| Art.-Nr. | A | B | D | E | Z/T | |
|-------------|-----|----|-----|---|-----|----------|
| 068 006 005 | 5 | 24 | 68 | 6 | 2 | |
| 068 006 006 | 6 | 24 | 68 | 6 | 2 | |
| 016 706 006 | 6 | 20 | 120 | 6 | 2 | VHM / TC |
| 016 178 006 | 6 | 25 | 100 | 8 | 2 | VHM / TC |
| 016 128 206 | 6 | 20 | 120 | 8 | 2 | |
| 016 128 306 | 6 | 20 | 120 | 8 | 3 | |
| 055 006 065 | 6,5 | 16 | 55 | 6 | 2 | |
| 066 006 065 | 6,5 | 16 | 66 | 6 | 2 | |
| 075 006 065 | 6,5 | 16 | 75 | 6 | 2 | |
| 066 006 070 | 7 | 16 | 66 | 6 | 2 | |
| 016 108 207 | 7 | 20 | 100 | 8 | 2 | |
| 016 108 307 | 7 | 20 | 100 | 8 | 3 | |
| 016 178 007 | 7 | 25 | 100 | 8 | 2 | VHM / TC |
| 016 128 207 | 7 | 20 | 120 | 8 | 2 | |
| 016 128 307 | 7 | 20 | 120 | 8 | 3 | |
| 055 006 075 | 7,5 | 16 | 55 | 6 | 2 | |
| 066 006 075 | 7,5 | 16 | 66 | 6 | 2 | |
| 075 006 075 | 7,5 | 16 | 75 | 6 | 2 | |
| 016 108 308 | 8 | 20 | 100 | 8 | 3 | |
| 016 128 208 | 8 | 20 | 120 | 8 | 2 | |
| 016 128 308 | 8 | 20 | 120 | 8 | 3 | |
| 016 128 210 | 10 | 20 | 120 | 8 | 2 | |
| 016 128 310 | 10 | 20 | 120 | 8 | 3 | |
| 016 128 211 | 12 | 12 | 120 | 8 | 2 | |
| 016 128 212 | 12 | 12 | 120 | 8 | 3 | |



Dichtnutfräser?

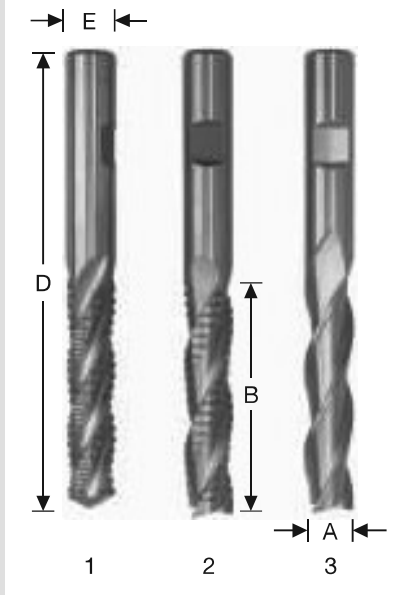
Kein Problem – wir haben über 40 verschiedene Größen und Ausführungen...

Routers/drills for gasket grooves? No problem – we keep in stock more than 40 several sizes

für Bearbeitungszentren elumatec, Stürtz, Thorwesten, Wegoma, etc.

Slot milling cutter HSS-E

for CNC-machines as elumatec, Stürtz, Thorwesten, Wegoma, etc.



| Art.-Nr. | A | B | D | E | Z/T | P |
|-------------|----|----|-----|----|-----|---|
| 084 010 010 | 10 | 45 | 95 | 10 | 4 | 2 |
| 084 010 910 | 10 | 45 | 95 | 10 | 4 | 1 |
| 084 012 012 | 12 | 53 | 110 | 12 | 4 | 2 |
| 084 012 212 | 12 | 53 | 110 | 12 | 3 | 2 |
| 084 012 112 | 12 | 53 | 110 | 12 | 4 | 3 |
| 084 012 312 | 12 | 53 | 110 | 12 | 3 | 3 |
| 084 012 912 | 12 | 53 | 110 | 12 | 4 | 1 |
| 084 012 013 | 13 | 53 | 110 | 12 | 4 | 2 |
| 084 012 214 | 14 | 53 | 110 | 12 | 3 | 2 |
| 084 012 914 | 14 | 53 | 110 | 12 | 4 | 1 |

Bohrnutenfräser (Schrupp + Schlicht) für rationale Bearbeitung z. B. für Schlosskästen oder industrielle Profile usw.

Slot milling cutters (also roughing type) for economical working on lockboxes or industrial profiles etc.

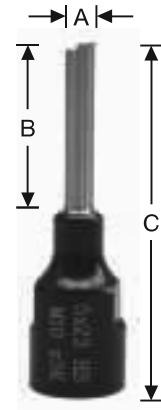


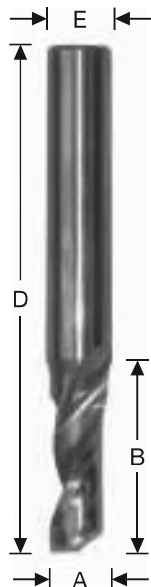
Zur Bearbeitung von PVC-Profilen mit Handmaschinen.
z.B. Rotox, Striffler, STRIMA, etc.

Milling cutter HSS, female thread M10

for working UPVC-profiles with hand-routers as
Rotox, Striffler, STRIMA, etc.

| Art.-Nr. | A | B | C | |
|-------------|------|------|----|---------------|
| 052 100 003 | 3 | 8 | 52 | |
| 035 100 004 | 4 | 10 | 35 | |
| 052 100 004 | 4 | 12 | 52 | |
| 035 100 005 | 5 | 10 | 35 | |
| 052 100 005 | 5 | 23 | 52 | |
| 052 100 006 | 6 | 23 | 52 | |
| 047 100 008 | 8 | 26 | 47 | |
| 043 100 010 | 10 | 20 | 43 | |
| 050 100 115 | 11,5 | 17 | 50 | |
| 043 100 012 | 12 | 14,5 | 43 | |
| 043 100 112 | 12 | 23 | 43 | |
| 058 100 012 | 12 | 38 | 58 | |
| 080 100 012 | 12 | 45 | 80 | M12x1 |
| 043 100 014 | 14 | 21 | 43 | |
| 043 100 016 | 16 | 23 | 43 | |
| 043 100 018 | 18 | 23 | 43 | |
| 043 700 012 | 12 | 14,5 | 43 | HM Carb.-tip. |





Einzahnfräser VHM

91100

zum Fräsen und Bohren von Profilen aus Aluminium, Kunststoff und NE-Metallen

- verwendbar auf allen Bearbeitungszentren:

BJM, elumatec, Emmegi, FOM, Haffner, Handtmann, HEFI, Italmac, Mecal, MLA, Pertici, Pressta-Eisele, Rapid, Rotox, Schirmer, Schüco, Striffler, TEKNA, Wegoma, etc.

- Drehzahlbereich ca. 8.000 - 30.000 UpM

- bei Aluminiumbearbeitung ist auf direkte und ausreichende Kühlung zu achten !

Zur Bearbeitung von Aluminium- und Kunststoffprofilen

Single flute cutter -solid carbide-

for slotting and drilling in Aluminium- and UPVC-profiles.

- used on CNC-machining-centres:

BJM, elumatec, Emmegi, FOM, Haffner, Handtmann, HEFI, Italmac, Mecal, MLA, Pertici, Pressta-Eisele, Rapid, Rotox, Schirmer, Schüco, Striffler, TEKNA, Wegoma, etc.

- speed approx. 8.000 - 30.000 rpm

- direct and adequate cooling-spray is particularly important for aluminium working !

For working of aluminium- and UPVC profiles

| Art.-Nr. | A | B | D | E |
|-------------|-----|----|-----|---|
| 050 706 002 | 2 | 10 | 50 | 6 |
| 050 706 003 | 3 | 12 | 50 | 6 |
| 060 708 003 | 3 | 12 | 60 | 8 |
| 070 706 032 | 3,2 | 12 | 70 | 6 |
| 070 704 040 | 4 | 12 | 70 | 4 |
| 060 705 004 | 4 | 25 | 60 | 5 |
| 060 706 004 | 4 | 14 | 60 | 6 |
| 070 706 004 | 4 | 8 | 70 | 6 |
| 070 706 040 | 4 | 12 | 70 | 6 |
| 060 708 004 | 4 | 20 | 60 | 8 |
| 060 705 005 | 5 | 20 | 60 | 5 |
| 070 705 050 | 5 | 12 | 70 | 5 |
| 070 705 005 | 5 | 30 | 70 | 5 |
| 080 705 005 | 5 | 40 | 80 | 5 |
| 080 705 045 | 5 | 45 | 80 | 5 |
| 090 705 005 | 5 | 30 | 90 | 5 |
| 060 706 005 | 5 | 20 | 60 | 6 |
| 080 706 005 | 5 | 40 | 80 | 6 |
| 060 708 005 | 5 | 20 | 60 | 8 |
| 070 708 005 | 5 | 15 | 70 | 8 |
| 070 708 305 | 5 | 30 | 70 | 8 |
| 080 708 005 | 5 | 20 | 80 | 8 |
| 080 708 305 | 5 | 30 | 80 | 8 |
| 080 708 045 | 5 | 40 | 80 | 8 |
| 090 708 205 | 5 | 20 | 90 | 8 |
| 090 708 005 | 5 | 30 | 90 | 8 |
| 010 708 005 | 5 | 12 | 100 | 8 |
| 010 708 025 | 5 | 20 | 100 | 8 |
| 011 708 005 | 5 | 40 | 100 | 8 |
| 020 708 005 | 5 | 20 | 120 | 8 |
| 060 706 006 | 6 | 16 | 60 | 6 |
| 060 706 026 | 6 | 20 | 60 | 6 |
| 070 706 060 | 6 | 12 | 70 | 6 |
| 080 706 036 | 6 | 30 | 80 | 6 |
| 080 706 006 | 6 | 40 | 80 | 6 |
| 010 706 006 | 6 | 12 | 100 | 6 |
| 010 706 306 | 6 | 30 | 110 | 6 |

| | | | | |
|-------------|----|----|-----|----|
| 060 708 006 | 6 | 16 | 60 | 8 |
| 060 708 007 | 7 | 18 | 60 | 8 |
| 060 708 008 | 8 | 18 | 60 | 8 |
| 070 708 080 | 8 | 12 | 70 | 8 |
| 070 708 008 | 8 | 25 | 75 | 8 |
| 080 708 358 | 8 | 35 | 80 | 8 |
| 090 708 008 | 8 | 35 | 90 | 8 |
| 010 708 080 | 8 | 16 | 100 | 8 |
| 020 708 008 | 8 | 14 | 120 | 8 |
| 020 708 358 | 8 | 35 | 120 | 8 |
| 150 708 008 | 8 | 50 | 150 | 8 |
| 090 708 510 | 10 | 50 | 90 | 8 |
| 070 710 110 | 10 | 22 | 70 | 10 |
| 070 710 010 | 10 | 28 | 75 | 10 |
| 083 710 010 | 10 | 45 | 83 | 10 |
| 097 710 110 | 10 | 40 | 100 | 10 |
| 010 710 710 | 10 | 30 | 100 | 10 |
| 083 710 012 | 12 | 35 | 83 | 10 |
| 083 710 412 | 12 | 45 | 83 | 10 |
| 070 712 012 | 12 | 24 | 70 | 12 |
| 080 712 012 | 12 | 32 | 80 | 12 |
| 080 712 412 | 12 | 42 | 80 | 12 |
| 090 712 012 | 12 | 55 | 90 | 12 |
| 010 712 712 | 12 | 35 | 100 | 12 |
| 020 712 012 | 12 | 40 | 120 | 12 |
| 083 710 413 | 13 | 45 | 83 | 10 |
| 083 710 014 | 14 | 35 | 83 | 10 |
| 075 714 140 | 14 | 26 | 75 | 14 |
| 090 716 016 | 16 | 25 | 90 | 16 |
| 010 720 020 | 20 | 30 | 100 | 20 |

