



# STRAIGHT SHANK DRILLS

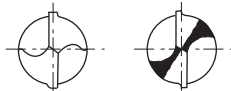
## DL105 SERIES

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

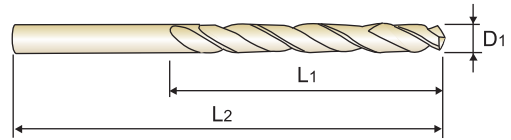
**JOBBER**  
**KURZ**

► **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.



up to 1.5mm    over 1.5mm



Unit : mm

EDP No.	Drill Diameter	Flute Length	Overall Length
	D <sub>1</sub>	L <sub>1</sub>	L <sub>2</sub>
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

EDP No.	Drill Diameter	Flute Length	Overall Length
	D <sub>1</sub>	L <sub>1</sub>	L <sub>2</sub>
DL105031	3.1	36	65
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

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

◎ : Excellent    ○ : Good

Carbon Steels	Alloy Steels	Prehardened Steels	Hardened Steels		Cast Iron	Aluminum	Stainless Steels	Titanium	Mild Steels	Copper	Bronze
~HB225	HB225~325	HRC30~45	HRC45~55	HRC55~							
◎	◎				○	○	◎	○	○		



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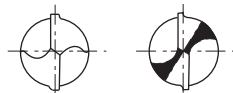
## DL105 SERIES

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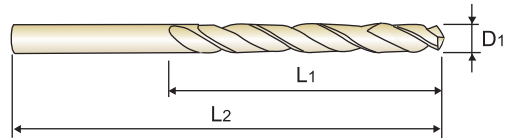
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EDP No.	Drill Diameter	Flute Length	Overall Length
	D1	L1	L2
DL105052	5.2	52	86
DL105952	5.25	52	86
DL105053	5.3	52	86
DL105054	5.4	57	93
DL105055	5.5	57	93
DL105056	5.6	57	93
DL105057	5.7	57	93
DL105957	5.75	57	93
DL105058	5.8	57	93
DL105059	5.9	57	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	63	101
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

EDP No.	Drill Diameter	Flute Length	Overall Length
	D1	L1	L2
DL105972	7.25	69	109
DL105073	7.3	69	109
DL105074	7.4	69	109
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

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~HB225	HB225~325	HRC30~45	HRC45~55	HRC55~							
◎	◎				○	○	◎	○	○		



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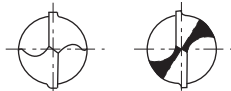
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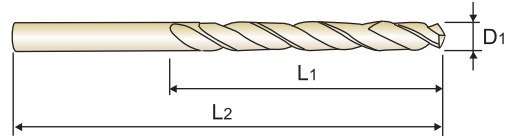
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EDP No.	Drill Diameter	Flute Length	Overall Length
	D1	L1	L2
DL105093	9.3	81	125
DL105094	9.4	81	125
DL105095	9.5	81	125
DL105096	9.6	87	133
DL105097	9.7	87	133
DL105997	9.75	87	133
DL105098	9.8	87	133
DL105099	9.9	87	133
DL105100	10.0	87	133
DL105102	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

EDP No.	Drill Diameter	Flute Length	Overall Length
	D1	L1	L2
DL105130	13.0	101	151
DL105135	13.5	108	160
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

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Carbon Steels	Alloy Steels	Prehardened Steels	Hardened Steels		Cast Iron	Aluminum	Stainless Steels	Titanium	Mild Steels	Copper	Bronze
~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

#### DL105 SERIES

Unit : mm

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>	
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	2700	0.050	2000	0.050	1500	0.025	1880	0.050	1100	0.020	2000	0.050	1100	0.025
5	1700	0.063	1280	0.063	960	0.038	1190	0.063	700	0.025	1280	0.063	700	0.038
8	1050	0.130	780	0.130	590	0.076	730	0.130	430	0.038	780	0.130	430	0.076
11	750	0.150	560	0.150	425	0.076	520	0.180	310	0.050	560	0.150	430	0.076
19	440	0.230	330	0.230	255	0.130	300	0.230	180	0.050	330	0.230	180	0.130
31	260	0.280	195	0.280	145	0.180	180	0.180	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>									
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	2500	0.050	2000	0.050	5000	0.063	6800	0.063	5000	0.063	2700	0.050
5	1590	0.063	1280	0.063	3200	0.076	4300	0.076	3200	0.076	1700	0.063
8	970	0.130	780	0.130	2000	0.180	2600	0.180	2000	0.180	1050	0.130
11	700	0.180	560	0.150	1400	0.200	1900	0.200	1400	0.200	750	0.150
19	440	0.230	330	0.230	820	0.300	1100	0.300	820	0.300	440	0.230
31	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.)