

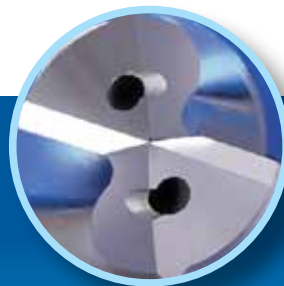
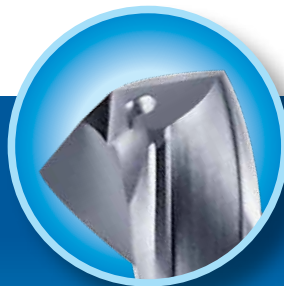
1588SL

12xD Drills / Bohrer

15xD Drills / Bohrer

20xD Drills / Bohrer

30xD Drills / Bohrer



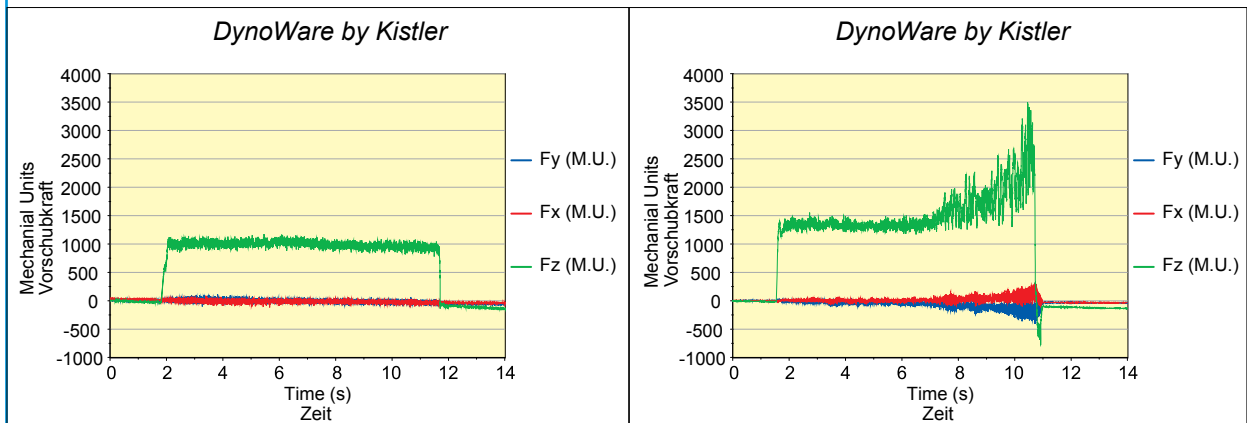
- 1 Special flute design for optimal stability and good chip flow / *Spezielles Spannwendendesign für optimale Stabilität und guten Spanabfluß*
- 2 Special margin for high accuracy and stable machining / *Spezielle Führungsfase für hohe Genauigkeit und eine stabile Bearbeitung*
- 3 Optimal cutting edge for different material / *Optimierte Schneidkanten ausführung für guten Spanbruch in vielen Anwendungsbereichen*
- 4 New PVD-coating for smooth chip flow, less friction and good wear resistance / *Neuartige PVD-Beschichtung für optimalen Spanabfluß, weniger Reibung und gute Verschleißfestigkeit*

1588SL Serie Vergleich der Schnittkraft

Type / Typ	1588SL12C	Competitor Wettbewerb	Feed Vorschub	0.2mm/r
Diameter Durchmesser	Ø6mm	Ø6mm	Cutting Depth Bohrtiefe	72mm
Material	42CrMo(HB250)		cooling Kühlung	Emulsion
Cutting speed Schnittgesch.	80m/min		Machine Maschine	CNC

1588SL

other manufacturer / Andere Hersteller

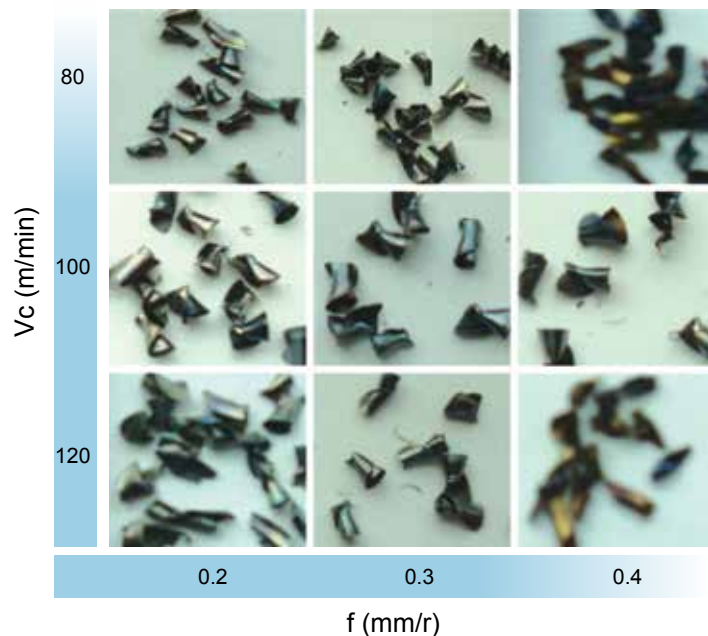


1588SL Serie Spanbruchverhalten

Type / Typ: 1588SL12C
 Diameter / Durchmesser : Ø10mm
 Material / Material: 45Stahl (HB200)
 Vc: 80-120(m/min)
 f_n: 0.2-0.4(mm/r)
 Drilling depth / Bohrtiefe : 120mm
 Cooling / Kühlsystem: Emulsion
 Machine / Maschine: CNC Machine

Stable machining under different cutting speed and feed rate.

Stabile Bearbeitung bei verschiedenen Geschwindigkeiten und Vorschüben.



