

# Y/G STRAIGHT SHANK DRILLS

## DL105 SERIES

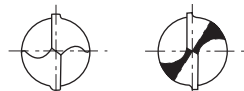
### HSS-E, STRAIGHT SHANK TWIST DRILLS HSS-E, SPIRALBOHRER mit ZYLINDERSCHAFT

JOBBER

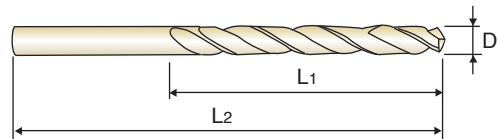
KURZ

► **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
N 33°
h8
135°
P.215

Unit : mm

EDP No.	Drill Diameter	Flute Length	Overall Length	EDP No.	Drill Diameter	Flute Length	Overall Length
	D1	L1	L2		D1	L1	L2
DL105010	1.0	12	34	DL105031	3.1	36	65
DL105011	1.1	14	36	DL105032	3.2	36	65
DL105012	1.2	16	38	DL105932	3.25	36	65
DL105912	1.25	16	38	DL105033	3.3	36	65
DL105013	1.3	16	38	DL105034	3.4	39	70
DL105014	1.4	18	40	DL105035	3.5	39	70
DL105015	1.5	18	40	DL105036	3.6	39	70
DL105016	1.6	20	43	DL105037	3.7	39	70
DL105017	1.7	20	43	DL105937	3.75	39	70
DL105917	1.75	22	46	DL105038	3.8	43	75
DL105018	1.8	22	46	DL105039	3.9	43	75
DL105019	1.9	22	46	DL105040	4.0	43	75
DL105020	2.0	24	49	DL105041	4.1	43	75
DL105021	2.1	24	49	DL105042	4.2	43	75
DL105022	2.2	27	53	DL105942	4.25	43	75
DL105922	2.25	27	53	DL105043	4.3	47	80
DL105023	2.3	27	53	DL105044	4.4	47	80
DL105024	2.4	30	57	DL105045	4.5	47	80
DL105025	2.5	30	57	DL105046	4.6	47	80
DL105026	2.6	30	57	DL105047	4.7	47	80
DL105027	2.7	33	61	DL105947	4.75	47	80
DL105927	2.75	33	61	DL105048	4.8	52	86
DL105028	2.8	33	61	DL105049	4.9	52	86
DL105029	2.9	33	61	DL105050	5.0	52	86
DL105030	3.0	33	61	DL105051	5.1	52	86

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

TECHNICAL DATA

Carbon Steels	Alloy Steels	Prehardened Steels	Hardened Steels		Cast Iron	Aluminum	Stainless Steels	Titanium	Mild Steels	Copper	Bronze	CFRP
~HB225	HB225~325	HRc30~45	HRc45~55	HRc55~								
◎	◎				○	○	◎	○	○			

◎ : Excellent ○ : Good



# STRAIGHT SHANK DRILLS

## DL105 SERIES

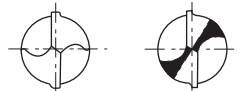
### HSS-E, STRAIGHT SHANK TWIST DRILLS HSS-E, SPIRALBOHRER mit ZYLINDERSCHAFT

**JOBBER**

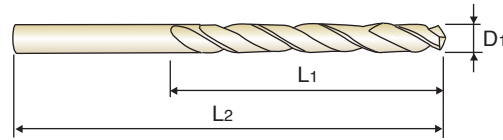
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	D1	L1	L2		D1	L1	L2
DL105052	5.2	52	86	DL105972	7.25	69	109
DL105952	5.25	52	86	DL105073	7.3	69	109
DL105053	5.3	52	86	DL105074	7.4	69	109
DL105054	5.4	57	93	DL105075	7.5	69	109
DL105055	5.5	57	93	DL105076	7.6	75	117
DL105056	5.6	57	93	DL105077	7.7	75	117
DL105057	5.7	57	93	DL105977	7.75	75	117
DL105957	5.75	57	93	DL105078	7.8	75	117
DL105058	5.8	57	93	DL105079	7.9	75	117
DL105059	5.9	57	93	DL105080	8.0	75	117
DL105060	6.0	57	93	DL105081	8.1	75	117
DL105061	6.1	63	101	DL105082	8.2	75	117
DL105062	6.2	63	101	DL105982	8.25	75	117
DL105962	6.25	63	101	DL105083	8.3	75	117
DL105063	6.3	63	101	DL105084	8.4	75	117
DL105064	6.4	63	101	DL105085	8.5	75	117
DL105065	6.5	63	101	DL105086	8.6	81	125
DL105066	6.6	63	101	DL105087	8.7	81	125
DL105067	6.7	63	101	DL105987	8.75	81	125
DL105967	6.75	69	109	DL105088	8.8	81	125
DL105068	6.8	69	109	DL105089	8.9	81	125
DL105069	6.9	69	109	DL105090	9.0	81	125
DL105070	7.0	69	109	DL105091	9.1	81	125
DL105071	7.1	69	109	DL105092	9.2	81	125
DL105072	7.2	69	109	DL105992	9.25	81	125

