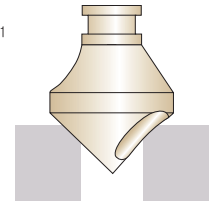
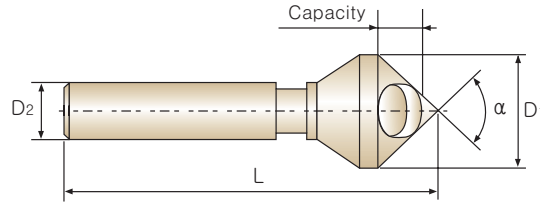
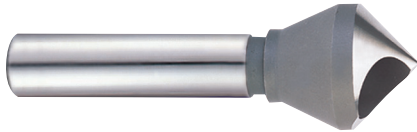


HSS & HSSCo8, DEBURRING TOOL with HOLE

- 🇩🇪 HSS, QUERLOCHSENKER
- 🇫🇷 FRAISE HSS À ÉBAVURER À TROU
- 🇮🇹 SVASATORI CON FORO - HSS

- ▶ For light metals and plastics.
- ▶ For deburring and small chamfers.
- ▶ Best surface finish.
- ▶ Works without vibrations.

- ▶ Für Leichtmetall und Plastik
- ▶ Zum Entgraten und Abfasen
- ▶ Bestes Oberflächenfinish
- ▶ Arbeitet ohne Vibration



Unit : mm

EDP No. (uncoating)		Point Angle	Cutter Diameter	Shank Diameter	Overall Length	Capacity
HSSCo8	HSS	α	D1	D2	L (± 1)	min/max
C1109100	C3109100	90°	10.0	6	45	2 - 5
C1109150	C3109150	90°	15.0	8	55	6 - 14
C1109200	C3109200	90°	20.0	10	65	8 - 18
C1109250	C3109250	90°	25.0	12	78	10 - 23
C1109300	C3109300	90°	30.0	12	88	12 - 28
C1109350	C3109350	90°	35.0	16	110	14 - 33
C1109400	C3109400	90°	40.0	16	115	16 - 38
C1109450	C3109450	90°	45.0	16	120	18 - 43
C1109500	C3109500	90°	50.0	16	130	20 - 48

▶ TiN & TiCN coating are available on your request.

Cutter Dia. Tolerance(mm)	Shank Dia. Tolerance(mm)	Point Angle Tolerance(°)
+0.3/-0	h9	+0/-1

◎ : Excellent ○ : Good

ISO	P										M				K						
Material Description	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron		
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc	13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25				
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommended	○	○	○	○	○							○	○	○	○	○	○	○	○	○	
ISO	N					S					H										
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron	
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	○	○	○	○	○	○	○	○													



RECOMMENDED CUTTING CONDITIONS
EMPFOHLENE SCHNEIDPARAMETER

C1109, C3109, C1119, C3119 SERIES

DEBURRING TOOL with HOLE
1 FLUTE CHAMFERING CUTTERS

RPM = rev./min.
FEED = mm/rev.

ISO	VDI 3323	Material Description	Vc (m/min)	Feed(mm/rev)						
				10.0	15.0	20.0	25.0	30.0	40.0	50.0
P	1	Non-alloy steel	40	0.10-0.12	0.12-0.15	0.15-0.18	0.18-0.21	0.21-0.24	0.24-0.27	0.27-0.30
	2		40	0.10-0.12	0.12-0.15	0.15-0.18	0.18-0.21	0.21-0.24	0.24-0.27	0.27-0.30
	3		25	0.08-0.10	0.10-0.12	0.12-0.15	0.15-0.18	0.18-0.21	0.21-0.24	0.24-0.27
	4		18	0.06-0.08	0.08-0.10	0.10-0.12	0.12-0.14	0.14-0.16	0.16-0.18	0.18-0.20
	5		18	0.06-0.08	0.08-0.10	0.10-0.12	0.12-0.14	0.14-0.16	0.16-0.18	0.18-0.20
	6	Low alloy steel								
	7									
	8									
	9									
	10		High alloyed steel, and tool steel							
	11									
M	12	Stainless steel	8	0.05-0.07	0.07-0.09	0.07-0.09	0.09-0.11	0.09-0.11	0.11-0.14	0.11-0.14
	13		7	0.05-0.07	0.07-0.09	0.07-0.09	0.09-0.11	0.09-0.11	0.11-0.14	0.11-0.14
	14		6	0.05-0.07	0.07-0.09	0.07-0.09	0.09-0.11	0.09-0.11	0.11-0.14	0.11-0.14
K	15	Grey cast iron	28	0.13-0.15	0.15-0.18	0.18-0.21	0.21-0.24	0.24-0.27	0.27-0.30	0.30-0.34
	16		24	0.12-0.14	0.14-0.17	0.17-0.20	0.20-0.23	0.23-0.26	0.26-0.29	0.29-0.33
	17	Nodular cast iron	24	0.13-0.15	0.15-0.18	0.18-0.21	0.21-0.24	0.24-0.27	0.27-0.30	0.30-0.34
	18		20	0.12-0.14	0.14-0.17	0.17-0.20	0.20-0.23	0.23-0.26	0.26-0.29	0.29-0.33
	19		24	0.13-0.15	0.15-0.18	0.18-0.21	0.21-0.24	0.24-0.27	0.27-0.30	0.30-0.34
	20	Malleable cast iron	20	0.12-0.14	0.14-0.17	0.17-0.20	0.20-0.23	0.23-0.26	0.26-0.29	0.29-0.33
N	21	Aluminum-wrought alloy	56	0.15-0.18	0.18-0.21	0.21-0.24	0.24-0.27	0.27-0.30	0.30-0.33	0.33-0.36
	22		56	0.15-0.18	0.18-0.21	0.21-0.24	0.24-0.27	0.27-0.30	0.30-0.33	0.33-0.36
	23	Aluminum-cast, alloyed	54	0.15-0.18	0.18-0.21	0.21-0.24	0.24-0.27	0.27-0.30	0.30-0.33	0.33-0.36
	24		52	0.15-0.18	0.18-0.21	0.21-0.24	0.24-0.27	0.27-0.30	0.30-0.33	0.33-0.36
	25		50	0.15-0.18	0.18-0.21	0.21-0.24	0.24-0.27	0.27-0.30	0.30-0.33	0.33-0.36
	26		Copper and Copper Alloys (Bronze / Brass)	38	0.16-0.19	0.19-0.22	0.22-0.25	0.25-0.28	0.28-0.31	0.31-0.34
	27	35		0.16-0.19	0.19-0.22	0.22-0.25	0.25-0.28	0.28-0.31	0.31-0.34	0.34-0.37
	28	25		0.15-0.18	0.18-0.21	0.21-0.24	0.24-0.27	0.27-0.30	0.30-0.33	0.33-0.36
	29	Non Metallic Materials								
	30									
S	31	Heat Resistant Super Alloys								
	32									
	33									
	34									
	35									
	36	Titanium Alloys								
	37									
H	38	Hardened steel								
	39									
	40	Chilled Cast Iron								
	41	Hardened Cast Iron								

