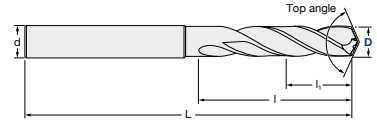




**WHNSB-TH** | Carbide Oil Hole Non-Step Borer (NSB)



**3xD Pilot Hole Drills**

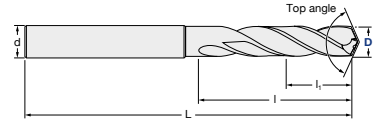
Tolerance Information on Page 39

ID Code	Item Code	Stock	Diameter	Using length	Flute length	Shank length	Total length	Shank Dia.	Minimum Order Quantity
			D	l <sub>1</sub>	l	l <sub>s</sub>	L	d	
CD373	03WHNSB-0203-3-TH	●	2,03	6,09	16,0	50	69	3,0	1
CD374	03WHNSB-0213-3-TH	●	2,13	6,39	17,0	49	69	3,0	1
CD375	03WHNSB-0223-3-TH	●	2,23	6,69	17,0	49	69	3,0	1
CD376	03WHNSB-0233-3-TH	●	2,33	6,99	19,0	47	69	3,0	1
CD377	03WHNSB-0243-3-TH	●	2,43	7,29	19,0	47	69	3,0	1
CD378	03WHNSB-0253-3-TH	●	2,53	7,59	19,0	47	69	3,0	1
CD379	03WHNSB-0263-3-TH	●	2,63	7,89	19,0	47	69	3,0	1
CD380	03WHNSB-0273-3-TH	●	2,73	8,19	19,0	47	69	3,0	1
CD381	03WHNSB-0283-3-TH	●	2,83	8,49	19,0	47	69	3,0	1
CD382	03WHNSB-0293-3-TH	●	2,93	8,79	19,0	47	69	3,0	1
CD205	03WHNSB-0303-4-TH	●	3,03	9,09	23	48	73	4,0	1
CD208	03WHNSB-0353-4-TH	●	3,53	10,59	23	48	73	4,0	1
CD210	03WHNSB-0403-6-TH	●	4,03	12,09	29	51	82	6,0	1
CD213	03WHNSB-0453-6-TH	●	4,53	13,59	29	51	82	6,0	1
CD215	03WHNSB-0503-6-TH	●	5,03	15,09	29	51	82	6,0	1
CD217	03WHNSB-0553-6-TH	●	5,53	16,59	29	51	82	6,0	1
CD219	03WHNSB-0603-8-TH	●	6,03	18,09	34	53	89	8,0	1
CD221	03WHNSB-0653-8-TH	●	6,53	19,59	34	53	89	8,0	1
CD224	03WHNSB-0703-8-TH	●	7,03	21,09	39	54	95	8,0	1
CD226	03WHNSB-0753-8-TH	●	7,53	22,59	39	54	95	8,0	1
CD228	03WHNSB-0803-10-TH	●	8,03	24,09	44	55	101	10,0	1
CD230	03WHNSB-0853-10-TH	●	8,53	25,59	44	55	101	10,0	1
CD232	03WHNSB-0903-10-TH	●	9,03	27,09	49	56	107	10,0	1
CD234	03WHNSB-0953-10-TH	●	9,53	28,59	49	56	107	10,0	1
CD236	03WHNSB-1003-12-TH	●	10,03	30,09	54	61	117	12,0	1
CD241	03WHNSB-1103-12-TH	●	11,03	33,09	59	62	123	12,0	1
CD244	03WHNSB-1203-12-TH	●	12,03	36,09	64	63	129	12,0	1

Item	Drilling Depth	Diameter D	Cutting Conditions on page:
3xD Pilot Hole Drills	3xD	2.03 – 12.03	28–29