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◎	◎				○	○	◎	○	○			

CARBIDE

HSS

I-DREAM DRILLS

DREAM DRILLS -GENERAL

DREAM DRILLS -INOX

DREAM DRILLS -ALU

DREAM DRILLS -CFRP

DREAM DRILLS -MQL TYPE

DREAM DRILLS for HARDENED STEELS

GENERAL CARBIDE DRILLS

NC-SPOTTING DRILLS

CENTER DRILLS

MULTI-1 DRILLS

HPD DRILLS

GOLD-P DRILLS

STRAIGHT SHANK DRILLS

TAPER SHANK DRILLS

NC-SPOTTING DRILLS

CENTER DRILLS

SPADE DRILLS

TECHNICAL DATA



# STRAIGHT SHANK DRILLS

**DL105** SERIES

## HSS-E, STRAIGHT SHANK TWIST DRILLS

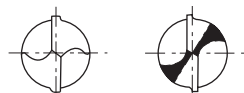
**JOBBER**

## HSS-E, SPIRALBOHRER mit ZYLINDERSCHAFT

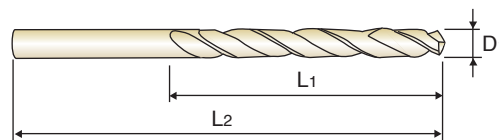
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	D1	L1	L2		D1	L1	L2
DL105093	9.3	81	125	DL105130	13.0	101	151
DL105094	9.4	81	125	DL105135	13.5	108	160
DL105095	9.5	81	125	DL105140	14.0	108	160
DL105096	9.6	87	133	DL105145	14.5	114	169
DL105097	9.7	87	133	DL105150	15.0	114	169
DL105997	9.75	87	133	DL105155	15.5	120	178
DL105098	9.8	87	133	DL105160	16.0	120	178
DL105099	9.9	87	133	DL105165	16.5	125	184
DL105100	10.0	87	133	DL105170	17.0	125	184
DL105102	10.2	87	133	DL105175	17.5	130	191
DL105105	10.5	87	133	DL105180	18.0	130	191
DL105110	11.0	94	142	DL105185	18.5	135	198
DL105115	11.5	94	142	DL105190	19.0	135	198
DL105120	12.0	101	151	DL105195	19.5	140	205
DL105125	12.5	101	151	DL105200	20.0	140	205

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

i-DREAM DRILLS

DREAM DRILLS -GENERAL

DREAM DRILLS -INOX

DREAM DRILLS -ALU

DREAM DRILLS -CFRP

DREAM DRILLS -MQL TYPE

DREAM DRILLS for HARDENED STEELS

GENERAL CARBIDE DRILLS

NC-SPOTTING DRILLS

CENTER DRILLS

MULTI-1 DRILLS

HPD DRILLS

GOLD-P DRILLS

STRAIGHT SHANK DRILLS

TAPER SHANK DRILLS

NC-SPOTTING DRILLS

CENTER DRILLS

SPADE DRILLS

TECHNICAL DATA

◎ : Excellent    ○ : Good

Carbon Steels	Alloy Steels	Prehardened Steels	Hardened Steels		Cast Iron	Aluminum	Stainless Steels	Titanium	Mild Steels	Copper	Bronze	CFRP
~HB225	HB225~325	HRc30~45	HRc45~55	HRc55~								
◎	◎				○	○	◎	○	○			



# STRAIGHT SHANK DRILLS

## RECOMMENDED CUTTING CONDITIONS EMPFOHLENE SCHNEIDKONDITIONEN

### HSS & HSS 8% COBALT DRILLS, DIN1897, DIN338, DIN340, DIN1869 HSS & HSSCo8 SPIRALBOHRER, DIN 1897, DIN 338, DIN 340, DIN 1869

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

WORK MATERIAL	CARBON STEELS		CARBON STEELS		CARBON STEELS		ALLOY STEELS		ALLOY STEELS		STAINLESS STEELS		TITANIUM ALLOYS	
	N	S	N	S	N	S	N	S	N	S	N	S	N	S
HARDNESS			~ HRc23		~ HRc23 ~ 28		HRc23 ~ 34		HRc34 ~ 38		HRc23			
STRENGTH	~ 570 N/mm <sup>2</sup>		~ 830 N/mm <sup>2</sup>		830 ~ 950 N/mm <sup>2</sup>		830 ~ 1110 N/mm <sup>2</sup>		1110 ~ 1260 N/mm <sup>2</sup>		830 N/mm <sup>2</sup>		410 N/mm <sup>2</sup>	
DRILLING SPEED	22 ~ 27 m/min		15 ~ 20 m/min		10 ~ 15 m/min		15 ~ 20 m/min		8 ~ 12 m/min		15 ~ 20 m/min		8 ~ 12 m/min	
DIAMETER	N	S	N	S	N	S	N	S	N	S	N	S	N	S
2.5	3380	0.025	2550	0.025	1900	0.015	2380	0.020	1400	0.015	2550	0.025	1400	0.020
3.0	2700	0.050	2000	0.050	1500	0.025	1880	0.050	1100	0.020	2000	0.050	1100	0.025
5.0	1700	0.063	1280	0.063	960	0.038	1190	0.063	700	0.025	1280	0.063	700	0.038
8.0	1050	0.130	780	0.130	590	0.076	730	0.130	430	0.038	780	0.130	430	0.076
11.0	750	0.150	560	0.150	425	0.076	520	0.180	310	0.050	560	0.150	430	0.076
19.0	440	0.230	330	0.230	255	0.130	300	0.230	180	0.050	330	0.230	180	0.130
31.0	260	0.280	195	0.280	145	0.180	180	0.280	107	0.076	195	0.280	107	0.180