SELECTION GUIDE



SERIES

C1109
C3109

C1119
C3119

STANDARD

-

-

POINT ANGLE

90°

90°

SIZE MIN

D10.0

D10.0

SIZE MAX

D50.0

D50.0

PAGE

434

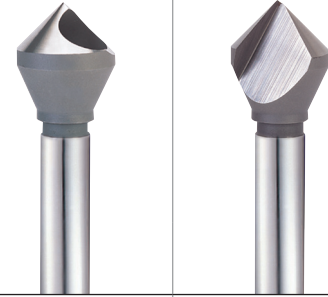
435

SURFACE TREATMENT

Bright

HSS & HSSCo8
COUNTERSINKS

For Deburring, Chamfering and Countersinking



Please visit
globalyg1.com/mat
for material search

◎ : Excellent ○ : Good

Recommended cutting conditions : P.439

ISO	VDI 3323	Material Description	Composition / Structure / Heat Treatment	HB	HRc		
P	1	Non-alloy steel	About 0.15% C Annealed	125		○	○
	2		About 0.45% C Annealed	190	13	○	○
	3		About 0.45% C Quenched & Tempered	250	25	○	○
	4		About 0.75% C Annealed	270	28	○	○
	5		About 0.75% C Quenched & Tempered	300	32	○	○
	6	Low alloy steel	Annealed	180	10		
	7		Quenched & Tempered	275	29		
	8		Quenched & Tempered	300	32		
	9		Quenched & Tempered	350	38		
	10		High alloyed steel, and tool steel	Annealed	200	15	
	11	Quenched & Tempered		325	35		
M	12	Stainless steel	Ferritic / Martensitic Annealed	200	15	○	○
	13		Martensitic Quenched & Tempered	240	23	○	○
	14	Austenitic	180	10	○	○	
K	15	Grey cast iron	Pearlitic / ferritic	180	10	○	○
	16		Pearlitic (Martensitic)	260	26	○	○
	17	Nodular cast iron	Ferritic	160	3	○	○
	18		Pearlitic	250	25	○	○
	19	Malleable cast iron	Ferritic	130		○	○
20	Pearlitic		230	21	○	○	
N	21	Aluminum-wrought alloy	Not Curable	60		○	○
	22		Curable Hardened	100		○	○
	23	Aluminum-cast, alloyed	≤ 12% Si, Not Curable	75		○	○
	24		≤ 12% Si, Curable Hardened	90		○	○
	25		> 12% Si, Not Curable	130		○	○
	26		Copper and Copper Alloys	Cutting Alloys, PB>1%	110		○
	27	(Bronze / Brass)	CuZn, CuSnZn (Brass)	90		○	○
	28		CuSn, lead-free copper and electrolytic copper	100		○	○
	29	Non Metallic Materials	Duroplastic, Fiber Reinforced Plastic				
	30		Rubber, Wood, etc.				
S	31	Heat Resistant Super Alloys	Fe Based Annealed	200	15		
	32		Cured	280	30		
	33		Annealed	250	25		
	34		Ni or Co Based Cured	350	38		
	35	Cast	320	34			
	36	Titanium Alloys	Pure Titanium	400 Rm			
	37		Alpha + Beta Alloys Hardened	1050 Rm			
H	38	Hardened steel	Hardened	550	55		
	39		Hardened	630	60		
	40	Chilled Cast Iron	Cast	400	42		
	41	Hardened Cast Iron	Hardened	550	55		