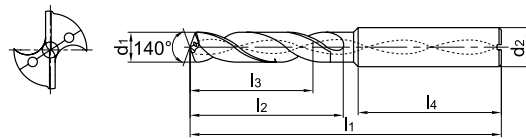
Drilling · Bohren

Solid Carbide drills · Vollhartmetallbohrer

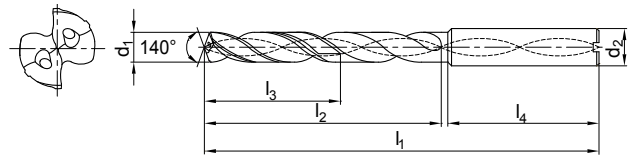
SL series · SL Serie

General machining · Allgemeine Bearbeitung
(Deep drill · Tiefbohrer)

1588SL12C / 1588SL15C



1588SL20C / 1588SL30C



Drilling diameter Bohrerdurchmesser d1 12/15D(m7) 20/30D(h7)	Drilling depth Bohrtiefe l/d1	Cooling mode Kühlmittel.	Shank Schaft	Type Typ	Basic dimension(mm) · Basis Abmessungen					Grade Sorte				
					d2(h5)	l1	l2	l3	l4					
										KDG303				
3.0	12	Internal	Straight shank Zylinder- schaft	1588SL12C-0300	6	90	50	40	36	●				
	15			1588SL15C-0300	6	100	60	50	36	●				
	20			1588SL20C-0300	6	110	70	62	36	○				
	30			1588SL30C-0300	6	140	100	92	36	○				
3.1	12			Intern	Straight shank Zylinder- schaft	1588SL12C-0310	6	90	50	40	36	●		
	15					1588SL15C-0310	6	105	65	55	36	●		
	20					1588SL20C-0310	6	123	83	72	36	●		
	30					1588SL30C-0310	6	160	120	108	36	●		
3.2	12					Intern	Straight shank Zylinder- schaft	1588SL12C-0320	6	90	50	40	36	●
	15							1588SL15C-0320	6	105	65	55	36	●
	20							1588SL20C-0320	6	123	83	72	36	○
	30							1588SL30C-0320	6	160	120	108	36	○
3.3	12	Intern	Straight shank Zylinder- schaft					1588SL12C-0330	6	90	50	40	36	●
	15							1588SL15C-0330	6	105	65	55	36	●
	20							1588SL20C-0330	6	123	83	72	36	○
	30							1588SL30C-0330	6	160	120	108	36	○
3.4	12			Intern	Straight shank Zylinder- schaft			1588SL12C-0340	6	90	50	40	36	●
	15							1588SL15C-0340	6	105	65	55	36	●
	20							1588SL20C-0340	6	123	83	72	36	○
	30							1588SL30C-0340	6	160	120	108	36	○
3.5	12					Intern	Straight shank Zylinder- schaft	1588SL12C-0350	6	90	50	40	36	●
	15							1588SL15C-0350	6	105	65	55	36	●
	20							1588SL20C-0350	6	123	83	72	36	○
	30							1588SL30C-0350	6	160	120	108	36	○
3.6	12	Intern	Straight shank Zylinder- schaft					1588SL12C-0360	6	90	50	40	36	●
	15							1588SL15C-0360	6	112	72	62	36	●
	20							1588SL20C-0360	6	136	96	84	36	○
	30							1588SL30C-0360	6	176	136	124	36	○
3.7	12			Intern	Straight shank Zylinder- schaft			1588SL12C-0370	6	90	50	46	36	●
	15							1588SL15C-0370	6	112	72	68	36	●
	20							1588SL20C-0370	6	136	96	84	36	○
	30							1588SL30C-0370	6	176	136	124	36	○
3.8	12					Intern	Straight shank Zylinder- schaft	1588SL12C-0380	6	90	50	46	36	●
	15							1588SL15C-0380	6	112	72	68	36	●
	20							1588SL20C-0380	6	136	96	84	36	○
	30							1588SL30C-0380	6	176	136	124	36	○
3.9	12	Intern	Straight shank Zylinder- schaft					1588SL12C-0390	6	90	50	46	36	●
	15							1588SL15C-0390	6	112	72	68	36	●
	20							1588SL20C-0390	6	136	96	84	36	○
	30							1588SL30C-0390	6	176	136	124	36	○



Drilling diameter Bohrerdurchmesser d1 12/15D(m7) 20/30D(h7)	Drilling depth Bohrtiefe l/d1	Cooling mode Kühlmittel.	Shank Schaft	Type Typ	Basic dimension(mm) · Basis Abmessungen					Grade Sorte
					dz(h5)	l1	l2	l3	l4	
										KDG303
4.0	12	Internal Intern	Straight shank Zylinder- schaft	1588SL12C-0400	6	102	64	56	36	●
	15			1588SL15C-0400	6	112	72	64	36	●
	20			1588SL20C-0400	6	136	96	84	36	●
	30			1588SL30C-0400	6	176	136	124	36	●
4.1	12			1588SL12C-0410	6	102	64	56	36	●
	15			1588SL15C-0410	6	120	80	72	36	●
	20			1588SL20C-0410	6	148	108	96	36	○
	30			1588SL30C-0410	6	192	152	140	36	○
4.2	12			1588SL12C-0420	6	102	64	56	36	●
	15			1588SL15C-0420	6	120	80	72	36	●
	20			1588SL20C-0420	6	148	108	96	36	○
	30			1588SL30C-0420	6	192	152	140	36	○
4.3	12			1588SL12C-0430	6	102	64	56	36	●
	15			1588SL15C-0430	6	120	80	72	36	●
	20			1588SL20C-0430	6	148	108	96	36	○
	30			1588SL30C-0430	6	192	152	140	36	○
4.4	12			1588SL12C-0440	6	102	64	56	36	●
	15			1588SL15C-0440	6	120	80	72	36	●
	20			1588SL20C-0440	6	148	108	96	36	○
	30			1588SL30C-0440	6	192	152	140	36	○
4.5	12			1588SL12C-0450	6	102	64	56	36	●
	15			1588SL15C-0450	6	120	80	72	36	●
	20			1588SL20C-0450	6	148	108	96	36	○
	30			1588SL30C-0450	6	192	152	140	36	○
4.6	12			1588SL12C-0460	6	102	64	56	36	●
	15			1588SL15C-0460	6	128	88	80	36	●
	20			1588SL20C-0460	6	158	118	106	36	○
	30			1588SL30C-0460	6	208	168	156	36	○
4.7	12	1588SL12C-0470	6	102	64	56	36	●		
	15	1588SL15C-0470	6	128	88	80	36	●		
	20	1588SL20C-0470	6	158	118	106	36	○		
	30	1588SL30C-0470	6	208	168	156	36	○		
4.8	12	1588SL12C-0480	6	102	64	56	36	●		
	15	1588SL15C-0480	6	128	88	80	36	●		
	20	1588SL20C-0480	6	158	118	106	36	○		
	30	1588SL30C-0480	6	208	168	156	36	○		
4.9	12	1588SL12C-0490	6	102	64	56	36	●		
	15	1588SL15C-0490	6	128	88	80	36	●		
	20	1588SL20C-0490	6	158	118	106	36	○		
	30	1588SL30C-0490	6	208	168	156	36	○		