Einzahnfräser VHM - HSC-Ausführung-

91101

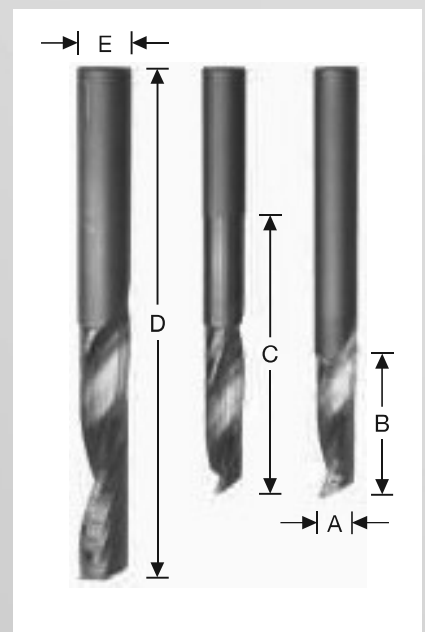
- Spezialausführung für höchste Ansprüche und Schneidleistung auf Bearbeitungszentren

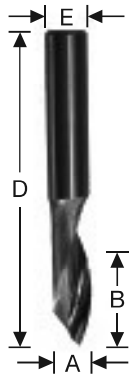
Single flute cutter -solid carbide-

Highspeed version

special designed for highest pretentions used on CNC-machines

| Art.-Nr. | A | B | C | D | E |
|-------------|----|----|----|-----|----|
| 080 708 328 | 8 | 27 | - | 80 | 8 |
| 080 718 328 | 8 | 32 | 50 | 80 | 8 |
| 010 710 521 | 10 | 52 | - | 100 | 10 |





Spezialausführung zur Hochgeschwindigkeitsbearbeitung von Aluminium auf Bearbeitungszentren

- z.B. elumatec, Emmegi, FOM, Handtmann, Rapid, etc.
- höhere Drehzahlen und Vorschübe möglich = Kostenreduzierung
- Geräuschreduzierung
- bis zu 3-fach höhere Standzeit

Single flute cutter -solid carbide- polished

Special version for high-speed cutting/HSC of aluminium extrusions on CNC-machining centres

- as elumatec, Emmegi, FOM, Handtmann, Rapid, etc.
- more speed and feed
- reduction in noise level
- extremely long life

| Art.-Nr. | A | B | C | D | E |
|-------------|----|----|----|-----|----|
| 140 390 102 | 2 | 7 | | 70 | 8 |
| 140 390 103 | 3 | 10 | | 70 | 8 |
| 060 905 004 | 4 | 20 | | 60 | 5 |
| 060 908 004 | 4 | 12 | | 60 | 8 |
| 140 390 104 | 4 | 10 | | 70 | 8 |
| 060 905 005 | 5 | 20 | | 60 | 5 |
| 060 908 005 | 5 | 20 | | 60 | 8 |
| 140 390 105 | 5 | 16 | | 70 | 8 |
| 060 908 006 | 6 | 20 | | 60 | 8 |
| 140 390 106 | 6 | 16 | | 70 | 8 |
| 140 390 108 | 8 | 22 | | 70 | 8 |
| 080 908 008 | 8 | 25 | | 80 | 8 |
| 075 910 010 | 10 | 30 | | 75 | 10 |
| 084 912 012 | 12 | 30 | | 84 | 12 |
| 080 918 004 | 4 | 10 | 40 | 80 | 8 |
| 080 918 005 | 5 | 10 | 40 | 80 | 8 |
| 140 391 105 | 5 | 20 | 25 | 80 | 8 |
| 080 918 006 | 6 | 10 | 40 | 80 | 8 |
| 080 918 008 | 8 | 12 | 54 | 80 | 8 |
| 140 391 108 | 8 | 22 | 40 | 80 | 8 |
| 011 918 010 | 10 | 12 | 80 | 110 | 10 |

Einzahnfräser VHM -Spanbrecher-

91103

Spezialausführung mit zusätzlicher Spanleitstufe für optimalen Spanauswurf bei Aluminium-Bearbeitung auf Bearbeitungszentren

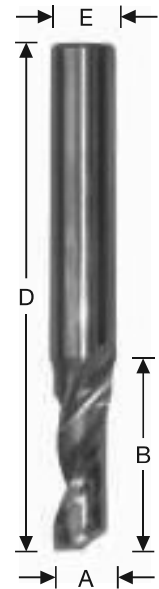
- höchstmöglicher Vorschub bis 6.000 mm bei optimalem Fräsbild

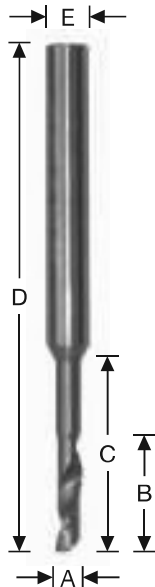
Single flute cutter -chipbreaker-

Special version with chipbreaker for aluminium extrusions on CNC-machining centres

- best possible feed up to 6.000 mm and best cutting result

| Art.-Nr. | A | B | D | E |
|-------------|----|----|----|----|
| 070 608 005 | 5 | 10 | 70 | 8 |
| 070 608 006 | 6 | 10 | 70 | 8 |
| 080 608 008 | 8 | 14 | 80 | 8 |
| 080 610 010 | 10 | 20 | 80 | 10 |





zum Fräsen und Bohren von Profilen aus Aluminium, Kunststoff und NE-Metallen

- verwendbar auf allen Bearbeitungszentren:
BJM, elumatec, Emmegi, FOM, Haffner, Handtmann, HEFI, Italmac, Mecal, MLA, Pertici, Pressta-Eisele, Rapid, Rotox, Schirmer, Schüco, Striffler, TEKNA, Wegoma, etc.
 - Drehzahlbereich ca. 8.000 - 30.000 UpM
 - bei Aluminiumbearbeitung ist auf direkte und ausreichende Kühlung zu achten !
- Zur Bearbeitung von Aluminium- und Kunststoffprofilen

Single flute cutter -solid carbide-

**Stepped shank -
for slotting and drilling in Aluminium- and UPVC-profiles.**

- used on CNC-machining-centres:
BJM, elumatec, Emmegi, FOM, Haffner, Handtmann, HEFI, Italmac, Mecal, MLA, Pertici, Pressta-Eisele, Rapid, Rotox, Schirmer, Schüco, Striffler, TEKNA, Wegoma, etc.
 - speed approx. 8.000 - 30.000 rpm
 - direct and adequate cooling-spray is particularly important for aluminium working !
- For working of aluminium- and UPVC profiles

| Art.-Nr. | A | B | C | D | E | |
|-------------|-----|----|----|-----|----|--------|
| 070 714 032 | 3,2 | 12 | 40 | 70 | 4 | |
| 080 718 004 | 4 | 15 | 35 | 80 | 8 | |
| 077 716 005 | 5 | 8 | 40 | 77 | 6 | Schüco |
| 080 718 005 | 5 | 16 | 35 | 80 | 8 | |
| 090 718 005 | 5 | 20 | 45 | 90 | 8 | |
| 090 718 355 | 5 | 35 | 55 | 90 | 8 | |
| 010 718 305 | 5 | 30 | 50 | 100 | 8 | |
| 010 718 405 | 5 | 40 | 50 | 100 | 8 | |
| 010 718 355 | 5 | 30 | 60 | 100 | 8 | |
| 011 718 305 | 5 | 30 | 62 | 110 | 8 | |
| 077 716 006 | 6 | 10 | 40 | 77 | 6 | Schüco |
| 080 718 006 | 6 | 20 | 35 | 80 | 8 | |
| 090 718 006 | 6 | 20 | 30 | 90 | 8 | |
| 070 718 007 | 7 | 18 | 45 | 70 | 8 | |
| 070 718 008 | 8 | 16 | 40 | 70 | 8 | |
| 080 718 008 | 8 | 10 | 40 | 80 | 8 | Schüco |
| 090 718 358 | 8 | 35 | 50 | 90 | 8 | |
| 010 718 008 | 8 | 16 | 70 | 100 | 8 | |
| 010 718 258 | 8 | 25 | 60 | 100 | 8 | |
| 020 718 008 | 8 | 35 | 80 | 120 | 8 | |
| 011 710 010 | 10 | 15 | 65 | 110 | 10 | Schüco |
| 011 710 126 | 10 | 15 | 82 | 126 | 10 | Schüco |
| 010 711 010 | 10 | 20 | 70 | 100 | 10 | |
| 010 712 012 | 12 | 20 | 70 | 100 | 12 | |
| 010 716 016 | 16 | 30 | 50 | 100 | 16 | |