**WHNSB-TH** | Carbide Oil Hole Non-Step Borer (NSB)



**3xD**

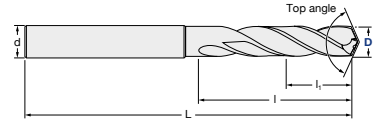
Tolerance Information on Page 39

ID Code	Item Code	Stock	Diameter	Using length	Flute length	Shank length	Total length	Shank Dia.	Minimum Order Quantity
			D	l <sub>1</sub>	l	l <sub>s</sub>	L	d	
CD204	03WHNSB-0300-4-TH	●	3,00	9,0	19	48	69	4,0	1
CD485	03WHNSB-0310-4-TH	○	3,10	9,3	23	48	73	4,0	10
CD486	03WHNSB-0320-4-TH	○	3,20	9,6	23	48	73	4,0	10
CD206	03WHNSB-0330-4-TH	●	3,30	9,9	23	48	73	4,0	1
CD439	03WHNSB-0340-4-TH	●	3,40	10,2	23	48	73	4,0	1
CD207	03WHNSB-0350-4-TH	●	3,50	10,5	23	48	73	4,0	1
CD487	03WHNSB-0360-4-TH	○	3,60	10,8	23	48	73	4,0	10
CD488	03WHNSB-0370-4-TH	○	3,70	11,1	23	48	73	4,0	10
CD489	03WHNSB-0380-4-TH	○	3,80	11,4	23	48	73	4,0	10
CD490	03WHNSB-0390-4-TH	○	3,90	11,7	23	48	73	4,0	10
CD209	03WHNSB-0400-4-TH	●	4,00	12,0	23	48	73	4,0	1
CD491	03WHNSB-0410-6-TH	○	4,10	12,3	29	51	82	6,0	10
CD211	03WHNSB-0420-6-TH	●	4,20	12,6	29	51	82	6,0	1
CD492	03WHNSB-0430-6-TH	○	4,30	12,9	29	51	82	6,0	10
CD493	03WHNSB-0440-6-TH	○	4,40	13,2	29	51	82	6,0	10
CD212	03WHNSB-0450-6-TH	●	4,50	13,5	29	51	82	6,0	1
CD494	03WHNSB-0460-6-TH	○	4,60	13,8	29	51	82	6,0	10
CD495	03WHNSB-0470-6-TH	○	4,70	14,1	29	51	82	6,0	10
CD496	03WHNSB-0480-6-TH	○	4,80	14,4	29	51	82	6,0	10
CD497	03WHNSB-0490-6-TH	○	4,90	14,7	29	51	82	6,0	10
CD214	03WHNSB-0500-6-TH	●	5,00	15,0	29	51	82	6,0	1
CD498	03WHNSB-0510-6-TH	○	5,10	15,3	29	51	82	6,0	10
CD499	03WHNSB-0520-6-TH	○	5,20	15,6	29	51	82	6,0	10
CD500	03WHNSB-0530-6-TH	○	5,30	15,9	29	51	82	6,0	10
CD501	03WHNSB-0540-6-TH	○	5,40	16,2	29	51	82	6,0	10
CD216	03WHNSB-0550-6-TH	●	5,50	16,5	29	51	82	6,0	1
CD502	03WHNSB-0560-6-TH	○	5,60	16,8	29	51	82	6,0	10
CD503	03WHNSB-0570-6-TH	○	5,70	17,1	29	51	82	6,0	10
CD504	03WHNSB-0580-6-TH	○	5,80	17,4	29	51	82	6,0	10
CD505	03WHNSB-0590-6-TH	○	5,90	17,7	29	51	82	6,0	10
CD218	03WHNSB-0600-6-TH	●	6,00	18,0	29	51	82	6,0	1
CD506	03WHNSB-0610-8-TH	○	6,10	18,3	34	53	89	8,0	10
CD507	03WHNSB-0620-8-TH	○	6,20	18,6	34	53	89	8,0	10
CD508	03WHNSB-0630-8-TH	○	6,30	18,9	34	53	89	8,0	10
CD509	03WHNSB-0640-8-TH	○	6,40	19,2	34	53	89	8,0	10
CD220	03WHNSB-0650-8-TH	●	6,50	19,5	34	53	89	8,0	1
CD440	03WHNSB-0660-8-TH	●	6,60	19,8	34	53	89	8,0	1
CD510	03WHNSB-0670-8-TH	○	6,70	20,1	34	53	89	8,0	10
CD222	03WHNSB-0680-8-TH	●	6,80	20,4	34	53	89	8,0	1
CD511	03WHNSB-0690-8-TH	○	6,90	20,7	34	53	89	8,0	10
CD223	03WHNSB-0700-8-TH	●	7,00	21,0	34	53	89	8,0	1
CD512	03WHNSB-0710-8-TH	○	7,10	21,3	39	54	95	8,0	10
CD513	03WHNSB-0720-8-TH	○	7,20	21,6	39	54	95	8,0	10
CD514	03WHNSB-0730-8-TH	○	7,30	21,9	39	54	95	8,0	10
CD515	03WHNSB-0740-8-TH	○	7,40	22,2	39	54	95	8,0	10
CD225	03WHNSB-0750-8-TH	●	7,50	22,5	39	54	95	8,0	1
CD516	03WHNSB-0760-8-TH	○	7,60	22,8	39	54	95	8,0	10
CD517	03WHNSB-0770-8-TH	○	7,70	23,1	39	54	95	8,0	10
CD518	03WHNSB-0780-8-TH	○	7,80	23,4	39	54	95	8,0	10
CD519	03WHNSB-0790-8-TH	○	7,90	23,7	39	54	95	8,0	10
CD227	03WHNSB-0800-8-TH	●	8,00	24,0	39	54	95	8,0	1
CD520	03WHNSB-0810-10-TH	○	8,10	24,3	44	55	101	10,0	10
CD521	03WHNSB-0820-10-TH	○	8,20	24,6	44	55	101	10,0	10
CD522	03WHNSB-0830-10-TH	○	8,30	24,9	44	55	101	10,0	10
CD523	03WHNSB-0840-10-TH	○	8,40	25,2	44	55	101	10,0	10
CD229	03WHNSB-0850-10-TH	●	8,50	25,5	44	55	101	10,0	1
CD524	03WHNSB-0860-10-TH	○	8,60	25,8	44	55	101	10,0	10
CD525	03WHNSB-0870-10-TH	○	8,70	26,1	44	55	101	10,0	10
CD526	03WHNSB-0880-10-TH	○	8,80	26,4	44	55	101	10,0	10
CD527	03WHNSB-0890-10-TH	○	8,90	26,7	44	55	101	10,0	10
CD231	03WHNSB-0900-10-TH	●	9,00	27,0	44	55	101	10,0	1
CD528	03WHNSB-0910-10-TH	○	9,10	27,3	49	56	107	10,0	10
CD529	03WHNSB-0920-10-TH	○	9,20	27,6	49	56	107	10,0	10
CD530	03WHNSB-0930-10-TH	○	9,30	27,9	49	56	107	10,0	10
CD531	03WHNSB-0940-10-TH	○	9,40	28,2	49	56	107	10,0	10
CD233	03WHNSB-0950-10-TH	●	9,50	28,5	49	56	107	10,0	1
CD532	03WHNSB-0960-10-TH	○	9,60	28,8	49	56	107	10,0	10



