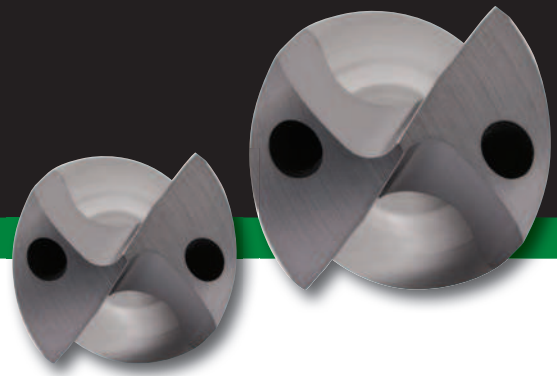


TOP DRILL S™

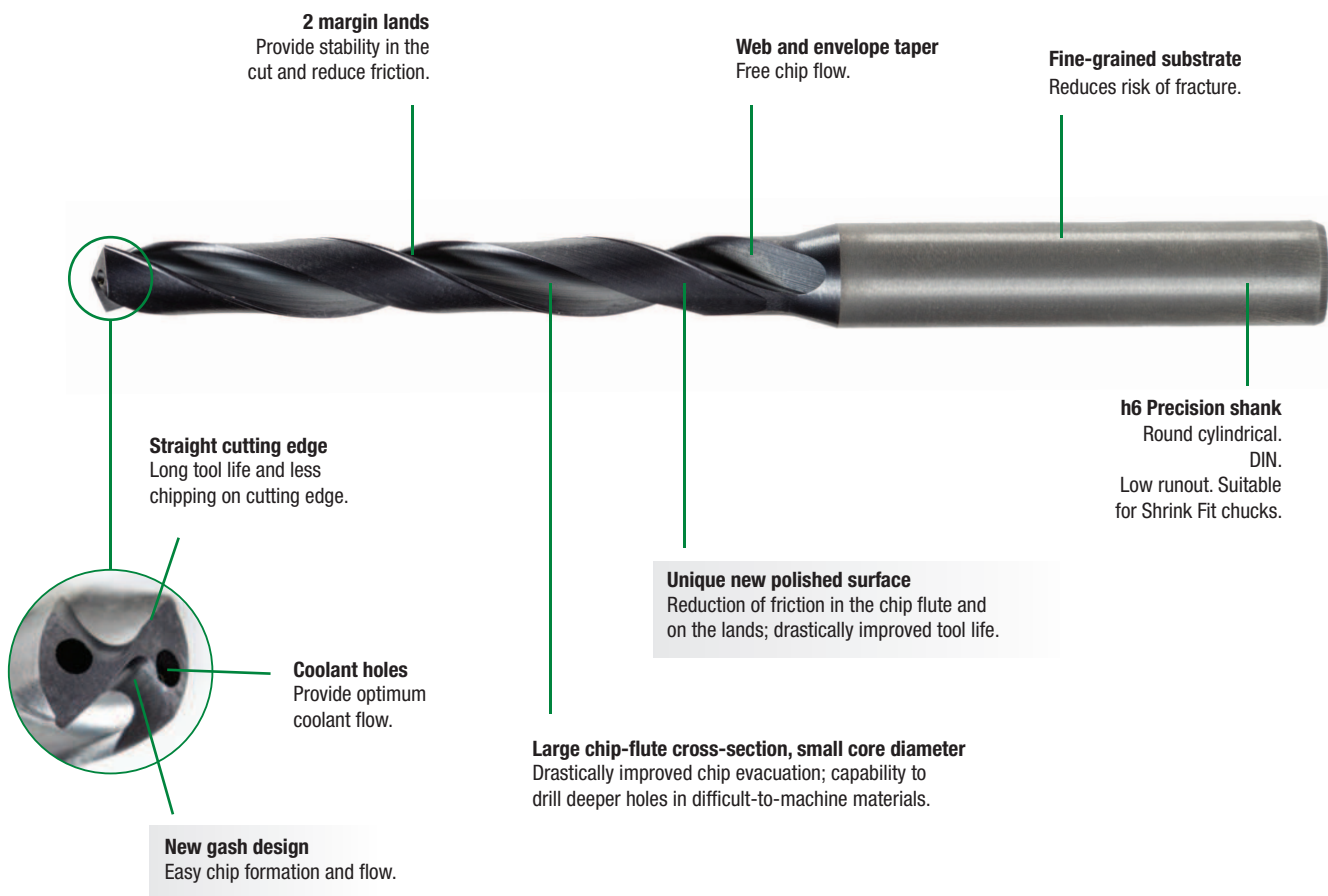
TDS45x for Stainless Steel



- Excellent centring ability.
- Increased wear resistance in heat-generating applications with tough materials.
- The average tool life improves dramatically 10–30%.
- The new technology improves chip evacuation, especially in deep holes and difficult cutting conditions.
- New gash design specifically for stainless steel, as well as difficult-to-machine materials:
 - Smooth chip transaction from cutting edge to flutes.
 - Less cutting forces and temperatures generated. New WM15PD coating with high-aluminium content and polished flutes.
- Two margin lands.
- Real 8 x D ratio
 - Increased length of cut.
- Complete portfolio from 3–20mm in 3 x D, 5 x D, and 8 x D ratios.

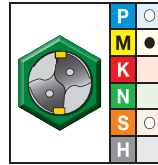
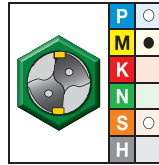
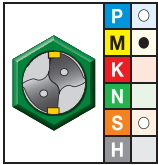
WM15PD Grade
A multilayer, AlTiN-based coating with high hot hardness enables high-speed drilling and MQL applications.

Patented TDS Point
Excellent centring. Highest feed and speeds. Force reduction.

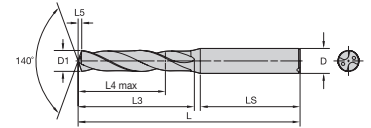


TOP DRILL S™ with Through Coolant • Stainless Steel

■ TDS451A • 3 x D / TDS452A • 5 x D / TDS453A • 8 x D



- first choice
- alternate choice



For information on L, L3, and L4 max, see the Dimension Table on page 77.