Einzahnfräser VHM

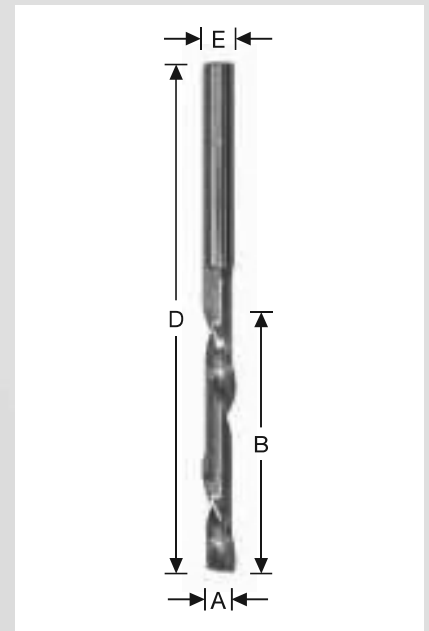
91106

- Spezialausführung - Linksdrall - Spanauswurf nach unten

Single flute cutter -solid carbide-

- Special version - RH/cut - LH/spiral - downward chip clearance

| Art.-Nr. | A | B | D | E |
|-------------|----|----|-----|----|
| 038 703 203 | 3 | 10 | 38 | 3 |
| 040 704 204 | 4 | 14 | 60 | 4 |
| 060 705 205 | 5 | 20 | 60 | 5 |
| 060 705 255 | 5 | 25 | 60 | 5 |
| 080 705 205 | 5 | 40 | 80 | 5 |
| 080 705 250 | 5 | 50 | 80 | 5 |
| 010 705 205 | 5 | 70 | 100 | 5 |
| 060 706 206 | 6 | 20 | 60 | 6 |
| 075 708 208 | 8 | 20 | 75 | 8 |
| 090 708 208 | 8 | 40 | 90 | 8 |
| 075 710 210 | 10 | 30 | 75 | 10 |
| 075 712 212 | 12 | 30 | 75 | 12 |



Wasserschlitzfräser VHM

91120

Einschneidig, Bohrspitze, flacher Drallwinkel

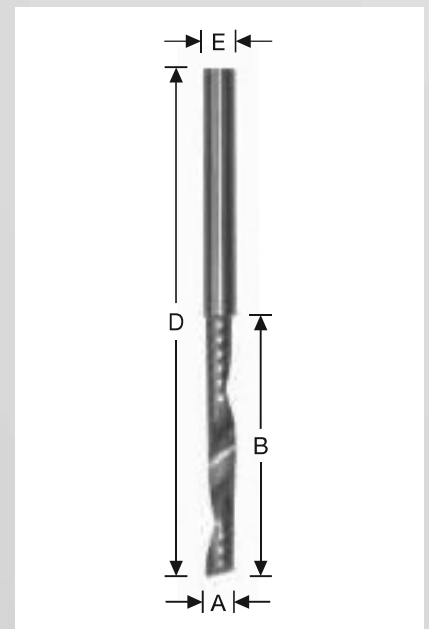
- Spezialausführung für CNC-Maschinen - z.B. SUPERCUT, etc.

Waterslot cutter -solid carbide-

Single-flute, drill point, flat twist angle

- special version for CNC-machines - as SUPERCUT, etc.

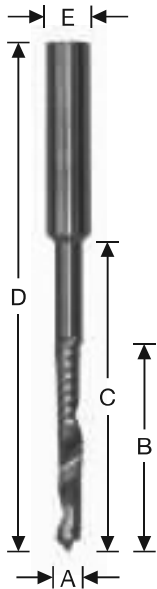
| Art.-Nr. | A | B | D | E |
|-------------|---|----|----|---|
| 060 705 305 | 5 | 25 | 60 | 5 |
| 080 705 305 | 5 | 40 | 80 | 5 |
| 080 706 306 | 6 | 40 | 80 | 6 |



Fräser aus Vollhartmetall – optimierte Schneidengeometrie für Profilarbeit ergibt beste Standzeiten!

Router cutters made of solid carbide – advanced cutting angles especially for profile working



**Einschneidig, spiralig**

- Spezialausführung - für CNC-Maschinen - **mit Bohrspitze 90°**
- für Bearbeitungszentren von elumatec, Haffner, Handtmann, HEFI, Rapid, Schirmer, Stürtz, etc.

Waterslot cutter -solid carbide-**Single flute, spiral**

- special version for CNC-machines - **with drill point 90°**
- for machining-centres as elumatec, Haffner, Handtmann, HEFI, Rapid, Schirmer, Stürtz, etc.

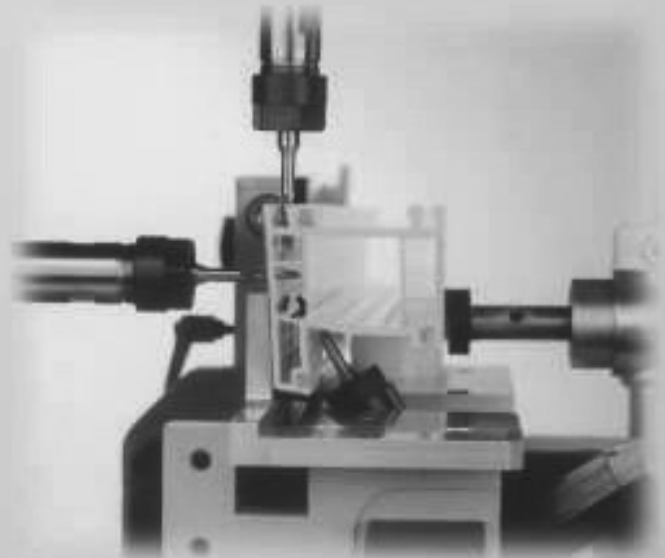
| Art.-Nr. | A | B | C | D | E |
|-------------|---|----|----|-----|---|
| 080 705 405 | 5 | 40 | | 80 | 5 |
| 060 708 095 | 5 | 20 | | 60 | 8 |
| 080 708 395 | 5 | 30 | | 80 | 8 |
| 080 708 405 | 5 | 40 | | 80 | 8 |
| 090 708 395 | 5 | 30 | | 90 | 8 |
| 090 718 395 | 5 | 35 | 55 | 90 | 8 |
| 010 718 395 | 5 | 35 | 55 | 100 | 8 |
| 080 706 406 | 6 | 40 | | 80 | 6 |
| 090 706 456 | 6 | 45 | | 90 | 6 |
| 010 718 906 | 6 | 35 | 72 | 110 | 8 |

HSSE oder VHM:

...perfekte Wasserschlitze – für alle Anwendungsfälle den optimalen Fräser

HSS-E or solid carbide:

...perfect waterslots – for all scope the suitable drainage cutter



Wasserschlitzfräser VHM

91122

Einschneidig, spiralig

VHM-Schneide in **Stahlschaft 8 mm**

Zur PVC-Bearbeitung

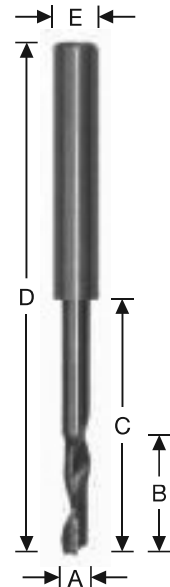
Waterslot cutter -solid carbide-

Single flute, spiral

solid carbide cutting edge with **steel shank 8 mm**

For UPVC-working

| Art.-Nr. | A | B | C | D | E |
|-------------|---|----|----|-----|---|
| 060 808 005 | 5 | 20 | | 60 | 8 |
| 080 808 005 | 5 | 20 | 35 | 80 | 8 |
| 090 808 005 | 5 | 20 | 45 | 90 | 8 |
| 090 808 305 | 5 | 30 | | 90 | 8 |
| 011 808 495 | 5 | 40 | 50 | 90 | 8 |
| 090 808 405 | 5 | 40 | 55 | 90 | 8 |
| 011 808 305 | 5 | 30 | 45 | 100 | 8 |
| 011 808 405 | 5 | 40 | 50 | 100 | 8 |
| 020 808 005 | 5 | 45 | 60 | 120 | 8 |



Wasserschlitzfräser VHM

91123

Zweischneidig mit Bohrerspitze 90°

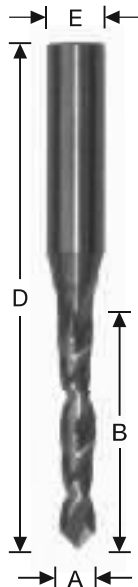
für Bearbeitungszentren von elumatec, Haffner, Handtmann, HEFI, Rapid, Schirmer, Stürtz, etc.

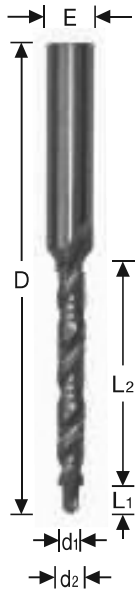
Waterslot cutter -solid carbide-

Two flutes with drill point 90°

for machining-centres as elumatec, Haffner, Handtmann, HEFI, Rapid, Schirmer, Stürtz, etc.

| Art.-Nr. | A | B | D | E |
|-------------|---|----|-----|---|
| 014 705 005 | 5 | 40 | 80 | 5 |
| 014 705 405 | 5 | 40 | 100 | 5 |
| 014 708 265 | 5 | 20 | 60 | 8 |
| 014 708 375 | 5 | 30 | 70 | 8 |
| 014 708 405 | 5 | 40 | 80 | 8 |
| 014 708 205 | 5 | 20 | 85 | 8 |
| 014 708 305 | 5 | 30 | 90 | 8 |
| 014 708 415 | 5 | 40 | 100 | 8 |
| 014 708 455 | 5 | 45 | 100 | 8 |
| 014 708 406 | 6 | 40 | 75 | 8 |
| 014 708 496 | 6 | 40 | 95 | 8 |
| 014 708 306 | 6 | 30 | 90 | 8 |
| 014 708 456 | 6 | 45 | 90 | 8 |
| 014 708 658 | 8 | 65 | 100 | 8 |





Stufenfräser VHM

91124

Zweischneidig

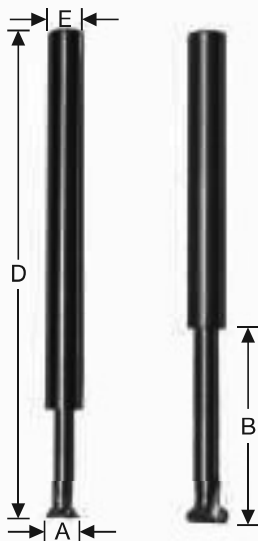
für Bearbeitungszentren von elumatec, Haffner, Rapid, Stürtz, etc.
Für PVC-Bearbeitung

Stepped cutter -solid carbide-

Two flutes

for machining-centres as elumatec, Haffner, Rapid, Stürtz, etc.
For UPVC-working

| Art.-Nr. | d1 | l1 | d2 | l2 | D | E |
|-------------|-----|-----|----|----|-----|---|
| 922 083 433 | 2,0 | 4,5 | 5 | 20 | 60 | 8 |
| 922 083 447 | 2,5 | 4,5 | 5 | 20 | 60 | 8 |
| 922 083 432 | 2,5 | 4,5 | 5 | 30 | 70 | 8 |
| 922 083 441 | 3 | 4,5 | 5 | 20 | 60 | 8 |
| 922 083 425 | 3 | 4,5 | 5 | 30 | 70 | 8 |
| 922 083 450 | 3 | 5,5 | 5 | 30 | 70 | 8 |
| 922 083 426 | 3 | 4,5 | 5 | 40 | 80 | 8 |
| 922 083 540 | 3 | 5,5 | 5 | 40 | 100 | 8 |
| 922 083 440 | 4 | 10 | 5 | 40 | 80 | 8 |
| 954 505 004 | 4 | 20 | 8 | 57 | 100 | 8 |