Material Overview · Material Übersicht

✓ = Very suitable · Sehr empfohlen
 ✓ = Suitable · Empfohlen

Grade Sorte	Workpiece material · Werkstückstoff									
	Carbon steel Kohlenstoff- Stahl HB≤180	Alloy steel Legierter Stahl	Hardened steel · Gehärteter Stahl			Stainless steel Rostfreier Stahl	Cast iron Gusseisen	Nodular cast iron GGG Kugelgra- phitguss	Aluminum alloy Aluleg.	Copper alloy Kupferleg.
KDG303	✓	✓	✓			✓	✓	✓	✓	✓

Code key **C 10**
ISO Kennzeichen

Cutting data **96-109**
Schnittdaten

Technical Information **C110-116**
Technische Information

Non-standard tailor made **C 117-121**
Bestellformular für Sonderwerkzeuge

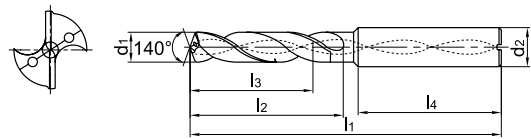
Drilling · Bohren

Solid Carbide drills · Vollhartmetallbohrer

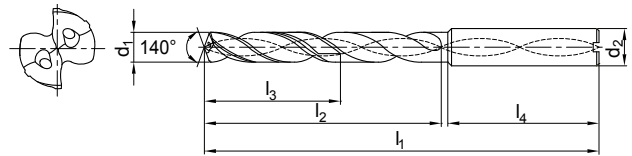
SL series · SL Serie

General machining · Allgemeine Bearbeitung
(Deep drill · Tiefbohrer)

1588SL12C / 1588SL15C



1588SL20C / 1588SL30C



Drilling diameter Bohrerdurchmesser d1 12/15D(m7) 20/30D(h7)	Drilling depth Bohrtiefe l/d1	Cooling mode Kühlmittel	Shank Schaft	Type Typ	Basic dimension(mm) · Basis Abmessungen					Grade Sorte				
					d2(h5)	l1	l2	l3	l4	KDG303				
5.0	12	Internal	Straight shank	1588SL12C-0500	6	116	78	72	36	●				
	15			1588SL15C-0500	6	128	88	82	36	●				
	20			1588SL20C-0500	6	158	118	106	36	●				
	30			1588SL30C-0500	6	208	168	156	36	●				
5.1	12			Internal	Straight shank	1588SL12C-0510	6	116	78	72	36	●		
	15					1588SL15C-0510	6	136	96	90	36	●		
	20					1588SL20C-0510	6	168	128	116	36	○		
	30					1588SL30C-0510	6	228	128	170	36	○		
5.2	12					Internal	Straight shank	1588SL12C-0520	6	116	78	72	36	●
	15							1588SL15C-0520	6	136	96	90	36	●
	20							1588SL20C-0520	6	168	128	116	36	○
	30							1588SL30C-0520	6	228	128	170	36	○
5.3	12	Internal	Straight shank					1588SL12C-0530	6	116	78	72	36	○
	15							1588SL15C-0530	6	136	96	90	36	●
	20							1588SL20C-0530	6	168	128	116	36	○
	30							1588SL30C-0530	6	228	128	170	36	●
5.4	12			Internal	Straight shank			1588SL12C-0540	6	116	78	72	36	○
	15							1588SL15C-0540	6	136	96	90	36	●
	20							1588SL20C-0540	6	168	128	116	36	○
	30							1588SL30C-0540	6	228	128	170	36	○
5.5	12					Internal	Zylinder- schaft	1588SL12C-0550	6	116	78	72	36	●
	15							1588SL15C-0550	6	136	96	90	36	●
	20							1588SL20C-0550	6	168	128	116	36	●
	30							1588SL30C-0550	6	228	128	170	36	●
5.6	12	Internal	Zylinder- schaft					1588SL12C-0560	6	116	78	72	36	●
	15							1588SL15C-0560	6	144	104	98	36	●
	20							1588SL20C-0560	6	180	140	126	36	○
	30							1588SL30C-0560	6	240	200	182	36	○
5.7	12			Internal	Zylinder- schaft			1588SL12C-0570	6	116	78	72	36	●
	15							1588SL15C-0570	6	144	104	98	36	●
	20							1588SL20C-0570	6	180	140	126	36	○
	30							1588SL30C-0570	6	240	200	182	36	○
5.8	12					Internal	Zylinder- schaft	1588SL12C-0580	6	116	78	72	36	●
	15							1588SL15C-0580	6	144	104	98	36	●
	20							1588SL20C-0580	6	180	140	126	36	○
	30							1588SL30C-0580	6	240	200	182	36	○
5.9	12	Internal	Zylinder- schaft					1588SL12C-0590	6	116	78	72	36	●
	15							1588SL15C-0590	6	144	104	98	36	●
	20							1588SL20C-0590	6	180	140	126	36	○
	30							1588SL30C-0590	6	240	200	182	36	○