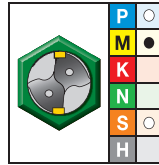
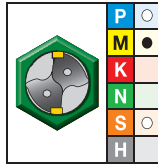
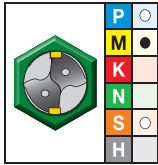
3 x D grade WM15PD AITiN	5 x D grade WM15PD AITiN	8 x D grade WM15PD AITiN	D1 diameter				
			mm	in	L5	LS	D
6327647	6327948	6328197	3,000	.1181	0,5	36	6
6327648	6327950	6328200	3,048	.1200	0,5	36	6
6327649	6327952	6328202	3,100	.1220	0,5	36	6
6327650	6327954	6328204	3,175	.1250	0,5	36	6
6327711	6327956	6328206	3,200	.1260	0,5	36	6
6327712	6327958	6328208	3,264	.1285	0,5	36	6
6327713	6327960	6328209	3,300	.1299	0,5	36	6
6327714	6327962	6328211	3,400	.1339	0,6	36	6
6327715	6327964	6328213	3,455	.1360	0,6	36	6
6327716	6327966	6328216	3,500	.1378	0,6	36	6
6327717	6327968	6328218	3,571	.1406	0,6	36	6
6327718	6327970	6328219	3,600	.1417	0,6	36	6
6327719	6327972	6328221	3,658	.1440	0,6	36	6
6327720	6327974	6328223	3,700	.1457	0,6	36	6
6327721	6327976	6328225	3,734	.1470	0,6	36	6
6327722	6327978	6328227	3,800	.1496	0,6	36	6
6327723	6327980	6328229	3,900	.1535	0,6	36	6
6327724	6327982	6328231	3,970	.1563	0,7	36	6
6327725	6327984	6328233	4,000	.1575	0,7	36	6
6327726	6327986	6328235	4,039	.1590	0,7	36	6
6327727	6327988	6328237	4,090	.1610	0,7	36	6
6327728	6327990	6328239	4,100	.1614	0,7	36	6
6327729	6327992	6328241	4,200	.1654	0,7	36	6
6327730	6327994	6328242	4,217	.1660	0,7	36	6
6327741	6327996	6328243	4,300	.1693	0,7	36	6
6327742	6327998	6328244	4,366	.1719	0,7	36	6
6327743	6327999	6328245	4,400	.1732	0,7	36	6
6327744	6328000	6328246	4,500	.1772	0,7	36	6
6327745	6328001	6328247	4,600	.1811	0,8	36	6
6327746	6328002	6328248	4,623	.1820	0,8	36	6
6327747	6328003	6328249	4,700	.1850	0,8	36	6
6327748	6328004	6328250	4,763	.1875	0,8	36	6
6327749	6328005	6328261	4,800	.1890	0,8	36	6
6327750	6328006	6328262	4,852	.1910	0,8	36	6
6327751	6328007	6328263	4,900	.1929	0,8	36	6
6327752	6328008	6328264	5,000	.1969	0,8	36	6
6327753	6328009	6328265	5,100	.2008	0,9	36	6
6327754	6328010	6328266	5,106	.2010	0,9	36	6
6327755	6328011	6328267	5,159	.2031	0,9	36	6
6327756	6328012	6328268	5,200	.2047	0,9	36	6
6327757	6328013	6328269	5,300	.2087	0,9	36	6
6327758	6328014	6328270	5,400	.2126	0,9	36	6
6327759	6328015	6328271	5,410	.2130	0,9	36	6
6327760	6328016	6328272	5,500	.2165	0,9	36	6

(continued)

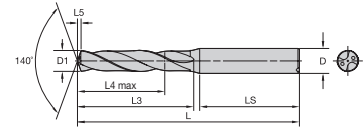
TOP DRILL S™

TOP DRILL S with Through Coolant • Stainless Steel

(TDS451A • 3 x D / TDS452A • 5 x D / TDS453A • 8 x D — continued)



- first choice
- alternate choice



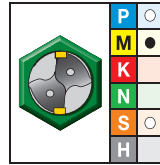
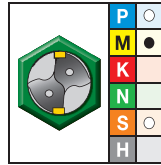
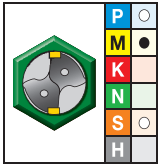
For information on L, L3, and L4 max, see the Dimension Table on page 77.