T-Nutenfräser VHM

91125

zum Verputzen der Innenecken
- für Bearbeitungszentren von elumatec, Rotox, Stürtz, Urban
- weitere Typen & Abmessungen lieferbar

T-slot cutter solid carbide

for inside corner cleaning
- for machining-centres as elumatec, Rotox, Stürtz, Urban
- various types and sizes available

| Art.-Nr. | A | B | D | E | Z/T |
|-------------|----|----|-----|---|-----|
| 010 788 090 | 8 | 20 | 100 | 8 | 4 |
| 273 513 210 | 8 | 30 | 100 | 8 | 2 |
| 273 513 090 | 9 | 50 | 100 | 8 | 2 |
| 273 513 120 | 12 | 45 | 100 | 8 | 2 |
| 273 515 180 | 12 | 50 | 100 | 8 | 2 |
| 273 513 100 | 14 | 45 | 100 | 8 | 2 |

Einschneidig, spiralgig

VHM-Schneide in **Stahlschaft 8 mm**

für Bearbeitungszentrum AFS, BJM, Rotox, Schirmer

P1 = Rechtslauf / Rechtsdrall

P2 = Rechtslauf / Linksdrall

P3 = Rechtslauf / Rechtsdrall + Vorbohrer 2,7x5

P4 = Rechtslauf / Linksdrall + Vorbohrer 2,7x5

Waterslot cutter -solid carbide-

Single flute, spiral

solid carbide, cutting edge with **steel shank 8 mm**

for AFS, BJM, Rotox, Schirmer CNC-machining-centre

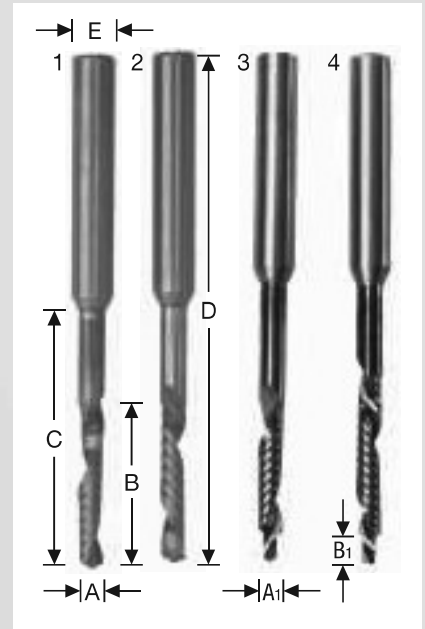
P1 = RH cut / RH spiral

P2 = RH cut / LH spiral

P3 = RH cut / RH spiral + step 2,7x5

P4 = RH cut / LH spiral + step 2,7x5

| Art.-Nr. | A | B | C | D | E | P |
|-------------|-------|----|----|-----|---|---|
| 080 838 255 | 2,7/5 | 25 | | 80 | 8 | 3 |
| 010 838 305 | 2,7/5 | 30 | 50 | 100 | 8 | 3 |
| 080 808 255 | 5 | 25 | | 80 | 8 | 1 |
| 090 808 345 | 5 | 34 | 45 | 90 | 8 | 1 |
| 010 808 305 | 5 | 30 | 50 | 100 | 8 | 1 |
| 080 848 305 | 2,7/5 | 25 | | 80 | 8 | 4 |
| 010 848 305 | 2,7/5 | 30 | 50 | 100 | 8 | 4 |
| 080 828 255 | 5 | 25 | | 80 | 8 | 2 |
| 080 828 355 | 5 | 35 | | 80 | 8 | 2 |
| 010 828 305 | 5 | 30 | 50 | 100 | 8 | 2 |

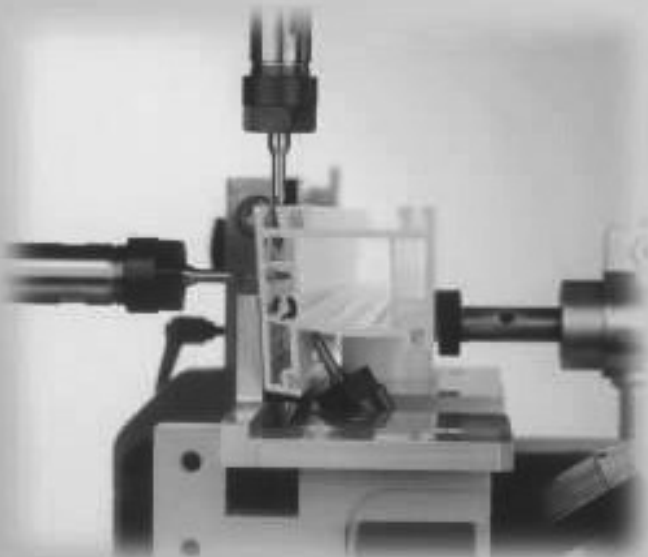


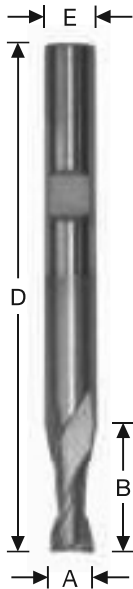
HSSE oder VHM:

...perfekte Wasserschlitze – für alle Anwendungsfälle den optimalen Fräser

HSS-E or solid carbide:

...perfect waterslots – for all scope the suitable drainage cutter





Schafffräser VHM

91131

für **Stahlbearbeitung** mit **Spezialbeschichtung**

Zweischneidig, spiralig

verwendbar auf Kopierfräsen und Bearbeitungszentren, z.B. Schüco

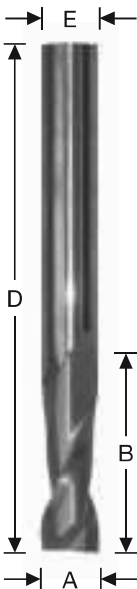
Milling cutter -solid carbide-

for **steel working - special coated**

Two flutes, spiral

for copy routers and high speed router machines, as Schüco

| Art.-Nr. | A | B | D | E |
|-------------|----|----|----|----|
| 182 706 004 | 4 | 10 | 57 | 6 |
| 182 706 005 | 5 | 10 | 57 | 6 |
| 182 706 006 | 6 | 10 | 57 | 6 |
| 182 708 008 | 8 | 16 | 63 | 8 |
| 182 710 010 | 10 | 19 | 72 | 10 |



Bohrnutenfräser VHM

91140

Universal einsetzbar, für alle Bearbeitungszentren

Zweischneidig, spiralig

Milling cutter -solid carbide-

All-purpose tool, for all kind of CNC-machines

Two flutes, spiral

| Art.-Nr. | A | B | C | D | E |
|-------------|-----|----|----|-----|----|
| 058 706 025 | 2,5 | 8 | | 58 | 6 |
| 082 705 305 | 5 | 30 | | 70 | 5 |
| 082 718 206 | 6 | 20 | 60 | 120 | 8 |
| 082 706 406 | 6 | 40 | | 100 | 6 |
| 082 708 608 | 8 | 18 | | 60 | 8 |
| 082 708 008 | 8 | 35 | | 80 | 8 |
| 082 708 108 | 8 | 40 | | 100 | 8 |
| 082 708 708 | 8 | 70 | | 150 | 8 |
| 082 711 008 | 8 | 35 | 42 | 100 | 10 |
| 082 710 210 | 10 | 22 | | 72 | 10 |
| 140 391 210 | 10 | 12 | 60 | 90 | 10 |
| 082 710 010 | 10 | 40 | | 100 | 10 |
| 140 392 210 | 10 | 12 | 80 | 110 | 10 |
| 082 710 710 | 10 | 70 | | 150 | 10 |
| 082 712 212 | 12 | 22 | | 70 | 12 |
| 140 391 212 | 12 | 12 | 60 | 100 | 12 |
| 082 712 412 | 12 | 45 | | 100 | 12 |
| 082 712 512 | 12 | 40 | | 120 | 12 |
| 082 714 414 | 14 | 45 | | 100 | 14 |
| 082 716 416 | 16 | 45 | | 100 | 16 |
| 140 391 316 | 16 | 32 | 60 | 102 | 16 |
| 082 716 216 | 16 | 20 | 60 | 115 | 16 |
| 082 716 116 | 16 | 70 | | 150 | 16 |

Schafffräser VHM -HSC-Schrupfräser "ZR"-

91141

Zur Bearbeitung von Aluminiumprofilen auf CNC Bearbeitungszentren

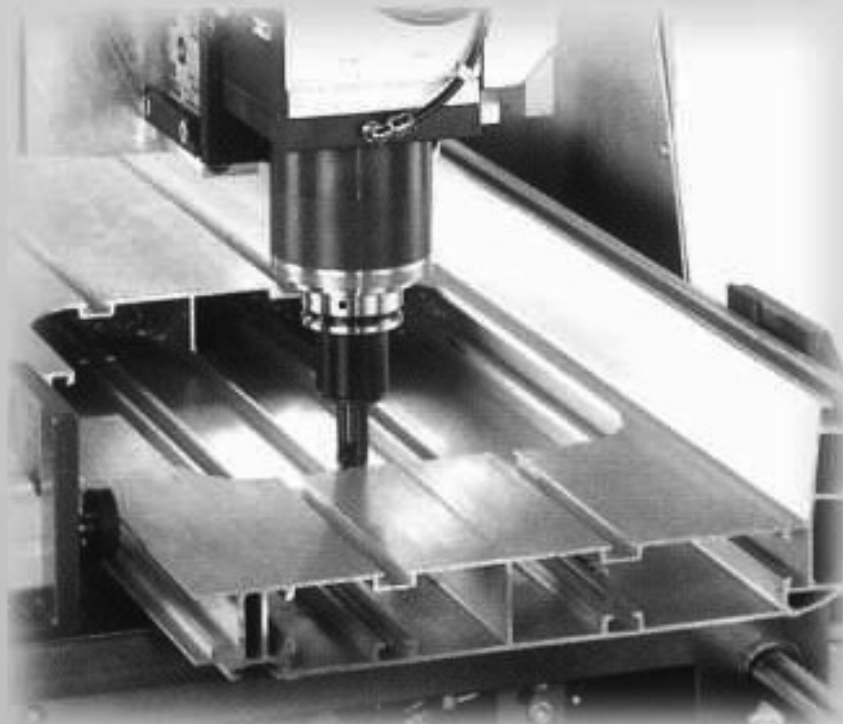
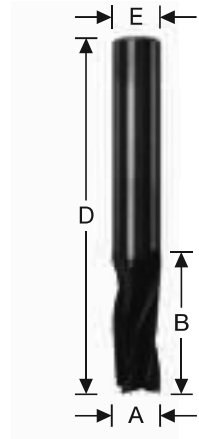
- höchste Präzision
- sehr hohe Schnittgeschwindigkeit
- hervorragende Standzeit