Drilling diameter Bohrerdurchmesser d1 12/15D(m7) 20/30D(h7)	Drilling depth Bohrtiefe l/d1	Cooling mode Kühlmittel.	Shank Schaft	Type Typ	Basic dimension(mm) · Basis Abmessungen					Grade Sorte	
					dz(h5)	l1	l2	l3	l4	KDG303	
6.0	12	Internal	Straight shank	1588SL12C-0600	6	116	78	72	36	●	
	15			1588SL15C-0600	6	144	104	98	36	●	
	20			1588SL20C-0600	6	180	140	126	36	●	
	30			1588SL30C-0600	6	240	200	182	36	●	
6.1	12	Internal	Straight shank	1588SL12C-0610	8	131	93	84	36	●	
	15			1588SL15C-0610	8	152	112	103	36	●	
	20			1588SL20C-0610	8	192	150	132	36	○	
	30			1588SL30C-0610	8	260	220	202	36	○	
6.2	12	Internal	Straight shank	1588SL12C-0620	8	131	93	84	36	●	
	15			1588SL15C-0620	8	152	112	103	36	●	
	20			1588SL20C-0620	8	192	150	132	36	○	
	30			1588SL30C-0620	8	260	220	202	36	○	
6.3	12	Internal	Straight shank	1588SL12C-0630	8	131	93	84	36	●	
	15			1588SL15C-0630	8	152	112	103	36	●	
	20			1588SL20C-0630	8	192	150	132	36	○	
	30			1588SL30C-0630	8	260	220	202	36	○	
6.4	12	Internal	Straight shank	1588SL12C-0640	8	131	93	84	36	●	
	15			1588SL15C-0640	8	152	112	103	36	●	
	20			1588SL20C-0640	8	192	150	132	36	○	
	30			1588SL30C-0640	8	260	220	202	36	○	
6.5	12	Intern	Zylinder-schaft	1588SL12C-0650	8	131	93	84	36	●	
	15			1588SL15C-0650	8	152	112	103	36	●	
	20			1588SL20C-0650	8	192	150	132	36	○	
	30			1588SL30C-0650	8	260	220	202	36	○	
6.6	12	Intern	Zylinder-schaft	1588SL12C-0660	8	131	93	84	36	●	
	15			1588SL15C-0660	8	160	120	111	36	●	
	20			1588SL20C-0660	8	202	162	144	36	○	
	30			1588SL30C-0660	8	272	232	214	36	○	
6.7	12	Intern	Zylinder-schaft	1588SL12C-0670	8	131	93	84	36	●	
	15			1588SL15C-0670	8	160	120	111	36	●	
	20			1588SL20C-0670	8	202	162	144	36	○	
	30			1588SL30C-0670	8	272	232	214	36	○	
6.8	12	Intern	Zylinder-schaft	1588SL12C-0680	8	131	93	84	36	●	
	15			1588SL15C-0680	8	160	120	111	36	●	
	20			1588SL20C-0680	8	202	162	144	36	○	
	30			1588SL30C-0680	8	272	232	214	36	○	
6.9	12	Intern	Zylinder-schaft	1588SL12C-0690	8	131	93	84	36	●	
	15			1588SL15C-0690	8	160	120	111	36	●	
	20			1588SL20C-0690	8	202	162	144	36	○	
	30			1588SL30C-0690	8	272	232	214	36	○	



Solid Carbide drills
Vollhartmetallbohrer

Material Overview · Material Übersicht

✓ = Very suitable · Sehr empfohlen
✓ = Suitable · Empfohlen

Grade Sorte	Workpiece material · Werkstückstoff									
	Carbon steel Kohlenstoff- Stahl HB≤180	Alloy steel Legierter Stahl	Hardened steel · Gehärteter Stahl			Stainless steel Rostfreier Stahl	Cast iron Gusseisen	Nodular cast iron GGG Kugelgra- phitguss	Aluminum alloy Aluleg.	Copper alloy Kupferleg.
~40HRC			~50HRC	~60HRC						
KDG303	✓	✓	✓			✓	✓	✓	✓	✓

Code key C 10
ISO Kennzeichen

Cutting data 96-109
Schnittdaten

Technical Information C110-116
Technische Information

Non-standard tailor made C 117-121
Bestellformular für Sonderwerkzeuge

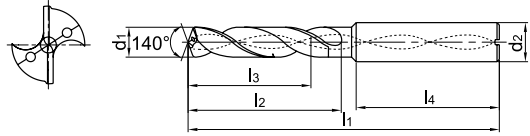
Drilling · Bohren

Solid Carbide drills · Vollhartmetallbohrer

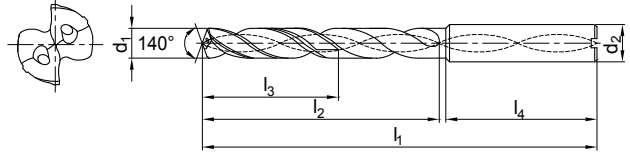
SL series · SL Serie

General machining · Allgemeine Bearbeitung
(Deep drill · Tiefbohrer)

1588SL12C / 1588SL15C



1588SL20C / 1588SL30C



Drilling diameter Bohrerdurchmesser d1 12/15D(m7) 20/30D(h7)	Drilling depth Bohrtiefe (l/d1)	Cooling mode Kühlmittel	Shank Schaft	Type Typ	Basic dimension(mm) · Basis Abmessungen					Grade Sorte				
					d2(h5)	l1	l2	l3	l4	KDG303				
7.0	12	Internal	Straight shank	1588SL12C-0700	8	131	93	84	36	●				
	15			1588SL15C-0700	8	160	120	111	36	●				
	20			1588SL20C-0700	8	202	162	144	36	●				
	30			1588SL30C-0700	8	272	232	214	36	○				
7.1	12			Internal	Straight shank	1588SL12C-0710	8	146	108	96	36	●		
	15					1588SL15C-0710	8	170	130	118	36	●		
	20					1588SL20C-0710	8	213	173	155	36	○		
	30					1588SL30C-0710	8	290	250	232	36	○		
7.2	12					Internal	Straight shank	1588SL12C-0720	8	146	108	96	36	●
	15							1588SL15C-0720	8	170	130	118	36	○
	20							1588SL20C-0720	8	213	173	155	36	○
	30							1588SL30C-0720	8	290	250	232	36	○
7.3	12	Internal	Straight shank					1588SL12C-0730	8	146	108	96	36	●
	15							1588SL15C-0730	8	170	130	118	36	○
	20							1588SL20C-0730	8	213	173	155	36	○
	30							1588SL30C-0730	8	290	250	232	36	○
7.4	12			Internal	Straight shank			1588SL12C-0740	8	146	108	96	36	●
	15							1588SL15C-0740	8	170	130	118	36	○
	20							1588SL20C-0740	8	213	173	155	36	○
	30							1588SL30C-0740	8	290	250	232	36	○
7.5	12					Internal	Zylinder-schaft	1588SL12C-0750	8	146	108	96	36	●
	15							1588SL15C-0750	8	170	130	118	36	●
	20							1588SL20C-0750	8	213	173	155	36	○
	30							1588SL30C-0750	8	290	250	232	36	○
7.6	12	Internal	Zylinder-schaft					1588SL12C-0760	8	146	108	96	36	●
	15							1588SL15C-0760	8	180	140	128	36	○
	20							1588SL20C-0760	8	223	183	165	36	○
	30							1588SL30C-0760	8	305	265	246	36	○
7.7	12			Internal	Zylinder-schaft			1588SL12C-0770	8	146	108	96	36	○
	15							1588SL15C-0770	8	180	140	128	36	○
	20							1588SL20C-0770	8	223	183	165	36	○
	30							1588SL30C-0770	8	305	265	246	36	○
7.8	12					Internal	Zylinder-schaft	1588SL12C-0780	8	146	108	96	36	●
	15							1588SL15C-0780	8	180	140	128	36	○
	20							1588SL20C-0780	8	223	183	165	36	○
	30							1588SL30C-0780	8	305	265	246	36	○
7.9	12	Internal	Zylinder-schaft					1588SL12C-0790	8	146	108	96	36	○
	15							1588SL15C-0790	8	180	140	128	36	○
	20							1588SL20C-0790	8	223	183	165	36	○
	30							1588SL30C-0790	8	305	265	246	36	○