WORK MATERIAL	TOOL STEELS		CAST IRON		ALUMINUM ALLOYS		MAGNESIUM ALLOYS		ZINC ALLOYS		PLASTICS	
	N	S	N	S	N	S	N	S	N	S	N	S
HARDNESS			~ HRc21									
STRENGTH	~ 270 N/mm <sup>2</sup>		~ 800 N/mm <sup>2</sup>									
DRILLING SPEED	20 ~ 25 m/min		15 ~ 20 m/min		45 ~ 50 m/min		55 ~ 65 m/min		40 ~ 50 m/min		20 ~ 25 m/min	
DIAMETER	N	S	N	S	N	S	N	S	N	S	N	S
2.5	3180	0.042	2250	0.025	6400	0.038	8600	0.038	6400	0.038	3380	0.025
3.0	2500	0.050	2000	0.050	5000	0.063	6800	0.063	5000	0.063	2700	0.050
5.0	1590	0.063	1280	0.063	3200	0.076	4300	0.076	3200	0.076	1700	0.063
8.0	970	0.130	780	0.130	2000	0.180	2600	0.180	2000	0.180	1050	0.130
11.0	700	0.180	560	0.150	1400	0.200	1900	0.200	1400	0.200	750	0.150
19.0	440	0.230	330	0.230	820	0.300	1100	0.300	820	0.300	440	0.230
31.0	240	0.300	195	0.280	490	0.380	660	0.380	490	0.380	260	0.280

N = R.P.M  
S = Feed per Revolution (mm/rev.)

### HSS-E, TWIST DRILLS for HEAVY DUTY, DIN338 HSS-E, SPIRALBOHRER für HOHELEISTUNGEN, DIN 338

#### DL109 SERIES

WORK MATERIAL	CARBON STEELS		CARBON STEELS		CARBON STEELS		ALLOY STEELS		ALLOY STEELS		STAINLESS STEELS		CAST IRON	
	N	S	N	S	N	S	N	S	N	S	N	S	N	S
HARDNESS			~ HRc23		~ HRc23 ~ 28		HRc23 ~ 34		HRc34 ~ 38		HRc23		HRc21	
STRENGTH	~ 570 N/mm <sup>2</sup>		~ 830 N/mm <sup>2</sup>		830 ~ 950 N/mm <sup>2</sup>		830 ~ 1110 N/mm <sup>2</sup>		1110 ~ 1260 N/mm <sup>2</sup>		830 N/mm <sup>2</sup>		800 N/mm <sup>2</sup>	
DRILLING SPEED	25 ~ 30 m/min		20 ~ 25 m/min		15 ~ 20 m/min		18 ~ 23 m/min		10 ~ 15 m/min		27 ~ 33 m/min		27 ~ 33 m/min	
DIAMETER	N	S	N	S	N	S	N	S	N	S	N	S	N	S
2.0	5000	0.03	3750	0.03	2850	0.02	3500	0.02	2070	0.02	5000	0.03	5000	0.03
3.0	3750	0.04	2810	0.04	2150	0.02	2625	0.04	1560	0.02	3750	0.04	3750	0.04
4.0	2500	0.06	1870	0.06	1450	0.03	1750	0.06	1050	0.02	2500	0.06	2500	0.06
5.0	2085	0.07	1560	0.07	1205	0.04	1460	0.07	870	0.03	2085	0.07	2085	0.07
6.0	1670	0.08	1250	0.08	960	0.05	1170	0.09	690	0.03	1670	0.08	1670	0.08
7.0	1460	0.10	1095	0.10	840	0.06	1025	0.11	605	0.03	1460	0.10	1460	0.10
8.0	1250	0.13	940	0.13	720	0.08	880	0.13	520	0.04	1250	0.13	1250	0.13
9.0	1125	0.14	845	0.14	645	0.08	790	0.15	465	0.04	1125	0.14	1125	0.14
10.0	1000	0.14	750	0.14	570	0.08	700	0.16	410	0.05	1000	0.14	1000	0.14
11.0	925	0.15	685	0.15	525	0.08	640	0.18	380	0.05	925	0.15	925	0.15
12.0	850	0.16	620	0.16	480	0.08	580	0.19	350	0.05	850	0.16	850	0.16
13.0	785	0.17	575	0.17	445	0.09	540	0.20	325	0.05	785	0.17	785	0.17

N = R.P.M  
S = Feed per Revolution (mm/rev.)