



STRAIGHT SHANK DRILLS

DL105 SERIES

HSS-E, STRAIGHT SHANK TWIST DRILLS

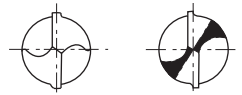
JOBBER

- 🇩🇪 HSS-E, SPIRALBOHRER mit ZYLINDERSCHAFT
- 🇫🇷 Forets HSS-E, queue cylindrique, Forme C, série courte
- 🇮🇹 PUNTE ELICOIDALI, GAMBO CILINDRICO, HSS - E

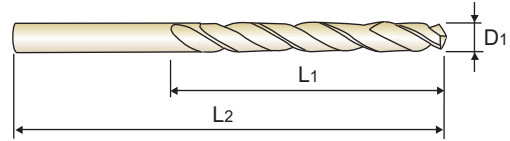
- KURZ**
- COURTE**
- CORTA**

► **Surface treatment** : Coloring(Gold color)
 ► **Application** : Drilling stainless steels and difficult - to - cut materials such as titanium and inconel.

► **Oberflächenbehandlung** : Coloring(Goldfarbe)
 ► **Verwendung** : Zum Bohren von rostfreien und austenitischen. Stählen, schwererspanbaren Werkstoffen wie Titan und Inconel.



under 1.6mm 1.6mm & over



DIN 338
HSS-E
33°
h8
135°
P.276-277

Unit : mm

EDP No.	Drill Diameter	Flute Length	Overall Length
	D1	L1	L2
DL105010	1.0	12	34
DL105011	1.1	14	36
DL105012	1.2	16	38
DL105912	1.25	16	38
DL105013	1.3	16	38
DL105014	1.4	18	40
DL105015	1.5	18	40
DL105016	1.6	20	43
DL105017	1.7	20	43
DL105917	1.75	22	46
DL105018	1.8	22	46
DL105019	1.9	22	46
DL105020	2.0	24	49
DL105021	2.1	24	49
DL105022	2.2	27	53
DL105922	2.25	27	53
DL105023	2.3	27	53
DL105024	2.4	30	57
DL105025	2.5	30	57
DL105026	2.6	30	57
DL105027	2.7	33	61
DL105927	2.75	33	61
DL105028	2.8	33	61
DL105029	2.9	33	61
DL105030	3.0	33	61
DL105031	3.1	36	65

EDP No.	Drill Diameter	Flute Length	Overall Length
	D1	L1	L2
DL105032	3.2	36	65
DL105932	3.25	36	65
DL105033	3.3	36	65
DL105034	3.4	39	70
DL105035	3.5	39	70
DL105036	3.6	39	70
DL105037	3.7	39	70
DL105937	3.75	39	70
DL105038	3.8	43	75
DL105039	3.9	43	75
DL105040	4.0	43	75
DL105041	4.1	43	75
DL105042	4.2	43	75
DL105942	4.25	43	75
DL105043	4.3	47	80
DL105044	4.4	47	80
DL105045	4.5	47	80
DL105046	4.6	47	80
DL105047	4.7	47	80
DL105947	4.75	47	80
DL105048	4.8	52	86
DL105049	4.9	52	86
DL105050	5.0	52	86
DL105051	5.1	52	86
DL105052	5.2	52	86
DL105952	5.25	52	86

► TiN(DN105), TiCN(DX105) and TiAlN(DT105) are available on your request.

► NEXT PAGE

◎ : Excellent ○ : Good

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

Y/G STRAIGHT SHANK DRILLS

DL105 SERIES

HSS-E, STRAIGHT SHANK TWIST DRILLS

JOBBER

- HSS-E, SPIRALBOHRER mit ZYLINDERSCHAFT
- Forets HSS-E, queue cylindrique, Forme C, série courte
- PUNTE ELICOIDALI, GAMBO CILINDRICO, HSS - E

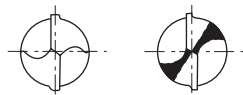
KURZ

COURTE

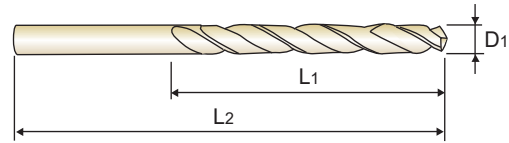
CORTA

► **Surface treatment** : Coloring(Gold color)
 ► **Application** : Drilling stainless steels and difficult - to - cut materials such as titanium and inconel.