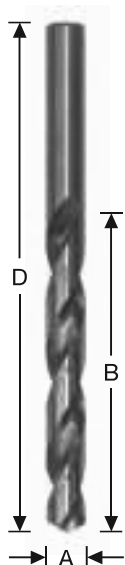
Milling cutters -solid carbide-HSC-roughing "ZR"-

Special version for high-speed cutting/HSC of aluminium extrusions on CNC-machining centres

- highest precision
- more speed and feed
- extremely long life

| Art.-Nr. | A | B | C | D | E | Z |
|-------------|----|----|----|-----|----|---|
| 057 744 002 | 2 | 10 | | 57 | 6 | 3 |
| 057 744 003 | 3 | 15 | 23 | 57 | 6 | 3 |
| 057 744 004 | 4 | 15 | 23 | 57 | 6 | 3 |
| 057 744 005 | 5 | 15 | 23 | 57 | 6 | 3 |
| 057 744 006 | 6 | 15 | 23 | 57 | 6 | 3 |
| 072 744 008 | 8 | 22 | | 72 | 8 | 3 |
| 072 744 010 | 10 | 25 | | 72 | 10 | 3 |
| 080 744 012 | 12 | 30 | | 80 | 12 | 3 |
| 010 744 016 | 16 | 30 | 50 | 100 | 16 | 4 |





Spiralbohrer HSS

91201

DIN 338 N **-geschliffen-**

Präzisionsausführung

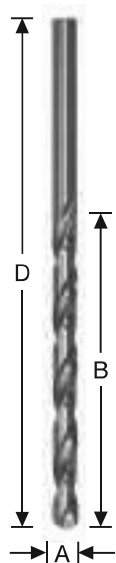
Weitere Abmessungen auf Anfrage

Twist drill HSS

DIN 338 N **-fully ground-**, short, precision

Other dimensions upon demand

| Art.-Nr. | A | B | D |
|-------------|------|-----|-----|
| 303 001 020 | 2,0 | 24 | 49 |
| 303 001 025 | 2,5 | 30 | 57 |
| 303 001 030 | 3,0 | 33 | 61 |
| 303 001 032 | 3,2 | 36 | 65 |
| 303 001 035 | 3,5 | 39 | 70 |
| 303 001 040 | 4,0 | 43 | 75 |
| 303 001 042 | 4,2 | 43 | 75 |
| 303 001 045 | 4,5 | 47 | 80 |
| 303 001 050 | 5,0 | 52 | 86 |
| 303 001 055 | 5,5 | 57 | 93 |
| 303 001 060 | 6,0 | 57 | 93 |
| 303 001 065 | 6,5 | 63 | 101 |
| 303 001 070 | 7,0 | 69 | 109 |
| 303 001 075 | 7,5 | 69 | 109 |
| 303 001 080 | 8,0 | 75 | 117 |
| 303 001 085 | 8,5 | 75 | 117 |
| 303 001 090 | 9,0 | 81 | 125 |
| 303 001 100 | 10,0 | 87 | 133 |
| 303 001 110 | 11,0 | 94 | 142 |
| 303 001 120 | 12,0 | 101 | 151 |
| 303 001 130 | 13,0 | 101 | 151 |
| 303 001 140 | 14,0 | 108 | 160 |
| 303 001 150 | 15,0 | 114 | 169 |



Spiralbohrer HSS

91211

DIN 340 N **-geschliffen-**

Präzisionsausführung

Twist drill HSS

DIN 340 N **-fully ground-**, long, precision

| Art.-Nr. | A | B | D |
|-------------|-----|-----|-----|
| 302 002 020 | 2,0 | 56 | 85 |
| 302 002 025 | 2,5 | 62 | 92 |
| 302 002 030 | 3,0 | 66 | 100 |
| 302 002 032 | 3,2 | 69 | 106 |
| 302 002 035 | 3,5 | 73 | 112 |
| 302 002 040 | 4,0 | 78 | 119 |
| 302 002 042 | 4,2 | 78 | 119 |
| 302 002 045 | 4,5 | 82 | 126 |
| 302 002 050 | 5,0 | 87 | 132 |
| 302 002 055 | 5,5 | 91 | 139 |
| 302 002 060 | 6,0 | 91 | 139 |
| 302 002 065 | 6,5 | 97 | 148 |
| 302 002 070 | 7,0 | 102 | 156 |
| 302 002 075 | 7,5 | 102 | 156 |

| | | | |
|-------------|------|-----|-----|
| 302 002 080 | 8,0 | 109 | 165 |
| 302 002 085 | 8,5 | 109 | 165 |
| 302 002 090 | 9,0 | 115 | 175 |
| 302 002 095 | 9,5 | 115 | 175 |
| 302 002 100 | 10,0 | 121 | 184 |

Spiralbohrer HSS

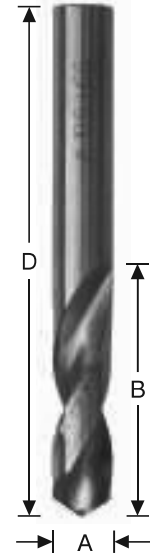
91221

DIN 1897 **-geschliffen-**
- kurze Ausführung

Twist drill HSS

DIN 1897 **-fully ground-**, short, precision

| Art.-Nr. | A | B | D |
|-------------|------|----|-----|
| 303 004 050 | 5,0 | 26 | 62 |
| 303 004 060 | 6,0 | 28 | 66 |
| 303 004 080 | 8,0 | 37 | 79 |
| 303 004 100 | 10,0 | 43 | 89 |
| 303 004 110 | 11,0 | 47 | 95 |
| 303 004 120 | 12,0 | 51 | 102 |
| 303 004 130 | 13,0 | 51 | 102 |



Spiralbohrer HSS-G

91225

DIN 1869 **-geschliffen-**
- Präzisionsausführung
- überlange Ausführung, Tieflochspirale

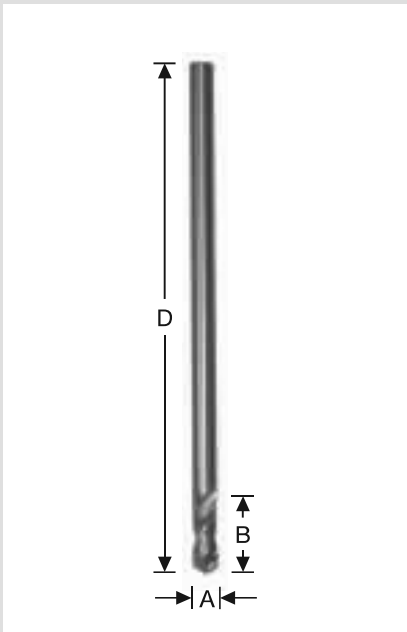
Twist drill HSS-G

DIN 1869 **-fully ground-**, extra long, precision

| Art.-Nr. | A | B | D |
|-------------|------|-----|-----|
| 303 008 020 | 2,0 | 85 | 125 |
| 303 008 025 | 2,5 | 95 | 140 |
| 303 008 030 | 3,0 | 100 | 150 |
| 303 008 032 | 3,2 | 105 | 155 |
| 303 008 035 | 3,5 | 115 | 165 |
| 303 008 040 | 4,0 | 120 | 175 |
| 303 008 042 | 4,2 | 120 | 175 |
| 303 008 045 | 4,5 | 125 | 185 |
| 303 008 050 | 5,0 | 135 | 195 |
| 303 008 055 | 5,5 | 140 | 205 |
| 303 008 060 | 6,0 | 140 | 205 |
| 303 008 065 | 6,5 | 150 | 215 |
| 303 008 070 | 7,0 | 155 | 225 |
| 303 008 075 | 7,5 | 155 | 225 |
| 303 008 080 | 8,0 | 165 | 240 |
| 303 008 085 | 8,5 | 165 | 240 |
| 303 008 090 | 9,0 | 175 | 250 |
| 303 008 095 | 9,5 | 175 | 250 |
| 303 008 100 | 10,0 | 185 | 265 |
| 303 008 105 | 10,5 | 185 | 265 |
| 303 008 110 | 11,0 | 195 | 280 |
| 303 008 115 | 11,5 | 195 | 280 |



| | | | |
|-------------|------|-----|-----|
| 303 008 120 | 12,0 | 205 | 295 |
| 303 008 130 | 13,0 | 205 | 295 |



Hohlprofil- Spiralbohrer HSS

91226

Spezialbohrer **-geschliffen-**

- zum Bohren von Stahlprofilblech-Konstruktionen und Fensterprofilen
- extra kurze Spirale, geringe Bruchgefahr

Window construction twist drill HSS

Special drill **-fully ground-**

- extra short flute, break-proof

| Art.-Nr. | A | B | D |
|-------------|------|----|-----|
| 306 100 030 | 3,0 | 30 | 100 |
| 306 100 040 | 4,0 | 30 | 100 |
| 306 150 050 | 5,0 | 30 | 150 |
| 306 150 055 | 5,5 | 30 | 150 |
| 306 150 060 | 6,0 | 30 | 150 |
| 306 150 065 | 6,5 | 30 | 150 |
| 306 150 100 | 10,0 | 30 | 150 |
| 306 150 105 | 10,5 | 30 | 150 |
| 306 180 050 | 5,0 | 30 | 180 |
| 306 180 055 | 5,5 | 30 | 180 |
| 306 180 060 | 6,0 | 30 | 180 |
| 306 180 065 | 6,5 | 30 | 180 |
| 306 180 080 | 8,0 | 30 | 180 |
| 306 180 085 | 8,5 | 30 | 180 |
| 306 180 100 | 10,0 | 30 | 180 |
| 306 180 105 | 10,5 | 30 | 180 |

Präzisions-Spiralbohrer und Stufenbohrer werden aus dem Vollen geschliffen – das garantiert höchste Rundlaufgenauigkeit



Precision twist drills and stepped drills are ground from solid stock – this method guarantees best possible diameter tolerances and precision

Spiralbohrer HSS CO

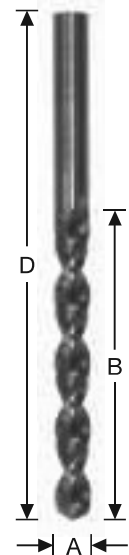
91230

DIN 338 -Kobalt legiert-, **-geschliffen-**
Mehrbereichs- / Hochleistungs-Spezialbohrer