Drilling diameter Bohrerdurchmesser d1 12/15D(m7) 20/30D(h7)	Drilling depth Bohrtiefe l/d1	Cooling mode Kühlmittel.	Shank Schaft	Type Typ	Basic dimension(mm) · Basis Abmessungen					Grade Sorte													
					dz(h5)	l1	l2	l3	l4	KDG303													
										●	○												
8.0	12	Internal	Straight shank	1588SL12C-0800	8	146	108	96	36	●													
	15			1588SL15C-0800	8	180	140	128	36	●													
	20			1588SL20C-0800	8	223	183	165	36	●													
	30			1588SL30C-0800	8	305	265	246	36	●													
8.1	12			Intern	Zylinder-schaft	1588SL12C-0810	10	162	120	108	40	●											
	15					1588SL15C-0810	10	194	150	138	40	●											
	20					1588SL20C-0810	10	239	195	176	40	○											
	30					1588SL30C-0810	10	330	285	265	40	○											
8.2	12					Intern	Zylinder-schaft	1588SL12C-0820	10	162	120	108	40	●									
	15							1588SL15C-0820	10	194	150	138	40	●									
	20							1588SL20C-0820	10	239	195	176	40	○									
	30							1588SL30C-0820	10	330	285	265	40	○									
8.3	12							Intern	Zylinder-schaft	1588SL12C-0830	10	162	120	108	40	●							
	15									1588SL15C-0830	10	194	150	138	40	○							
	20									1588SL20C-0830	10	239	195	176	40	○							
	30									1588SL30C-0830	10	330	285	265	40	○							
8.4	12									Intern	Zylinder-schaft	1588SL12C-0840	10	162	120	108	40	●					
	15											1588SL15C-0840	10	194	150	138	40	●					
	20											1588SL20C-0840	10	239	195	176	40	○					
	30											1588SL30C-0840	10	330	285	265	40	○					
8.5	12											Intern	Zylinder-schaft	1588SL12C-0850	10	162	120	108	40	●			
	15													1588SL15C-0850	10	194	150	138	40	●			
	20													1588SL20C-0850	10	239	195	176	40	●			
	30													1588SL30C-0850	10	330	285	265	40	○			
8.6	12													Intern	Zylinder-schaft	1588SL12C-0860	10	162	120	108	40	●	
	15															1588SL15C-0860	10	204	160	148	40	●	
	20															1588SL20C-0860	10	249	205	186	40	○	
	30															1588SL30C-0860	10	340	295	275	40	○	
8.7	12	Intern	Zylinder-schaft													1588SL12C-0870	10	162	120	108	40	●	
	15															1588SL15C-0870	10	204	160	148	40	●	
	20															1588SL20C-0870	10	249	205	186	40	○	
	30															1588SL30C-0870	10	340	295	275	40	○	
8.8	12			Intern	Zylinder-schaft											1588SL12C-0880	10	162	120	108	40	●	
	15															1588SL15C-0880	10	204	160	148	40	●	
	20															1588SL20C-0880	10	249	205	186	40	○	
	30															1588SL30C-0880	10	340	295	275	40	○	
8.9	12					Intern	Zylinder-schaft									1588SL12C-0890	10	162	120	108	40	●	
	15															1588SL15C-0890	10	204	160	148	40	○	
	20															1588SL20C-0890	10	249	205	186	40	○	
	30															1588SL30C-0890	10	340	295	275	40	○	



Solid Carbide drills
Vollhartmetallbohrer

Material Overview · Material Übersicht

✓ = Very suitable · Sehr empfohlen
 ✓ = Suitable · Empfohlen

Grade Sorte	Workpiece material · Werkstückstoff										
	Carbon steel Kohlenstoff- Stahl HB≤180	Alloy steel Legierter Stahl	Hardened steel · Gehärteter Stahl			Stainless steel Rostfreier Stahl	Cast iron Gusseisen	Nodular cast iron GGG Kugelgra- phitguss	Aluminum alloy Aluleg.	Copper alloy Kupferleg.	Heat resist. alloy Warmfeste Leg.
			~40HRC	~50HRC	~60HRC						
KDG303	✓	✓	✓			✓	✓	✓	✓	✓	

Code key **C 10**
ISO Kennzeichen

Cutting data **96-109**
Schnittdaten

Technical Information **C110-116**
Technische Information

Non-standard tailor made **C 117-121**
Bestellformular für Sonderwerkzeuge

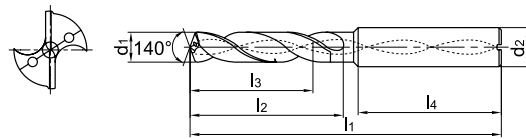
Drilling · Bohren

Solid Carbide drills · Vollhartmetallbohrer

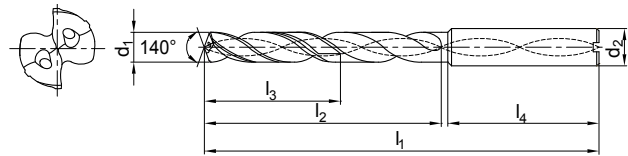
SL series · SL Serie

General machining · Allgemeine Bearbeitung
(Deep drill · Tiefbohrer)