► **Oberflächenbehandlung** : Coloring(Goldfarbe)
 ► **Verwendung** : Zum Bohren von rostfreien und austenitischen. Stählen, schwerzerspanbaren Werkstoffen wie Titan und Inconel.



under 1.6mm 1.6mm & over



DIN 338
HSS-E
33°
h8
135°
P.276-277

EDP No.	Drill Diameter	Flute Length	Overall Length
	D1	L1	L2
DL105053	5.3	52	86
DL105054	5.4	57	93
DL105055	5.5	57	93
DL105056	5.6	57	93
DL105057	5.7	57	93
DL105957	5.75	57	93
DL105058	5.8	57	93
DL105059	5.9	57	93
DL105060	6.0	57	93
DL105061	6.1	63	101
DL105062	6.2	63	101
DL105962	6.25	63	101
DL105063	6.3	63	101
DL105064	6.4	63	101
DL105065	6.5	63	101
DL105066	6.6	63	101
DL105067	6.7	63	101
DL105967	6.75	69	109
DL105068	6.8	69	109
DL105069	6.9	69	109
DL105070	7.0	69	109
DL105071	7.1	69	109
DL105072	7.2	69	109
DL105972	7.25	69	109
DL105073	7.3	69	109
DL105074	7.4	69	109

Unit : mm

EDP No.	Drill Diameter	Flute Length	Overall Length
	D1	L1	L2
DL105075	7.5	69	109
DL105076	7.6	75	117
DL105077	7.7	75	117
DL105977	7.75	75	117
DL105078	7.8	75	117
DL105079	7.9	75	117
DL105080	8.0	75	117
DL105081	8.1	75	117
DL105082	8.2	75	117
DL105982	8.25	75	117
DL105083	8.3	75	117
DL105084	8.4	75	117
DL105085	8.5	75	117
DL105086	8.6	81	125
DL105087	8.7	81	125
DL105987	8.75	81	125
DL105088	8.8	81	125
DL105089	8.9	81	125
DL105090	9.0	81	125
DL105091	9.1	81	125
DL105092	9.2	81	125
DL105992	9.25	81	125
DL105093	9.3	81	125
DL105094	9.4	81	125
DL105095	9.5	81	125
DL105096	9.6	87	133

► TiN(DN105), TiCN(DX105) and TiAlN(DT105) are available on your request.

► NEXT PAGE

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

◎ : Excellent ○ : Good



STRAIGHT SHANK DRILLS

DL105 SERIES

HSS-E, STRAIGHT SHANK TWIST DRILLS

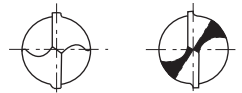
JOBBER

- 🇩🇪 HSS-E, SPIRALBOHRER mit ZYLINDERSCHAFT
- 🇫🇷 Forets HSS-E, queue cylindrique, Forme C, série courte
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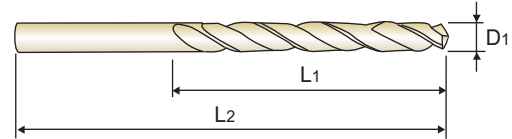
KURZ
COURTE
CORTA

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under 1.6mm 1.6mm & over



DIN 338
HSS-E
33°
h8
135°
P.276-277

EDP No.	Drill Diameter	Flute Length	Overall Length
	D1	L1	L2
DL105097	9.7	87	133
DL105997	9.75	87	133
DL105098	9.8	87	133
DL105099	9.9	87	133
DL105100	10.0	87	133
DL105102	10.2	87	133
DL105105	10.5	87	133
DL105110	11.0	94	142
DL105115	11.5	94	142
DL105120	12.0	101	151
DL105125	12.5	101	151
DL105130	13.0	101	151
DL105135	13.5	108	160

Unit : mm

EDP No.	Drill Diameter	Flute Length	Overall Length
	D1	L1	L2
DL105140	14.0	108	160
DL105145	14.5	114	169
DL105150	15.0	114	169
DL105155	15.5	120	178
DL105160	16.0	120	178
DL105165	16.5	125	184
DL105170	17.0	125	184
DL105175	17.5	130	191
DL105180	18.0	130	191
DL105185	18.5	135	198
DL105190	19.0	135	198
DL105195	19.5	140	205
DL105200	20.0	140	205

► TiN(DN105), TiCN(DX105) and TiAlN(DT105) are available on your request.