Twist drill HSS CO

DIN 338 -cobalt-, **-fully ground-**, precision
Jobber drills, heavy duty, all purpose tool

| Art.-Nr. | A | B | D |
|-------------|------|-----|-----|
| 303 007 020 | 2,0 | 24 | 49 |
| 303 007 025 | 2,5 | 30 | 57 |
| 303 007 030 | 3,0 | 33 | 61 |
| 303 007 032 | 3,2 | 36 | 65 |
| 303 007 035 | 3,5 | 39 | 70 |
| 303 007 040 | 4,0 | 43 | 75 |
| 303 007 042 | 4,2 | 43 | 75 |
| 303 007 045 | 4,5 | 47 | 80 |
| 303 007 050 | 5,0 | 52 | 86 |
| 303 007 055 | 5,5 | 57 | 93 |
| 303 007 060 | 6,0 | 57 | 93 |
| 303 007 062 | 6,2 | 63 | 101 |
| 303 007 065 | 6,5 | 63 | 101 |
| 303 007 070 | 7,0 | 69 | 109 |
| 303 007 075 | 7,5 | 69 | 109 |
| 303 007 080 | 8,0 | 75 | 117 |
| 303 007 085 | 8,5 | 75 | 117 |
| 303 007 090 | 9,0 | 81 | 125 |
| 303 007 100 | 10,0 | 87 | 133 |
| 303 007 110 | 11,0 | 94 | 142 |
| 303 007 120 | 12,0 | 101 | 151 |
| 303 007 130 | 13,0 | 101 | 151 |



Spiralbohrer HSS CO

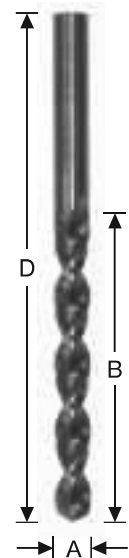
91232

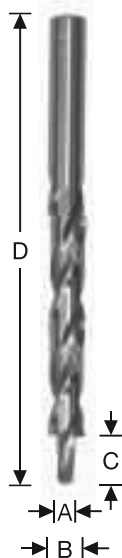
DIN 340 -Kobalt legiert-, **-geschliffen-**
Mehrbereichs- / Hochleistungs-Spezialbohrer

Twist drill HSS CO

DIN 340 -cobalt-, **-fully ground-**, precision
Jobber drills, heavy duty, all purpose tool

| Art.-Nr. | A | B | D |
|-------------|------|-----|-----|
| 303 009 030 | 3,0 | 62 | 95 |
| 303 009 032 | 3,2 | 69 | 106 |
| 303 009 035 | 3,5 | 73 | 112 |
| 303 009 040 | 4,0 | 78 | 119 |
| 303 009 042 | 4,2 | 78 | 119 |
| 303 009 045 | 4,5 | 82 | 126 |
| 303 009 050 | 5,0 | 87 | 132 |
| 303 009 055 | 5,5 | 91 | 139 |
| 303 009 060 | 6,0 | 97 | 139 |
| 303 009 065 | 6,5 | 97 | 148 |
| 303 009 070 | 7,0 | 102 | 156 |
| 303 009 080 | 8,0 | 109 | 165 |
| 303 009 090 | 9,0 | 115 | 175 |
| 303 009 100 | 10,0 | 121 | 184 |





Stufenbohrer HSS

91250

zur Bearbeitung von Aluminium- und Kunststoffprofilen

Winkel 180° (für Zylinderkopfschraube)

Weitere Abmessungen und Ausführungen kurzfristig auf Anfrage lieferbar !

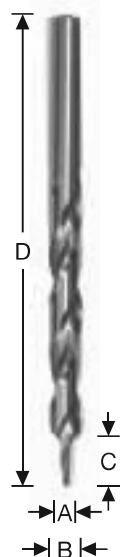
Stepped drill bits HSS

for working aluminium and UPVC-profiles

Angle 180° (for cylinder head screw)

Other sizes and types are shortly available upon demand !

| Art.-Nr. | A | B | C | D | |
|-------------|-----|------|----|-----|------|
| 301 008 004 | 4,3 | 8,0 | 11 | 117 | 180° |
| 301 010 005 | 5,3 | 10,0 | 13 | 133 | 180° |
| 301 104 053 | 5,3 | 10,4 | 10 | 133 | 180° |
| 301 012 006 | 6,4 | 12,0 | 15 | 151 | 180° |
| 301 120 700 | 7,0 | 12,0 | 10 | 151 | 180° |
| 301 012 008 | 8,0 | 12,0 | 15 | 151 | 180° |
| 301 130 800 | 8,0 | 13,0 | 10 | 151 | 180° |



Stufenbohrer HSS

91260

zur Bearbeitung von Aluminium- und Kunststoffprofilen

Winkel 90° (für Senkschraube)

* kurze Ausführung für Bearbeitungszentren

Weitere Abmessungen und Ausführungen kurzfristig auf Anfrage lieferbar !

Stepped drill bits HSS

for working aluminium and UPVC-profiles

Angle 90° (for cheese head screw)

* short version for CNC-machines

Other sizes and types are shortly available upon demand !

| Art.-Nr. | A | B | C | D | |
|--------------|-----|------|----|-----|-----|
| 301 108 004 | 4,3 | 8,0 | 11 | 117 | 90° |
| 301 111 005 | 5,0 | 11,0 | 6 | 142 | 90° |
| 301 112 005 | 5,0 | 12,0 | 20 | 100 | 90° |
| 301 110 005 | 5,3 | 10,0 | 13 | 133 | 90° |
| 301 112 006 | 6,4 | 12,0 | 15 | 151 | 90° |
| 301 208 004* | 4,3 | 8,0 | 11 | 79 | 90° |
| 301 210 005* | 5,3 | 10,0 | 13 | 89 | 90° |
| 301 210 006* | 6,4 | 12,0 | 15 | 102 | 90° |

Olivenbohrer HSS Co

91261

Schaft 8 mm mit Fläche
Winkel 90°

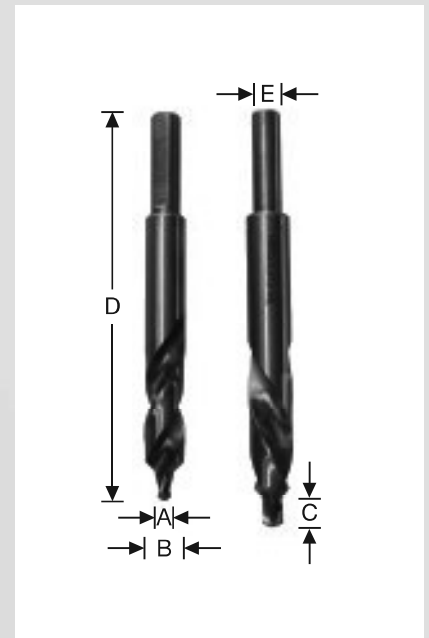
R = Rechtslauf - L = Linkslauf

Drills for handle hole, HSS Co, piloted

cylindric shank 8 mm with flat
Angle 90°

R = RH-rotation - L = LH-rotation

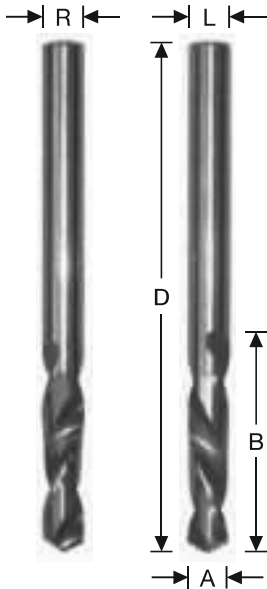
| Art.-Nr. | A | C | B | D | E | |
|-------------|-----|---|----|-----|---|---|
| 301 207 055 | 5,5 | 7 | 11 | 107 | 8 | R |
| 301 210 055 | 5,5 | 7 | 11 | 110 | 8 | R |
| 301 210 155 | 5,5 | 7 | 12 | 115 | 8 | L |
| 301 210 255 | 5,5 | 7 | 11 | 115 | 8 | R |
| 301 212 255 | 5,5 | 7 | 12 | 120 | 8 | L |
| 301 310 155 | 5,5 | 7 | 13 | 115 | 8 | L |



**Olivenbohrer für 3-Spindelbohrköpfe
mit Gewinde oder Zyl.-Schaft**



**Drills for triple-drill units
with male thread or cylindric
plain shank**



Spiralbohrer VHM

91262

durchgehend zylindrisch, **Dachformspitze**.

Universalbohrer zum Einsatz auf Bearbeitungszentren für höchste Ansprüche und Standzeiten in Holz, PVC, Aluminium, GFK, Stahl, etc.

R = Rechtslauf - L = Linkslauf

Brad point drill -solid carbide-

cylindrical on the whole length, with taper drill point. All purpose drill.

For use in CNC-machining centres, for best results in wood, UPVC, aluminium, glass-fiber, steel, etc.

R = RH-rotation - L = LH-rotation

| Art.-Nr. | A | B | D | |
|-------------|-----|----|----|---|
| 484 000 002 | 2,0 | 12 | 38 | R |
| 484 000 025 | 2,5 | 14 | 43 | R |
| 484 000 003 | 3,0 | 16 | 46 | R |
| 484 001 030 | 3,0 | 27 | 46 | R |
| 484 000 035 | 3,5 | 20 | 52 | R |
| 484 000 004 | 4,0 | 22 | 55 | R |
| 484 000 045 | 4,5 | 24 | 58 | R |
| 484 000 005 | 5,0 | 26 | 62 | R |
| 484 000 006 | 6,0 | 28 | 66 | R |
| 484 000 008 | 8,0 | 37 | 79 | R |
| 485 000 002 | 2,0 | 12 | 38 | L |
| 485 000 025 | 2,5 | 14 | 43 | L |
| 485 000 003 | 3,0 | 16 | 46 | L |
| 485 001 030 | 3,0 | 27 | 46 | L |
| 485 000 035 | 3,5 | 20 | 52 | L |
| 485 000 004 | 4,0 | 22 | 55 | L |
| 485 000 045 | 4,5 | 24 | 58 | L |
| 485 000 005 | 5,0 | 26 | 62 | L |



Mehrstufenbohrer HSS

91265

für gratfreies Bohren und Aufreiben von Blechen, Rohren und Profilen

C = Abstufung

Multi Step drill HSS

All purpose step drill for sheet metal, tubes and profiles

C = Stepped

| Art.-Nr. | A | B | C | E |
|-------------|---|----|---|---|
| 304 000 001 | 4 | 12 | 1 | 6 |
| 304 000 002 | 6 | 20 | 2 | 8 |
| 304 000 003 | 6 | 30 | 2 | 8 |