			D1 diameter		L5	LS	D
3 x D grade WM15PD AlTiN	5 x D grade WM15PD AlTiN	8 x D grade WM15PD AlTiN	mm	in			
6327761	6328017	6328273	5,558	.2188	0,9	36	6
6327762	6328018	6328274	5,600	.2205	0,9	36	6
6327763	6328019	6328275	5,616	.2211	0,9	36	6
6327764	6328020	6328276	5,700	.2244	1,0	36	6
6327765	6328021	6328277	5,800	.2283	1,0	36	6
6327766	6328022	6328278	5,900	.2323	1,0	36	6
6327767	6328023	6328279	5,954	.2344	1,0	36	6
6327768	6328024	6328280	6,000	.2362	1,0	36	6
6327769	6328025	6328291	6,100	.2402	1,0	36	8
6327770	6328026	6328292	6,200	.2441	1,0	36	8
6327771	6328027	6328293	6,300	.2480	1,1	36	8
6327772	6328028	6328294	6,350	.2500	1,1	36	8
6327773	6328029	6328295	6,400	.2520	1,1	36	8
6327774	6328030	6328296	6,500	.2559	1,1	36	8
6327775	6328031	6328297	6,528	.2570	1,1	36	8
6327776	6328032	6328298	6,600	.2598	1,1	36	8
6327777	6328033	6328299	6,630	.2610	1,1	36	8
6327778	6328034	6328300	6,700	.2638	1,1	36	8
6327779	6328035	6328301	6,746	.2656	1,1	36	8
6327780	6328036	6328302	6,800	.2677	1,1	36	8
6327781	6328037	6328303	6,900	.2717	1,2	36	8
6327782	6328038	6328304	7,000	.2756	1,2	36	8
6327783	6328039	6328305	7,100	.2795	1,2	36	8
6327784	6328040	6328306	7,145	.2813	1,2	36	8
6327785	6328041	6328307	7,200	.2835	1,2	36	8
6327786	6328042	6328308	7,300	.2874	1,2	36	8
6327787	6328043	6328309	7,400	.2913	1,3	36	8
6327788	6328044	6328310	7,500	.2953	1,3	36	8
6327789	6328045	6328311	7,541	.2969	1,3	36	8
6327790	6328046	6328312	7,600	.2992	1,3	36	8
6327791	6328047	6328313	7,700	.3031	1,3	36	8
6327792	6328048	6328314	7,800	.3071	1,3	36	8
6327793	6328049	6328315	7,900	.3110	1,3	36	8
6327794	6328050	6328316	7,938	.3125	1,3	36	8
6327795	6328051	6328317	8,000	.3150	1,4	36	8
6327796	6328052	6328318	8,100	.3189	1,4	40	10
6327797	6328053	6328319	8,200	.3228	1,4	40	10
6327798	6328054	6328320	8,300	.3268	1,4	40	10
6327799	6328055	6328321	8,334	.3281	1,4	40	10
6327800	6328056	6328322	8,400	.3307	1,4	40	10
6327801	6328057	6328323	8,433	.3320	1,4	40	10
6327802	6328058	6328324	8,500	.3346	1,4	40	10
6327803	6328059	6328325	8,600	.3386	1,5	40	10
6327804	6328060	6328326	8,700	.3425	1,5	40	10

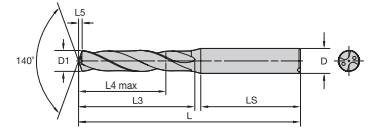
(continued)

TOP DRILL S™ with Through Coolant • Stainless Steel

(TDS451A • 3 x D / TDS452A • 5 x D / TDS453A • 8 x D — continued)



- first choice
- alternate choice



For information on L, L3, and L4 max, see the Dimension Table on page 77.