1588SL12C / 1588SL15C



1588SL20C / 1588SL30C



Drilling diameter Bohrerdurchmesser d1 12/15D(m7) 20/30D(h7)	Drilling depth Bohrtiefe l/d1	Cooling mode Kühlmittel	Shank Schaft	Type Typ	Basic dimension(mm) · Basis Abmessungen					Grade Sorte				
					d2(h5)	l1	l2	l3	l4	KDG303				
9.0	12	Internal	Straight shank Zylinder-schaft	1588SL12C-0900	10	146	108	96	40	●				
	15			1588SL15C-0900	10	204	160	148	40	●				
	20			1588SL20C-0900	10	223	183	165	40	●				
	30			1588SL30C-0900	10	305	265	246	40	○				
9.1	12			Intern	Zylinder-schaft	1588SL12C-0910	10	174	132	120	40	○		
	15					1588SL15C-0910	10	216	172	160	40	○		
	20					1588SL20C-0910	10	262	218	196	36	○		
	30					1588SL30C-0910	10	360	315	292	40	○		
9.2	12					Internal	Straight shank Zylinder-schaft	1588SL12C-0920	10	174	132	120	40	●
	15							1588SL15C-0920	10	216	172	160	40	●
	20							1588SL20C-0920	10	262	218	196	36	○
	30							1588SL30C-0920	10	360	315	292	40	○
9.3	12	Intern	Zylinder-schaft					1588SL12C-0930	10	174	132	120	40	●
	15							1588SL15C-0930	10	216	172	160	40	○
	20							1588SL20C-0930	10	262	218	196	36	○
	30							1588SL30C-0930	10	360	315	292	40	○
9.4	12			Internal	Straight shank Zylinder-schaft			1588SL12C-0940	10	174	132	120	40	○
	15							1588SL15C-0940	10	216	172	160	40	○
	20							1588SL20C-0940	10	262	218	196	36	○
	30							1588SL30C-0940	10	360	315	292	40	○
9.5	12					Intern	Zylinder-schaft	1588SL12C-0950	10	174	132	120	40	●
	15							1588SL15C-0950	10	216	172	160	40	●
	20							1588SL20C-0950	10	262	218	196	36	○
	30							1588SL30C-0950	10	360	315	292	40	○
9.6	12	Internal	Straight shank Zylinder-schaft					1588SL12C-0960	10	174	132	120	40	○
	15							1588SL15C-0960	10	226	182	170	40	○
	20							1588SL20C-0960	10	272	228	206	40	○
	30							1588SL30C-0960	10	372	328	305	40	○
9.7	12			Intern	Zylinder-schaft			1588SL12C-0970	10	174	132	120	40	○
	15							1588SL15C-0970	10	226	182	170	40	○
	20							1588SL20C-0970	10	272	228	206	40	○
	30							1588SL30C-0970	10	372	328	305	40	○
9.8	12					Internal	Straight shank Zylinder-schaft	1588SL12C-0980	10	174	132	120	40	○
	15							1588SL15C-0980	10	226	182	170	40	○
	20							1588SL20C-0980	10	272	228	206	40	○
	30							1588SL30C-0980	10	372	328	305	40	○
9.9	12	Intern	Zylinder-schaft					1588SL12C-0990	10	174	132	120	40	○
	15							1588SL15C-0990	10	226	182	170	40	○
	20							1588SL20C-0990	10	272	228	206	40	○
	30							1588SL30C-0990	10	372	328	305	40	○

Drilling - Bohren

Solid Carbide drills - Vollhartmetallbohrer

Drilling diameter Bohrerdurchmesser d1 12/15D(m7) 20/30D(h7)	Drilling depth Bohrtiefe l/d1	Cooling mode Kühlmittel.	Shank Schaft	Type Typ	Basic dimension(mm) · Basis Abmessungen					Grade Sorte								
					d2(h5)	l1	l2	l3	l4									
										KDG303								
10.0	12	Internal	Straight shank	1588SL12C-1000	10	174	132	120	40	•								
	15			1588SL15C-1000	10	226	182	170	40	•								
	20			1588SL20C-1000	10	272	228	206	40	•								
30	1588SL30C-1000			10	372	328	305	40	•									
10.1	12			Intern	Zylinder-schaft	1588SL12C-1010	12	204	156	144	45	•						
	15					1588SL15C-1010	12	240	190	178	45	•						
	20					1588SL20C-1010	12	292	242	220	45	○						
10.2	12					Intern	Zylinder-schaft	1588SL12C-1020	12	204	156	144	45	•				
	15							1588SL15C-1020	12	240	190	178	45	•				
	20							1588SL20C-1020	12	292	242	220	45	○				
10.3	12							Intern	Zylinder-schaft	1588SL12C-1030	12	204	156	144	45	•		
	15									1588SL15C-1030	12	240	190	178	45	○		
	20									1588SL20C-1030	12	292	242	220	45	○		
10.4	12									Intern	Zylinder-schaft	1588SL12C-1040	12	204	156	144	45	•
	15											1588SL15C-1040	12	240	190	178	45	○
	20	1588SL20C-1040	12									292	242	220	45	○		
10.5	12	Intern	Zylinder-schaft									1588SL12C-1050	12	204	156	144	45	•
	15											1588SL15C-1050	12	240	190	178	45	•
	20											1588SL20C-1050	12	292	242	220	45	○
10.6	12			Intern	Zylinder-schaft							1588SL12C-1060	12	204	156	144	45	○
	15											1588SL15C-1060	12	248	198	186	45	○
	20											1588SL20C-1060	12	300	250	220	45	○
10.7	12					Intern	Zylinder-schaft					1588SL12C-1070	12	204	156	144	45	○
	15											1588SL15C-1070	12	248	198	186	45	○
	20											1588SL20C-1070	12	300	250	220	45	○
10.8	12							Intern	Zylinder-schaft			1588SL12C-1080	12	204	156	144	45	○
	15											1588SL15C-1080	12	248	198	186	45	○
	20											1588SL20C-1080	12	300	250	220	45	○
10.9	12									Intern	Zylinder-schaft	1588SL12C-1090	12	204	156	144	45	○
	15											1588SL15C-1090	12	248	198	186	45	○
	20											1588SL20C-1090	12	300	250	220	45	○
11.0	12	Intern	Zylinder-schaft									1588SL12C-1100	12	204	156	144	45	•
	15											1588SL15C-1100	12	248	198	186	45	•
	20											1588SL20C-1100	12	300	250	220	45	○
11.1	12			Intern	Zylinder-schaft							1588SL12C-1110	12	204	156	144	45	○
	15											1588SL15C-1110	12	262	212	200	45	○
	20											1588SL20C-1110	12	315	265	240	45	○
11.2	12					Intern	Zylinder-schaft					1588SL12C-1120	12	204	156	144	45	•
	15											1588SL15C-1120	12	262	212	200	45	○
	20											1588SL20C-1120	12	315	265	240	45	○
11.3	12							Intern	Zylinder-schaft			1588SL12C-1130	12	204	156	144	45	○
	15											1588SL15C-1130	12	262	212	200	45	○
	20											1588SL20C-1130	12	315	265	240	45	○
11.4	12									Intern	Zylinder-schaft	1588SL12C-1140	12	204	156	144	45	○
	15											1588SL15C-1140	12	262	212	200	45	○
	20											1588SL20C-1140	12	315	265	240	45	○
11.5	12	Intern	Zylinder-schaft									1588SL12C-1150	12	204	156	144	45	•
	15											1588SL15C-1150	12	262	212	200	45	•
	20											1588SL20C-1150	12	315	265	240	45	○