Kegel- und Entgratsenker 90° HSS

91266

dreischneidig, rechtsschneidend, Zylinderschaft

Counter sinks 90° HSS

three flutes, RH, cylindric shank

| Art.-Nr. | A | B | E |
|-------------|------|-----|----|
| 310 004 043 | 4,3 | 1,5 | 4 |
| 310 005 050 | 5,0 | 2,0 | 5 |
| 310 005 053 | 5,3 | 2,0 | 5 |
| 310 006 060 | 6,0 | 2,0 | 6 |
| 310 006 063 | 6,3 | 2,0 | 6 |
| 310 006 070 | 7,0 | 3,0 | 6 |
| 310 006 073 | 7,3 | 3,0 | 6 |
| 310 006 080 | 8,0 | 3,0 | 6 |
| 310 006 083 | 8,3 | 3,0 | 6 |
| 310 006 094 | 9,4 | 4,0 | 6 |
| 310 006 100 | 10,0 | 4,0 | 6 |
| 310 006 104 | 10,4 | 4,0 | 6 |
| 310 008 115 | 11,5 | 4,0 | 8 |
| 310 008 124 | 12,4 | 4,0 | 8 |
| 310 008 134 | 13,4 | 5,0 | 8 |
| 310 010 150 | 15,0 | 5,0 | 10 |
| 310 010 165 | 16,5 | 5,0 | 10 |
| 310 010 190 | 19,0 | 5,0 | 10 |
| 310 010 205 | 20,5 | 5,0 | 10 |
| 310 012 230 | 23,0 | 6,0 | 10 |
| 310 012 250 | 25,0 | 6,0 | 10 |
| 310 012 280 | 28,0 | 7,0 | 12 |
| 310 012 310 | 31,0 | 7,0 | 12 |



Kegel- und Entgratsenker mit Querloch

91267

Senkwinkel 90°

Zum Entgraten von Bohrungen

Counter sinks with cross-hole

90° zero flute
to deburr drill holes

| Art.-Nr. | A | E |
|-------------|-------|----|
| 311 000 002 | 2/5 | 6 |
| 311 000 005 | 5/10 | 8 |
| 311 000 010 | 10/15 | 10 |
| 311 000 015 | 15/20 | 12 |
| 311 000 020 | 20/25 | 15 |
| 311 000 025 | 25/30 | 15 |



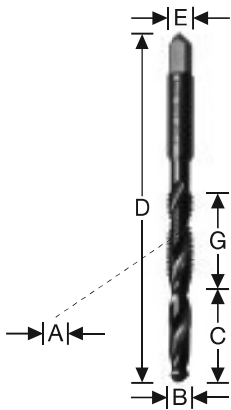
Kombi-Maschinengewindebohrer HSS-E

91268

zum Kernlochbohren, Gewindeschneiden und Entgraten in **EINEM** Arbeitsgang

Combined machine taps HSS-E

to drill cored hole, thread cutting and deburr in **ONE** operation



| Art.-Nr. | A | B | C | G | D | E |
|-------------|-----|------|----|----|-----|------|
| 312 000 003 | M3 | 2,5 | 16 | 11 | 56 | 3,0 |
| 312 000 004 | M4 | 3,3 | 18 | 14 | 63 | 4,0 |
| 312 000 005 | M5 | 4,2 | 20 | 18 | 71 | 5,0 |
| 312 000 006 | M6 | 5,0 | 22 | 22 | 80 | 6,0 |
| 312 000 008 | M8 | 6,8 | 26 | 25 | 95 | 8,0 |
| 312 000 010 | M10 | 8,5 | 30 | 31 | 106 | 10,0 |
| 312 000 012 | M12 | 10,2 | 32 | 35 | 115 | 12,0 |

Lochsäge HM-bestückt

91269

5 HM-Spezialzähne für PVC-/ Stahlbearbeitung auf Bearbeitungszentren THORWESTEN
alte Version -auslaufend-

Hole drill TCT

5 tungsten carbide special teeth for UPVC/ steel reinforcement working on
CNC machine THORWESTEN
old version -discontinued-



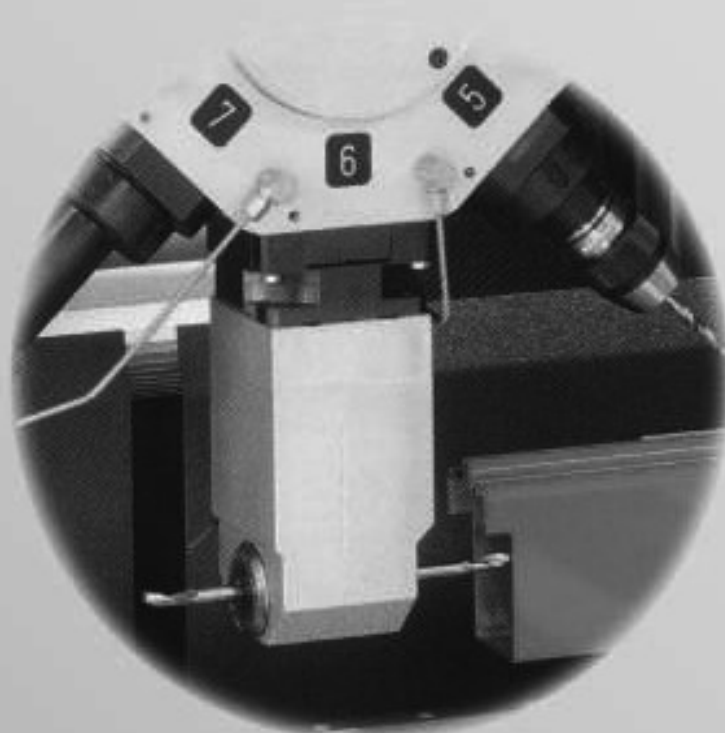
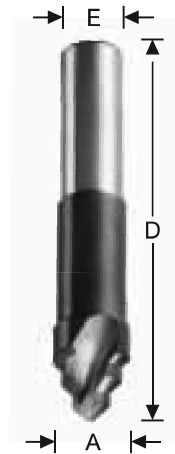
| Art.-Nr. | A | D | E |
|-------------|----|----|----|
| 304 000 020 | 20 | 91 | 10 |
| 304 000 024 | 24 | 91 | 10 |

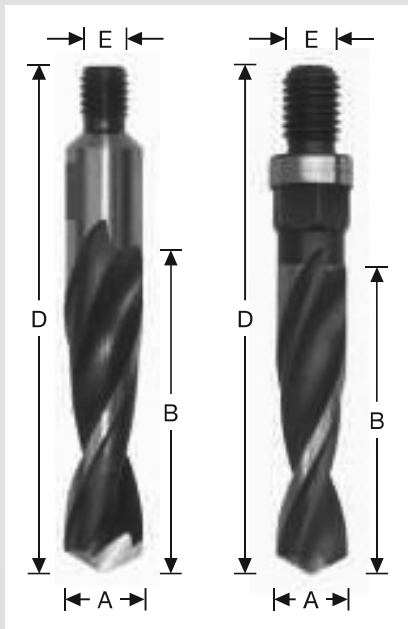
für PVC-/ Stahlbearbeitung auf Bearbeitungszentren THORWESTEN
neue Version

Special stepped drill

for UPVC/ steel reinforcement working on CNC machine THORWESTEN
new version

| Art.-Nr. | A | D | E |
|-------------|----|-----|----|
| 304 007 020 | 20 | 100 | 10 |





Olivenbohrer HSS-E

91300

mit **Dachformspitze**, Aussengewinde

Rechtslauf

Zur Bearbeitung von Kunststoffprofilen mit oder ohne Stahleinlage.

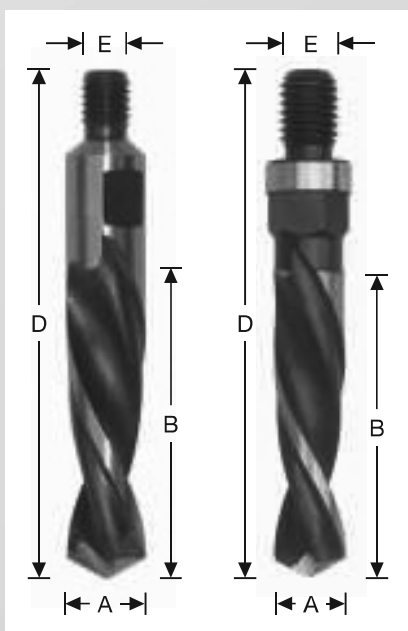
Threaded drill HSS-E

with **taper drill point**, male thread

RH-rotation

For working of UPVC profiles with or without filling steel profile

| Art.-Nr. | A | B | D | E |
|-------------|----|----|-----|---------------|
| 492 050 010 | 10 | 50 | 87 | M6 Konus/cone |
| 488 030 010 | 10 | 30 | 65 | M10 |
| 482 050 010 | 10 | 45 | 78 | M8 Konus/cone |
| 496 050 010 | 10 | 30 | 76 | M10 |
| 480 050 010 | 10 | 50 | 87 | M10 |
| 480 080 010 | 10 | 80 | 113 | M10 |
| 492 050 012 | 12 | 50 | 87 | M6 Konus/cone |
| 482 050 012 | 12 | 45 | 78 | M8 Konus/cone |
| 488 030 012 | 12 | 30 | 65 | M10 |
| 496 050 012 | 12 | 30 | 76 | M10 |
| 480 050 012 | 12 | 50 | 87 | M10 |
| 480 080 012 | 12 | 80 | 113 | M10 |
| 492 050 014 | 14 | 50 | 87 | M6 Konus/cone |
| 482 050 014 | 14 | 45 | 78 | M8 Konus/cone |
| 488 030 014 | 14 | 30 | 65 | M10 |
| 496 050 014 | 14 | 30 | 76 | M10 |
| 480 050 014 | 14 | 50 | 87 | M10 |
| 480 080 014 | 14 | 80 | 113 | M10 |



Olivenbohrer HSS-E

91301

mit **Dachformspitze**, Aussengewinde

Linkslauf

Zur Bearbeitung von Kunststoffprofilen mit oder ohne Stahleinlage.

Threaded drill HSS-E

with **taper drill point**, male thread

LH-rotation

For working of UPVC profiles with or without filling steel profile

| Art.-Nr. | A | B | D | E |
|-------------|----|----|-----|---------------|
| 483 050 010 | 10 | 45 | 78 | M8 Konus/cone |
| 489 030 010 | 10 | 30 | 60 | M10 |
| 497 050 010 | 10 | 30 | 72 | M10 |
| 481 050 010 | 10 | 50 | 87 | M10 |
| 481 080 010 | 10 | 80 | 113 | M10 |
| 483 050 012 | 12 | 45 | 78 | M8 Konus/cone |
| 489 030 012 | 12 | 30 | 60 | M10 |
| 497 050 012 | 12 | 30 | 72 | M10 |
| 481 050 012 | 12 | 50 | 87 | M10 |
| 481 080 012 | 12 | 80 | 113 | M10 |
| 483 050 014 | 14 | 45 | 78 | M8 Konus/cone |
| 489 030 014 | 14 | 30 | 60 | M10 |
| 497 050 014 | 14 | 30 | 72 | M10 |
| 481 050 014 | 14 | 50 | 87 | M10 |
| 481 080 014 | 14 | 80 | 113 | M10 |

Olivenbohrer HSS-E

91310

mit **Vorböhrer**, Aussengewinde

Rechtslauf

Zur Bearbeitung von Kunststoffprofilen mit oder ohne Stahleinlage.