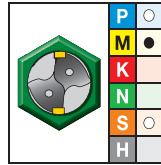
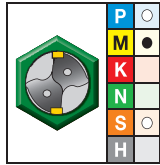
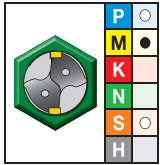
			D1 diameter		L5	LS	D
3 x D grade WM15PD AITiN	5 x D grade WM15PD AITiN	8 x D grade WM15PD AITiN	mm	in			
order #	order #	order #					
6327805	6328061	6328327	8,733	.3438	1,5	40	10
6327806	6328062	6328328	8,800	.3465	1,5	40	10
6327807	6328063	6328329	8,900	.3504	1,5	40	10
6327808	6328064	6328330	9,000	.3543	1,5	40	10
6327809	6328065	6328331	9,100	.3583	1,6	40	10
6327810	6328066	6328332	9,129	.3594	1,6	40	10
6327811	6328067	6328333	9,200	.3622	1,6	40	10
6327812	6328068	6328335	9,300	.3661	1,6	40	10
6327813	6328069	6328336	9,347	.3680	1,6	40	10
6327814	6328070	6328337	9,400	.3701	1,6	40	10
6327815	6328071	6328338	9,500	.3740	1,6	40	10
6327816	6328072	6328339	9,525	.3750	1,6	40	10
6327817	6328073	6328340	9,600	.3780	1,6	40	10
6327818	6328074	6328341	9,700	.3819	1,7	40	10
6327819	6328075	6328342	9,800	.3858	1,7	40	10
6327820	6328076	6328343	9,900	.3898	1,7	40	10
6327821	6328077	6328344	9,921	.3906	1,7	40	10
6327822	6328078	6328345	10,000	.3937	1,7	40	10
6327823	6328079	6328346	10,100	.3976	1,7	45	12
6327824	6328080	6328347	10,200	.4016	1,7	45	12
6327825	6328081	6328348	10,300	.4055	1,8	45	12
6327826	6328082	6328349	10,320	.4063	1,8	45	12
6327827	6328083	6328350	10,400	.4094	1,8	45	12
6327828	6328084	6328351	10,500	.4134	1,8	45	12
6327829	6328085	6324404	10,600	.4173	1,8	45	12
6327830	6328086	6324405	10,700	.4213	1,8	45	12
6327841	6328087	6324406	10,716	.4219	1,8	45	12
6327842	6328088	6324407	10,800	.4252	1,9	45	12
6327843	6328089	6324408	10,900	.4291	1,9	45	12
6327844	6328090	6324409	11,000	.4331	1,9	45	12
6327845	6328091	6324410	11,100	.4370	1,9	45	12
6327846	6328092	6324491	11,113	.4375	1,9	45	12
6327847	6328093	6324492	11,200	.4409	1,9	45	12
6327848	6328094	6324493	11,300	.4449	1,9	45	12
6327849	6328095	6324494	11,400	.4488	2,0	45	12
6327850	6328096	6324495	11,500	.4528	2,0	45	12
6327851	6328097	6324496	11,509	.4531	2,0	45	12
6327852	6328098	6324497	11,600	.4567	2,0	45	12
6327853	6328099	6324498	11,700	.4606	2,0	45	12
6327854	6328100	6324499	11,800	.4646	2,0	45	12
6327855	6328111	6324500	11,900	.4685	2,0	45	12
6327856	6328112	6324501	11,908	.4688	2,0	45	12
6327857	6328113	6324502	12,000	.4724	2,1	45	12
6327858	6328114	6324503	12,100	.4764	2,1	45	14

(continued)

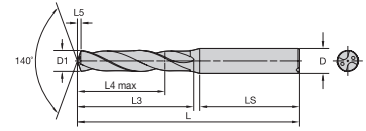
TOP DRILL S™

TOP DRILL S with Through Coolant • Stainless Steel

(TDS451A • 3 x D / TDS452A • 5 x D / TDS453A • 8 x D — continued)



- first choice
- alternate choice



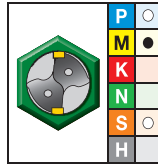
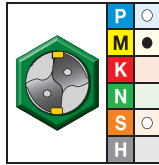
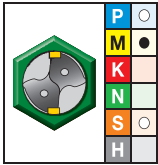
For information on L, L3, and L4 max, see the Dimension Table on page 77.