Material Overview · Material Übersicht

✓ = Very suitable · Sehr empfohlen
 ✓ = Suitable · Empfohlen

Grade Sorte	Workpiece material · Werkstückstoff										
	Carbon steel Kohlenstoff- Stahl HB≤180	Alloy steel Legierter Stahl	Hardened steel · Gehärteter Stahl			Stainless steel Rostfreier Stahl	Cast iron Gusseisen	Nodular cast iron GGG Kugelgra- phitguss	Aluminum alloy Aluleg.	Copper alloy Kupferleg.	Heat resist. alloy Warmfeste Leg.
			~40HRC	~50HRC	~60HRC						
KDG303	✓	✓	✓			✓	✓	✓	✓	✓	

Code key C 10
ISO Kennzeichen

Cutting data 96-109
Schnittdaten

Technical Information C110-116
Technische Information

Non-standard tailor made C 117-121
Bestellformular für Sonderwerkzeuge



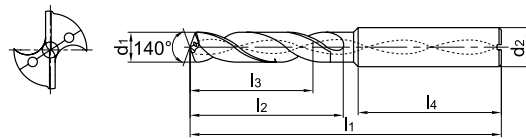
Drilling · Bohren

Solid Carbide drills · Vollhartmetallbohrer

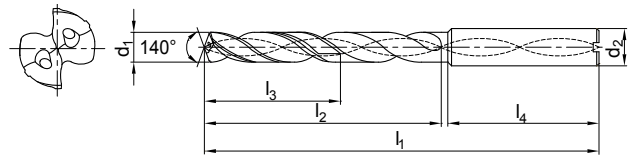
SL series · SL Serie

General machining · Allgemeine Bearbeitung
(Deep drill · Tiefbohrer)

1588SL12C / 1588SL15C



1588SL20C / 1588SL30C



Drilling diameter Bohrerdurchmesser d1 12/15D(m7) 20/30D(h7)	Drilling depth Bohrtiefe (l/d1)	Cooling mode Kühlmittel	Shank Schaft	Type Typ	Basic dimension(mm) · Basis Abmessungen					Grade Sorte
					d2(h5)	l1	l2	l3	l4	KDG303
11.6	12	Internal	Straight shank Zylinderschaft	1588SL12C-1160	10	204	156	144	45	○
	15			1588SL15C-1160	12	272	222	210	45	○
	20			1588SL20C-1160	10	325	275	250	45	○
11.7	12			1588SL12C-1170	10	204	156	144	45	●
	15			1588SL15C-1170	12	272	222	210	45	●
	20			1588SL20C-1170	10	325	275	250	45	○
11.8	12			1588SL12C-1180	10	204	156	144	45	●
	15			1588SL15C-1180	12	272	222	210	45	●
	20			1588SL20C-1180	10	325	275	250	45	○
11.9	12			1588SL12C-1190	10	204	156	144	45	○
	15			1588SL15C-1190	12	272	222	210	45	○
	20			1588SL20C-1190	10	325	275	250	45	○
12.0	12			1588SL12C-1200	12	204	156	144	45	●
	15			1588SL15C-1200	12	272	222	210	45	●
	20			1588SL20C-1200	12	325	275	250	45	○
12.5	12			1588SL12C-1250	14	230	182	168	45	●
	20			1588SL20C-1250	14	325	275	250	45	○
12.7	12			1588SL12C-1270	14	230	182	168	45	○
	12			1588SL20C-1280	14	230	182	168	45	○
13.0	12			1588SL12C-1300	14	230	182	168	45	●
	20			1588SL20C-1300	14	338	290	265	45	○
13.5	12			1588SL12C-1350	14	230	182	168	45	●
	20			1588SL20C-1350	14	338	290	265	45	○
14.0	12			1588SL12C-1400	14	230	182	168	45	●
	20			1588SL20C-1400	14	367	318	290	45	○
14.5	12			1588SL12C-1450	16	260	208	194	48	●
15.0	12			1588SL12C-1500	16	260	208	194	48	●
15.5	12			1588SL12C-1550	16	260	208	194	48	●
16.0	12			1588SL12C-1600	16	260	208	194	48	●
16.5	12			1588SL12C-1650	18	286	234	218	48	●
17.0	12	1588SL12C-1700	18	286	234	218	48	●		
17.5	12	1588SL12C-1750	18	286	234	218	48	○		
18.0	12	1588SL12C-1800	18	286	234	218	48	●		
18.5	12	1588SL12C-1850	20	310	258	240	48	○		
19.0	12	1588SL12C-1900	20	310	258	240	48	○		
19.5	12	1588SL12C-1950	20	310	258	240	48	○		
20.0	12	1588SL12C-2000	20	310	258	240	48	●		
20.5	12	1588SL12C-2050	22	310	258	240	48	○		
21.0	12	1588SL12C-2100	22	310	258	240	48	○		



Solid Carbide drills
Vollhartmetallbohrer

Drilling · Bohren

Recommended cutting data · Schnittdatenempfehlung

SL series twist deep drills · SL Spiraltiefbohrer Serie (Internal coolant · Interne Kühlung) 12D 15D