◎ : Excellent ○ : Good

ISO	P										M				K						
Material Description	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel	Stainless steel			Grey cast iron	Nodular cast iron		Malleable cast iron			
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc	13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21		
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
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	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
HB											15	30	25	38	34			55	60	42	55
Recommended	○	○	○						○							○					



STRAIGHT SHANK DRILLS

RECOMMENDED CUTTING CONDITIONS EMPFOHLENE SCHNEIDPARAMETER

D2107, D1107, D2105, DL105, D1105, D1125, D2104, D1121, DL109 SERIES

**HSS, HSS-E & HSSCo8
COBALT DRILLS**

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

ISO	VDI 3323	Material Description	Vc (m/min)	Parameter	Drill Diameter (mm)				
					2.0	3.0	4.0	6.0	8.0
P	1	Non-alloy steel	30	RPM FEED	4770 0.02~0.04	3180 0.03~0.05	2390 0.04~0.06	1590 0.05~0.08	1190 0.10~0.13
	2		25	RPM FEED	3980 0.02~0.04	2650 0.03~0.05	1990 0.04~0.06	1330 0.05~0.08	990 0.10~0.13
	3		20	RPM FEED	3180 0.02~0.04	2120 0.03~0.05	1590 0.04~0.06	1060 0.05~0.08	800 0.10~0.13
	4		20	RPM FEED	3180 0.01~0.02	2120 0.01~0.03	1590 0.02~0.04	1060 0.02~0.05	800 0.03~0.06
	5								
	6	Low alloy steel	25	RPM FEED	3980 0.02~0.04	2650 0.03~0.05	1990 0.04~0.06	1330 0.05~0.08	990 0.10~0.13
	7		20	RPM FEED	3180 0.02~0.04	2120 0.03~0.05	1590 0.04~0.06	1060 0.05~0.08	800 0.10~0.13
	8		20	RPM FEED	3180 0.01~0.02	2120 0.01~0.03	1590 0.02~0.04	1060 0.02~0.05	800 0.03~0.06
	9								
	10	High alloyed steel, and tool steel	15	RPM FEED	2390 0.02~0.04	1590 0.03~0.05	1190 0.04~0.06	800 0.05~0.08	600 0.10~0.13
	11								
M	12	Stainless steel	20	RPM FEED	3180 0.02~0.04	2120 0.03~0.05	1590 0.04~0.06	1060 0.05~0.08	800 0.10~0.13
	13		15	RPM FEED	2390 0.02~0.04	1590 0.03~0.05	1190 0.04~0.06	800 0.05~0.08	600 0.10~0.13
	14		10	RPM FEED	1590 0.01~0.02	1060 0.01~0.03	800 0.02~0.04	530 0.02~0.05	400 0.03~0.06
K	15	Grey cast iron	30	RPM FEED	4770 0.02~0.04	3180 0.03~0.05	2390 0.04~0.06	1590 0.05~0.08	1190 0.10~0.13
	16		25	RPM FEED	3980 0.01~0.02	2650 0.01~0.03	1990 0.02~0.04	1330 0.02~0.05	990 0.03~0.06
	17	Nodular cast iron	30	RPM FEED	4770 0.02~0.04	3180 0.03~0.05	2390 0.04~0.06	1590 0.05~0.08	1190 0.10~0.13
	18								
	19		Malleable cast iron	25	RPM FEED	3980 0.02~0.04	2650 0.03~0.05	1990 0.04~0.06	1330 0.05~0.08
20									
N	21	Aluminum-wrought alloy	55	RPM FEED	8750 0.03~0.06	5840 0.05~0.09	4380 0.07~0.11	2920 0.12~0.16	2190 0.12~0.18
	22		55	RPM FEED	8750 0.03~0.06	5840 0.05~0.09	4380 0.07~0.11	2920 0.12~0.16	2190 0.12~0.18
	23	Aluminum-cast, alloyed	40	RPM FEED	6370 0.03~0.06	4240 0.05~0.09	3180 0.07~0.11	2120 0.12~0.16	1590 0.12~0.18
	24								
	25								
	26	Copper and Copper Alloys (Bronze / Brass)							
	27								
28									
29	Non Metallic Materials	20	RPM FEED	3180 0.02~0.04	2120 0.03~0.05	1590 0.04~0.06	1060 0.05~0.08	800 0.10~0.13	
30									
S	31	Heat Resistant Super Alloys							
	32								
	33								
	34								
	35	Titanium Alloys	10	RPM FEED	1590 0.01~0.03	1060 0.02~0.04	800 0.03~0.05	530 0.04~0.07	400 0.05~0.08
36									
37									
H	38	Hardened steel							
	39								
40	Chilled Cast Iron								
41	Hardened Cast Iron								