3 x D grade WM15PD AlTiN	5 x D grade WM15PD AlTiN	8 x D grade WM15PD AlTiN	D1 diameter		L5	LS	D
			mm	in			
6327859	6328115	6324504	12,200	.4803	2,1	45	14
6327860	6328116	6324505	12,300	.4843	2,1	45	14
6327861	6328117	6345124	12,304	.4844	2,1	45	14
6327862	6328118	6345125	12,400	.4882	2,1	45	14
6327863	6328119	6345126	12,500	.4921	2,2	45	14
6327864	6328120	6345127	12,600	.4961	2,2	45	14
6327865	6328121	6345128	12,700	.5000	2,2	45	14
6327866	6328122	6345129	12,800	.5039	2,2	45	14
6327867	6328123	6345130	12,900	.5079	2,2	45	14
6327868	6328124	6345271	13,000	.5118	2,2	45	14
6327869	6328125	6345272	13,096	.5156	2,3	45	14
6327870	6328126	6345274	13,100	.5157	2,3	45	14
6327881	6328127	6345275	13,200	.5197	2,3	45	14
6327882	6328128	6345276	13,300	.5236	2,3	45	14
6327883	6328129	6345277	13,400	.5276	2,3	45	14
6327884	6328130	6345278	13,500	.5315	2,3	45	14
6327885	6328141	6345279	13,600	.5354	2,3	45	14
6327886	6328142	6345280	13,700	.5394	2,4	45	14
6327887	6328143	6345291	13,800	.5433	2,4	45	14
6327888	6328144	6345292	13,891	.5469	2,4	45	14
6327889	6328145	6345293	13,900	.5472	2,4	45	14
6327890	6328146	6345294	14,000	.5512	2,4	45	14
6327891	6328147	6345295	14,100	.5551	2,4	48	16
6327892	6328148	6345296	14,200	.5591	2,5	48	16
6327893	6328149	6345297	14,288	.5625	2,5	48	16
6327894	6328150	6345298	14,300	.5630	2,5	48	16
6327895	6328151	6345299	14,400	.5669	2,5	48	16
6327896	6328152	6345300	14,500	.5709	2,5	48	16
6327897	6328153	6345311	14,600	.5748	2,5	48	16
6327898	6328154	6345312	14,684	.5781	2,5	48	16
6327899	6328155	6345313	14,700	.5787	2,5	48	16
6327900	6328156	6345314	14,800	.5827	2,6	48	16
6327901	6328157	6345315	14,900	.5866	2,6	48	16
6327902	6328158	6345316	15,000	.5906	2,6	48	16
6327903	6328159	6345317	15,083	.5938	2,6	48	16
6327904	6328160	6345318	15,100	.5945	2,6	48	16
6327905	6328161	6345319	15,200	.5984	2,6	48	16
6327906	6328162	6345320	15,300	.6024	2,6	48	16
6327907	6328163	6345321	15,400	.6063	2,7	48	16
6327908	6328164	6345322	15,479	.6094	2,7	48	16
6327909	6328165	6345323	15,500	.6102	2,7	48	16
6327910	6328166	6345324	15,600	.6142	2,7	48	16
6327911	6328167	6345325	15,700	.6181	2,7	48	16
6327912	6328168	6345326	15,800	.6220	2,7	48	16

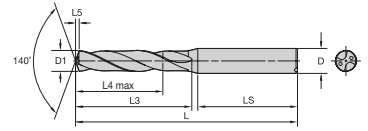
(continued)

TOP DRILL S™ with Through Coolant • Stainless Steel

(TDS451A • 3 x D / TDS452A • 5 x D / TDS453A • 8 x D — continued)



- first choice
- alternate choice



For information on L, L3, and L4 max, see the Dimension Table on page 77.