Workpiece material Werkstückstoff	Mild steel Baustahl HB≤180		Carbon steel, alloy steel Kohlenstoffstahl Leg. Stahl ~30HRC		Pre-hardened steel Vergüteter Stahl ~40HRC		Stainless steel Rostfreier Stahl		Cast iron Gusseisen		Nodular cast iron GGG Kugelgraphitguss		Aluminum alloy Alulegierungen		Heat resistant alloy Warmfeste Legierungen	
	Vc	60~120m/min	60~120m/min		50~80 m/min		40~60 m/min		80~150 m/min		60~120 m/min		100~180 m/min		10~20 m/min	
Ø (mm)	n (min ⁻¹)	f (mm/r)	n (min ⁻¹)	f (mm/r)	n (min ⁻¹)	f (mm/r)	n (min ⁻¹)	f (mm/r)	n (min ⁻¹)	f (mm/r)	n (min ⁻¹)	f (mm/r)	n (min ⁻¹)	f (mm/r)	n (min ⁻¹)	f (mm/r)
3	10600	0.06~0.1	10600	0.06~0.1	7400	0.06~0.1	5300	0.03~0.07	12700	0.06~0.1	9500	0.06~0.1	15000	0.09~0.12	2100	0.03~0.06
4	8000	0.08~0.12	8000	0.08~0.12	5600	0.08~0.12	4000	0.04~0.08	96000	0.08~0.12	7000	0.08~0.12	11000	0.10~0.15	1600	0.04~0.07
5	6400	0.10~0.14	6400	0.10~0.14	4500	0.10~0.14	3200	0.05~0.10	7600	0.10~0.14	5700	0.10~0.14	9000	0.10~0.15	1250	0.05~0.9
6	5300	0.11~0.16	5300	0.11~0.16	3700	0.11~0.16	2700	0.06~0.12	6400	0.11~0.16	4700	0.11~0.16	7400	0.11~0.16	1050	0.06~0.11
8	4000	0.13~0.19	4000	0.13~0.19	2800	0.13~0.19	2000	0.08~0.16	4800	0.13~0.19	3600	0.13~0.19	5600	0.13~0.19	800	0.08~0.14
10	3200	0.14~0.22	3200	0.14~0.22	2200	0.14~0.22	1600	0.10~0.18	3800	0.14~0.22	2800	0.14~0.22	4500	0.14~0.22	600	0.10~0.16
12	2700	0.16~0.24	2700	0.16~0.24	1900	0.16~0.24	1300	0.12~0.20	3200	0.16~0.24	2400	0.16~0.24	3700	0.16~0.24	500	0.12~0.18
14	2300	0.18~0.28	2300	0.18~0.28	1600	0.18~0.28	1100	0.13~0.22	2700	0.18~0.28	2100	0.18~0.28	3200	0.18~0.28	450	0.13~0.20
16	2100	0.20~0.30	2100	0.20~0.30	1400	0.20~0.30	1050	0.14~0.25	2100	0.20~0.30	1800	0.20~0.30	2800	0.25~0.36	400	0.14~0.23
18	1800	0.22~0.32	1800	0.22~0.32	1200	0.22~0.32	950	0.15~0.28	1800	0.22~0.32	1600	0.22~0.32	2500	0.28~0.38	350	0.15~0.25
20	1600	0.25~0.35	1600	0.25~0.35	1100	0.25~0.35	800	0.16~0.30	1600	0.25~0.35	1400	0.25~0.35	2300	0.30~0.40	320	0.16~0.28

SL series twist deep drills · SL Spiraltiefbohrer Serie (Internal coolant · Interne Kühlung) 20D 30D

Workpiece material Werkstückstoff	Mild steel Baustahl HB≤180		Carbon steel, alloy steel Kohlenstoffstahl Leg. Stahl ~30HRC		Pre-hardened steel Vergüteter Stahl ~40HRC		Stainless steel Rostfreier Stahl		Cast iron Gusseisen		Nodular cast iron GGG Kugelgraphitguss		Aluminum alloy Alu. Legierungen		Heat resistant alloy Warmfeste Legierungen	
	Vc	70~90 m/min	50~80 m/min		40~60 m/min		40~60 m/min		50~80 m/min		60~80 m/min		100~180 m/min		8~15 m/min	
Ø (mm)	n (min ⁻¹)	f (mm/r)	n (min ⁻¹)	f (mm/r)	n (min ⁻¹)	f (mm/r)	n (min ⁻¹)	f (mm/r)	n (min ⁻¹)	f (mm/r)	n (min ⁻¹)	f (mm/r)	n (min ⁻¹)	f (mm/r)	n (min ⁻¹)	f (mm/r)
3	8250	0.06~0.1	7650	0.06~0.1	5200	0.06~0.1	4750	0.03~0.07	7100	0.06~0.1	7600	0.06~0.1	12750	0.09~0.12	1350	0.03~0.06
4	6250	0.08~0.12	5750	0.08~0.12	3900	0.08~0.12	3600	0.04~0.08	5400	0.08~0.12	5600	0.08~0.12	9350	0.10~0.15	1050	0.04~0.07
5	5000	0.10~0.14	4600	0.10~0.14	3150	0.10~0.14	2900	0.05~0.10	4250	0.10~0.14	4550	0.10~0.14	7650	0.10~0.15	800	0.05~0.9
6	4150	0.11~0.16	3800	0.11~0.16	2600	0.11~0.16	2450	0.06~0.12	3600	0.11~0.16	3750	0.11~0.16	6300	0.11~0.16	700	0.06~0.11
8	3100	0.13~0.19	2900	0.13~0.19	1950	0.13~0.19	1800	0.08~0.16	2700	0.13~0.19	2900	0.13~0.19	4750	0.13~0.19	500	0.08~0.14
10	2500	0.14~0.22	2300	0.14~0.22	1550	0.14~0.22	1450	0.10~0.18	2150	0.14~0.22	2250	0.14~0.22	3850	0.14~0.22	400	0.10~0.16
12	2100	0.16~0.24	1950	0.16~0.24	1350	0.16~0.24	1150	0.12~0.20	1800	0.16~0.24	1900	0.16~0.24	3150	0.16~0.24	350	0.12~0.18
14	1800	0.18~0.28	1650	0.18~0.28	1100	0.18~0.28	1000	0.13~0.22	1500	0.18~0.28	1700	0.18~0.28	2700	0.18~0.28	300	0.13~0.20

1. When the tool is used for the first time, please make a test cutting with 90% of cutting speed or 85% feed rate mentioned above. If the cutting conditions remain stable, gradually increase the cutting speed and feed rate.
2. The cutting conditions above are for drilling with emulsion.
3. Use a collet without any defect or dust. The radial run-out of drill must be under 0.02mm.
4. These conditions above are for cutting depth below 30xD.

1. Beim ersten Einsatz 90% der empfohlenen Schnittgeschwindigkeit oder 85% des Vorschubs wählen. Bei stabiler Bearbeitung die Schnittdaten entsprechend erhöhen.
2. Die obigen Schnittdatenempfehlungen basieren auf dem Einsatz von Emulsion.
3. Keine defekte Werkzeugaufnahme wählen. Die Rundlaufgenauigkeit muss unter 0,02mm liegen.
4. Die obigen Schnittdaten sind für Bohrungstiefen unter 30xD ausgelegt.