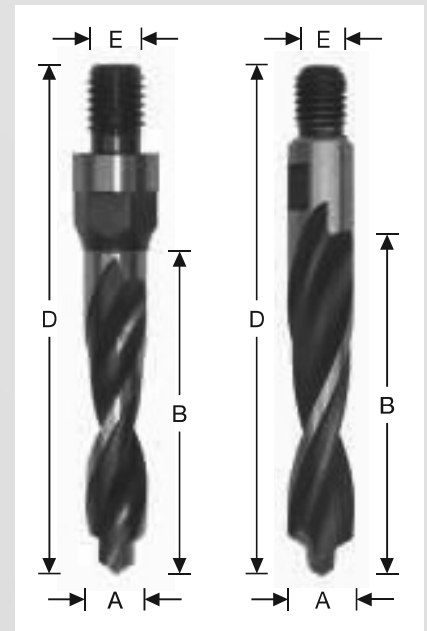
Threaded drill HSS-E

piloted version, male thread

RH-rotation

For working of UPVC profiles with or without filling steel profile

| Art.-Nr. | A | B | D | E |
|-------------|----|----|-----|---------------|
| 490 050 010 | 10 | 45 | 78 | M8 Konus/cone |
| 494 030 010 | 10 | 30 | 65 | M10 |
| 476 030 010 | 10 | 35 | 76 | M10 |
| 486 150 010 | 10 | 50 | 84 | M10 |
| 486 050 010 | 10 | 50 | 87 | M10 |
| 486 060 010 | 10 | 60 | 100 | M10 |
| 486 080 010 | 10 | 80 | 113 | M10 |
| 490 050 012 | 12 | 45 | 78 | M8 Konus/cone |
| 494 030 012 | 12 | 30 | 65 | M10 |
| 476 030 012 | 12 | 30 | 76 | M10 |
| 486 150 012 | 12 | 50 | 84 | M10 |
| 486 050 012 | 12 | 50 | 87 | M10 |
| 486 060 012 | 12 | 60 | 100 | M10 |
| 486 080 012 | 12 | 80 | 113 | M10 |
| 490 050 014 | 14 | 45 | 78 | M8 Konus/cone |
| 494 030 014 | 14 | 30 | 65 | M10 |
| 476 030 014 | 14 | 30 | 76 | M10 |
| 486 150 014 | 14 | 50 | 84 | M10 |
| 486 050 014 | 14 | 50 | 87 | M10 |
| 486 080 014 | 14 | 80 | 113 | M10 |



Olivenbohrer HSS-E

91311

mit **Vorböhrer**, Aussengewinde

Linkslauf

Zur Bearbeitung von Kunststoffprofilen mit oder ohne Stahleinlage.

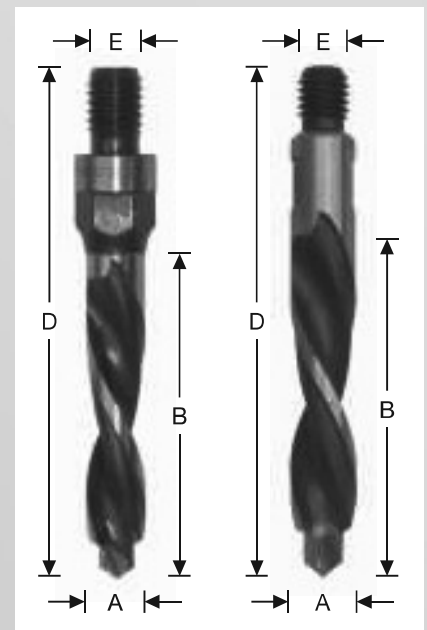
Threaded drill HSS-E

piloted version, male thread

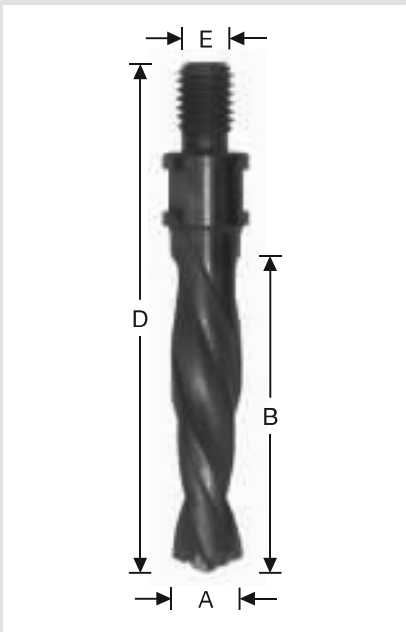
LH-rotation

For working of UPVC profiles with or without filling steel profile

| Art.-Nr. | A | B | D | E |
|-------------|----|----|-----|---------------|
| 491 050 010 | 10 | 45 | 78 | M8 Konus/cone |
| 495 030 010 | 10 | 30 | 60 | M10 |
| 477 030 010 | 10 | 35 | 72 | M10 |
| 487 050 010 | 10 | 50 | 87 | M10 |
| 487 060 010 | 10 | 60 | 100 | M10 |
| 487 080 010 | 10 | 80 | 113 | M10 |
| 491 050 012 | 12 | 45 | 78 | M8 Konus/cone |
| 495 030 012 | 12 | 30 | 60 | M10 |
| 477 030 012 | 12 | 35 | 72 | M10 |
| 487 050 012 | 12 | 50 | 87 | M10 |
| 487 060 012 | 12 | 60 | 100 | M10 |
| 487 080 012 | 12 | 80 | 113 | M10 |
| 491 050 014 | 14 | 45 | 78 | M8 Konus/cone |
| 495 030 014 | 14 | 30 | 65 | M10 |



| | | | | |
|-------------|----|----|-----|-----|
| 477 030 014 | 14 | 35 | 72 | M10 |
| 487 050 014 | 14 | 50 | 87 | M10 |
| 487 080 014 | 14 | 80 | 113 | M10 |



Olivenbohrer HSS-E

91315

- mit zusätzlichen **Spanbrechern und Spezialbeschichtung** für Stahl
- mit **Dachformspitze** und Aussengewinde M10 Rechts / Links
- für Bearbeitungszentren

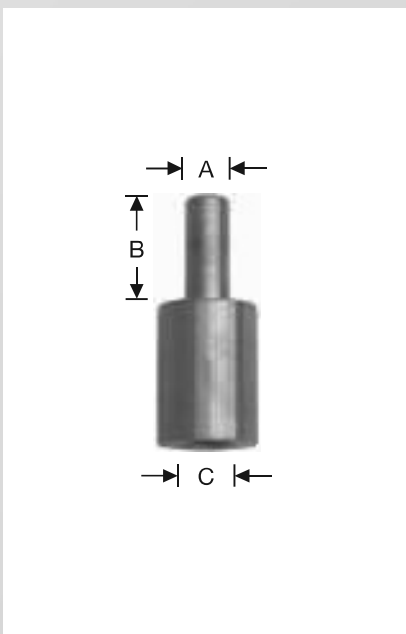
R = Rechtslauf - L = Linkslauf

Threaded drill HSS-E

- with **additional chip breaker and special coating** for steel
- with **taper drill point** and Male screw M10
- RH / LH
- used on CNC-machining centres

R = RH-rotation - L = LH-rotation

| Art.-Nr. | A | B | D | E | |
|-------------|----|----|----|-----|---|
| 498 050 010 | 10 | 50 | 87 | M10 | R |
| 498 050 012 | 12 | 50 | 87 | M10 | R |
| 498 050 014 | 14 | 50 | 87 | M10 | R |
| 498 060 010 | 10 | 60 | 97 | M10 | R |
| 498 060 012 | 12 | 60 | 97 | M10 | R |
| 498 060 013 | 13 | 60 | 97 | M10 | R |
| 499 050 010 | 10 | 50 | 87 | M10 | L |
| 499 050 012 | 12 | 50 | 87 | M10 | L |
| 499 050 014 | 14 | 50 | 87 | M10 | L |
| 499 060 010 | 10 | 60 | 97 | M10 | L |



Aufnahme für Bohrer mit Außengewinde

91316

Zur Verwendung Bohrer Gruppe 91300-91315
in Standard-Bohrfutter

R = Rechtslauf - L = Linkslauf

Plain shank bits

for use drills group 91300-91315
in standard drill chuck

R = RH-rotation - L = LH-rotation

| Art.-Nr. | A | B | C | |
|-------------|----|----|-----|---|
| 478 008 008 | 8 | 20 | M8 | R |
| 479 008 008 | 8 | 20 | M8 | L |
| 478 008 010 | 8 | 20 | M10 | R |
| 479 008 010 | 8 | 20 | M10 | L |
| 478 010 010 | 10 | 20 | M10 | R |
| 479 010 010 | 10 | 20 | M10 | L |

Diamant-Frässtifte

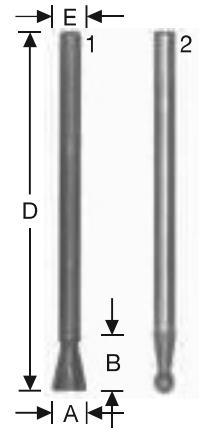
91500

für die Kunststoff-Fenster-Fertigung
passend zu Druckluft-Dichtnutenfräse 95202 / 95205

Diamond-Tools

for the UPVC window production
fits to pneumatic dentist drill 95202 / 95205

| Art.-Nr. | A | B | D | E | Abb. |
|-------------|---|-----|----|---|------|
| 000 562 501 | 3 | 6 | 40 | 3 | 1 |
| 000 562 502 | 4 | 6,5 | 40 | 3 | 1 |
| 000 562 503 | 5 | 7 | 40 | 3 | 1 |
| 000 562 511 | 3 | 7 | 40 | 3 | 2 |
| 000 562 512 | 4 | 7 | 40 | 3 | 2 |



Frässtifte für Dichtnutfräsen

91600

passend zu 95202 / 95203 / 95207

Router bit for pneumatic tools

suitable for 95202 / 95203 / 95207

| Art.-Nr. | A | D | Form | | Mat. |
|-------------|---|----|----------|----------|------|
| 037 003 003 | 3 | 40 | Kugel | ball | HSS |
| 037 003 004 | 4 | 40 | Kugel | ball | HSS |
| 040 003 003 | 3 | 40 | Zylinder | cylinder | VHM |
| 040 004 004 | 4 | 40 | Zylinder | cylinder | VHM |