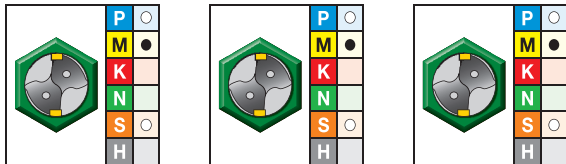
			D1 diameter		L5	LS	D
3 x D grade WM15PD AITiN	5 x D grade WM15PD AITiN	8 x D grade WM15PD AITiN	mm	in			
order #	order #	order #					
6327913	6328169	6345327	15,875	.6250	2,8	48	16
6327914	6328170	6345328	15,900	.6260	2,8	48	16
6327915	6328171	6345329	16,000	.6299	2,8	48	16
6327916	6328172	6345330	16,100	.6339	2,8	48	18
6327917	6328173	6345331	16,200	.6378	2,8	48	18
6327918	6328174	6345332	16,271	.6406	2,8	48	18
6327919	6328175	6345333	16,300	.6417	2,8	48	18
6327920	6328176	6345334	16,400	.6457	2,8	48	18
6327921	6328177	6345335	16,500	.6496	2,9	48	18
6327922	6328178	6345336	16,600	.6535	2,9	48	18
6327923	6328179	6345337	16,670	.6563	2,9	48	18
6327924	6328180	6345338	16,700	.6575	2,9	48	18
6327925	6328181	6345339	16,800	.6614	2,9	48	18
6327926	6328182	6345340	16,900	.6654	2,9	48	18
6327927	6328183	6345341	17,000	.6693	3,0	48	18
6327928	6328184	6345342	17,100	.6732	3,0	48	18
6327929	6328185	6345343	17,200	.6772	3,0	48	18
6327930	6328186	6345345	17,300	.6811	3,0	48	18
6327941	6328187	6345346	17,400	.6850	3,0	48	18
6327942	6328188	6345347	17,463	.6875	3,0	48	18
6327943	6328189	6345348	17,500	.6890	3,0	48	18
6327944	6328190	6345349	17,600	.6929	3,1	48	18
6327945	6328191	6345350	17,700	.6969	3,1	48	18
6327946	6328192	6345351	17,800	.7008	3,1	48	18
6327947	6328193	6345352	17,859	.7031	3,1	48	18
6327949	6328194	6345353	17,900	.7047	3,1	48	18
6327951	6328195	6345354	18,000	.7087	3,1	48	18
6327953	6328196	6345355	18,100	.7126	3,1	50	20
6327955	6328198	6345356	18,200	.7165	3,2	50	20
6327957	6328199	6345357	18,258	.7188	3,2	50	20
6327959	6328201	6345358	18,300	.7205	3,2	50	20
6327961	6328203	6345359	18,400	.7244	3,2	50	20
6327963	6328205	6345360	18,500	.7283	3,2	50	20
6327965	6328207	6345361	18,600	.7323	3,2	50	20
6327967	6328210	6345362	18,654	.7344	3,2	50	20
6327969	6328212	6345363	18,700	.7362	3,3	50	20
6327971	6328214	6345364	18,800	.7402	3,3	50	20
6327973	6328215	6345365	18,900	.7441	3,3	50	20
6327975	6328217	6345366	19,000	.7480	3,3	50	20
6327977	6328220	6345367	19,050	.7500	3,3	50	20
6327979	6328222	6345368	19,100	.7520	3,3	50	20
6327981	6328224	6345369	19,200	.7559	3,3	50	20
6327983	6328226	6345370	19,300	.7598	3,4	50	20
6327985	6328228	6345371	19,400	.7638	3,4	50	20

(continued)

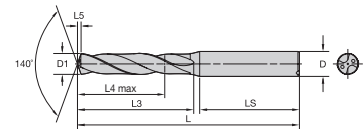
TOP DRILL S™

TOP DRILL S with Through Coolant • Stainless Steel

(TDS451A • 3 x D / TDS452A • 5 x D / TDS453A • 8 x D — continued)



- first choice
- alternate choice



For information on L, L3, and L4 max, see the Dimension Table on page 77.

			D1 diameter		L5	LS	D
3 x D grade WM15PD AlTiN	5 x D grade WM15PD AlTiN	8 x D grade WM15PD AlTiN	mm	in			
order #	order #	order #					
6327987	6328230	6345372	19,500	.7677	3,4	50	20
6327989	6328232	6345373	19,600	.7717	3,4	50	20
6327991	6328234	6345374	19,700	.7756	3,4	50	20
6327993	6328236	6345375	19,800	.7795	3,4	50	20
6327995	6328238	6345376	19,900	.7835	3,5	50	20
6327997	6328240	6345377	20,000	.7874	3,5	50	20

nominal size range	tolerance	
	D1 tolerance m7	D tolerance h6
>3-6	0,004/0,016	0,000/-0,008
>6-10	0,006/0,021	0,000/-0,009
>10-18	0,007/0,025	0,000/-0,011
>18-25,4	0,008/0,029	0,000/-0,013