SELECTION GUIDE



SERIES

	D2107	D1107	D2105
STANDARD	DIN1897	DIN1897	DIN338
LENGTH	STUB	STUB	JOBBER
SIZE MIN	D1.0	D1.0	D1.0
SIZE MAX	D31.0	D13.0	D20.0
PAGE	234	238	241
SURFACE TREATMENT	Gold Coloring	Steam Tempered	Gold Coloring

HSS, HSS-E & HSSCo8 STRAIGHT SHANK DRILLS

For General Purpose (Soft & Tough Materials)



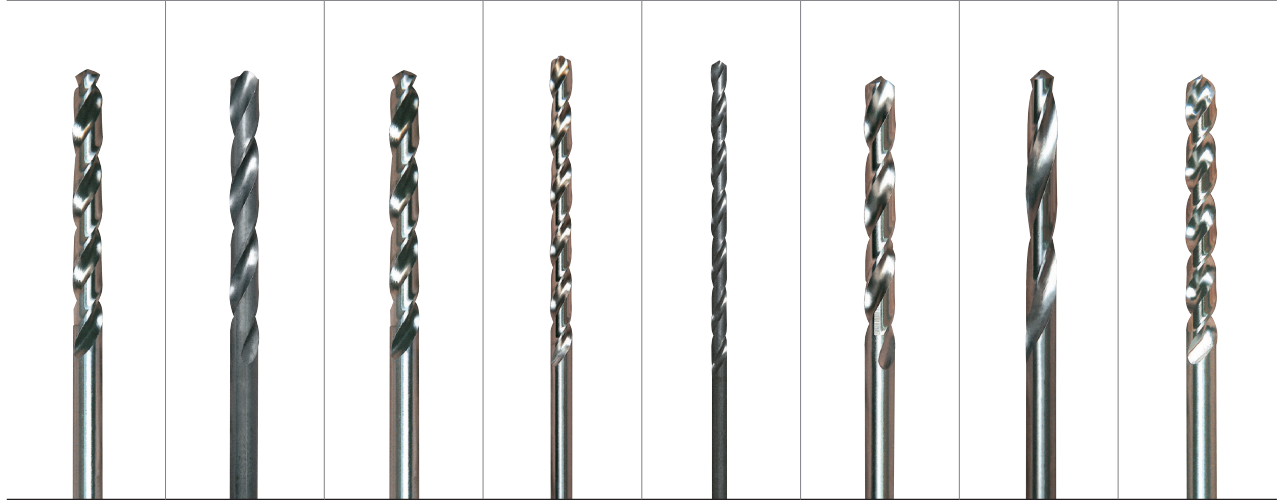
Please visit
globalyg1.com/mat
for material search

◎ : Excellent ○ : Good

Recommended cutting conditions : P.276

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		Ferritic	130		○	○	○
20	Malleable cast iron	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 (Bronze / Brass)	Cutting Alloys, PB>1%	110				
	27		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			

DL105	D1105	D1125	D2104	D1121	DL109	D1100	D1106
DIN338	DIN338	DIN338	DIN340	DIN1869/1	DIN338	DIN338	DIN338
JOBBER	JOBBER	JOBBER	LONG	EXTRA LONG	JOBBER	JOBBER	JOBBER
D1.0	D0.3	D2.0	D2.0	D2.0	D1.5	D1.5	D1.5
D20.0	D20.0	D20.0	D12.0	D13.0	D13.0	D13.0	D13.0
244	247	252	255	257	258	259	261
Gold Coloring	Steam Tempered	Bright	Gold Coloring	Steam Tempered	Bright		



◎	◎	◎	◎	◎	◎		1
◎	◎	◎	◎	◎	◎		2
◎	◎	◎	◎	◎	◎		3
○	○	○	○	○	○		4
◎	◎	◎	◎	◎	◎		5
○	○	○	○	○	○		6
○	○	○	○	○	○		7
○	○	○	○	○	○		8
○	○	○	○	○	○		9
○	○	○	○	○	○		10
○	○	○	○	○	○		11
◎	○	○	◎	○	◎		12
○	○	○	○	○	○		13
○	○	○	○	○	○		14
○	○	○	○	○	○		15
○	○	○	○	○	○		16
○	○	○	○	○	○		17
○	○	○	○	○	○		18
○	○	○	○	○	○		19
○	○	○	○	○	○		20
○	○	○	○	○	○		21
○	○	○	○	○	○		22
○	○	○	○	○	○		23
						◎	24
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