TOP DRILL S™ with Through Coolant • Stainless Steel

■ Dimensions for TDS451A • 3 x D/TDS452A • 5 x D/TDS453A • 8 x D • Metric

mm Ø				SHORT* ~3 x D			LONG* ~5 x D			EXTRA LONG** ~8 x D		
D1 min	D1 max	D	LS	L	L3	L4 max	L	L3	L4 max	L	L3	L4 max
3,000	3,734	6	36	62	20	14	66	28	23	78	40	33
3,800	4,700	6	36	66	24	17	74	36	29	87	49	41
4,763	6,000	6	36	66	28	20	82	44	35	94	56	48
6,100	7,000	8	36	79	34	24	91	53	43	105	67	57
7,100	8,000	8	36	79	41	29	91	53	43	113	74	64
8,100	10,000	10	40	89	47	35	103	61	49	135	92	80
10,100	12,000	12	45	102	55	40	118	71	56	158	110	96
12,100	14,000	14	45	107	60	43	124	77	60	176	128	112
14,100	16,000	16	48	115	65	45	133	83	63	197	146	128
16,100	18,000	18	48	123	73	51	143	93	71	214	163	144
18,100	20,000	20	50	131	79	55	153	101	77	234	181	160

* D1 < 20mm to DIN 6537K

* D1 > 20mm to factory standard

** to factory standard

■ TDS451/TDS452/TDS453 Series • WM15PD • Through Coolant • Metric

Material Group	Cutting Speed – vc Range – m/min			Tool Diameter (mm)	Recommended Feed Rate (f) by Diameter								
	min	-	max		3,0	4,0	6,0	8,0	10,0	12,0	16,0	20,0	
					mm/r	mm/r	mm/r	mm/r	mm/r	mm/r	mm/r	mm/r	mm/r
P	0	80	-	160	mm/r	0,05-0,11	0,08-0,14	0,09-0,19	0,11-0,22	0,13-0,26	0,15-0,30	0,19-0,36	0,24-0,46
	1	70	-	140	mm/r	0,05-0,13	0,08-0,19	0,11-0,24	0,14-0,30	0,16-0,35	0,18-0,39	0,20-0,46	0,23-0,51
	2	90	-	140	mm/r	0,05-0,13	0,08-0,17	0,11-0,20	0,14-0,24	0,16-0,28	0,18-0,32	0,20-0,37	0,23-0,41
	3	60	-	100	mm/r	0,08-0,13	0,12-0,19	0,14-0,24	0,17-0,30	0,20-0,35	0,22-0,39	0,26-0,46	0,29-0,51
	4	50	-	100	mm/r	0,08-0,12	0,11-0,18	0,12-0,23	0,15-0,28	0,17-0,33	0,19-0,37	0,22-0,43	0,25-0,48
	5	50	-	80	mm/r	0,03-0,11	0,04-0,11	0,05-0,11	0,05-0,14	0,08-0,18	0,11-0,21	0,14-0,24	0,16-0,26
M	6	40	-	70	mm/r	0,05-0,11	0,08-0,14	0,11-0,17	0,13-0,21	0,15-0,24	0,17-0,27	0,19-0,33	0,22-0,36
	1	50	-	90	mm/r	0,05-0,13	0,06-0,14	0,08-0,16	0,10-0,18	0,12-0,20	0,13-0,21	0,16-0,24	0,18-0,26
	2	50	-	80	mm/r	0,05-0,13	0,06-0,14	0,08-0,16	0,10-0,18	0,12-0,20	0,13-0,21	0,16-0,24	0,18-0,26
S	3	50	-	70	mm/r	0,05-0,13	0,06-0,14	0,08-0,16	0,10-0,18	0,12-0,20	0,13-0,21	0,16-0,24	0,18-0,26
	1	20	-	30	mm/r	0,03-0,06	0,04-0,08	0,06-0,10	0,08-0,12	0,09-0,13	0,10-0,14	0,12-0,16	0,14-0,18
	2	10	-	30	mm/r	0,02-0,04	0,03-0,06	0,05-0,08	0,07-0,10	0,08-0,11	0,09-0,12	0,10-0,14	0,11-0,16
	3	10	-	40	mm/r	0,02-0,04	0,02-0,05	0,04-0,07	0,06-0,09	0,07-0,10	0,08-0,11	0,09-0,13	0,10-0,15
	4	10	-	40	mm/r	0,02-0,04	0,03-0,06	0,05-0,08	0,07-0,10	0,08-0,11	0,09-0,12	0,10-0,14	0,11-0,16