**WHNSB-TH** | Carbide Oil Hole Non-Step Borer (NSB)

<b>Carbide</b> Micro Grain	<b>No. of Teeth</b> 2	<b>TH</b> Nano-PVD Coating	<b>HRC</b> ~50	<b>3xD</b>	<b>140°</b> 3D-8D
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**3xD**

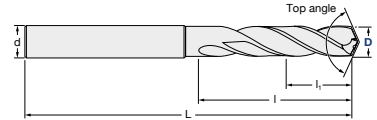
Tolerance Information on Page 39

ID Code	Item Code	Stock	Diameter	Using length	Flute length	Shank length	Total length	Shank Dia.	Minimum Order Quantity
			D	l <sub>1</sub>	l	l <sub>s</sub>	L	d	
CD533	03WHNSB-0970-10-TH	○	9,70	29,1	49	56	107	10,0	10
CD534	03WHNSB-0980-10-TH	○	9,80	29,4	49	56	107	10,0	10
CD535	03WHNSB-0990-10-TH	○	9,90	29,7	49	56	107	10,0	10
CD235	03WHNSB-1000-10-TH	●	10,00	30,0	49	56	107	10,0	1
CD536	03WHNSB-1010-12-TH	○	10,10	30,3	54	61	117	12,0	10
CD237	03WHNSB-1020-12-TH	●	10,20	30,6	54	61	117	12,0	1
CD537	03WHNSB-1030-12-TH	○	10,30	30,9	54	61	117	12,0	10
CD538	03WHNSB-1040-12-TH	○	10,40	31,2	54	61	117	12,0	10
CD238	03WHNSB-1050-12-TH	●	10,50	31,5	54	61	117	12,0	1
CD539	03WHNSB-1060-12-TH	○	10,60	31,8	54	61	117	12,0	10
CD540	03WHNSB-1070-12-TH	○	10,70	32,1	54	61	117	12,0	10
CD239	03WHNSB-1080-12-TH	●	10,80	32,4	54	61	117	12,0	1
CD541	03WHNSB-1090-12-TH	○	10,90	32,7	54	61	117	12,0	10
CD240	03WHNSB-1100-12-TH	●	11,00	33,0	54	61	117	12,0	1
CD542	03WHNSB-1110-12-TH	○	11,10	33,3	59	62	123	12,0	10
CD543	03WHNSB-1120-12-TH	○	11,20	33,6	59	62	123	12,0	10
CD544	03WHNSB-1130-12-TH	○	11,30	33,9	59	62	123	12,0	10
CD545	03WHNSB-1140-12-TH	○	11,40	34,2	59	62	123	12,0	10
CD242	03WHNSB-1150-12-TH	●	11,50	34,5	59	62	123	12,0	1
CD546	03WHNSB-1160-12-TH	○	11,60	34,8	59	62	123	12,0	10
CD547	03WHNSB-1170-12-TH	○	11,70	35,1	59	62	123	12,0	10
CD548	03WHNSB-1180-12-TH	○	11,80	35,4	59	62	123	12,0	10
CD549	03WHNSB-1190-12-TH	○	11,90	35,7	59	62	123	12,0	10
CD243	03WHNSB-1200-12-TH	●	12,00	36,0	59	62	123	12,0	1
CD550	03WHNSB-1210-13-TH	○	12,10	36,3	64	63	129	13,0	10
CD551	03WHNSB-1220-13-TH	○	12,20	36,6	64	63	129	13,0	10
CD552	03WHNSB-1230-13-TH	○	12,30	36,9	64	63	129	13,0	10
CD553	03WHNSB-1240-13-TH	○	12,40	37,2	64	63	129	13,0	10
CD245	03WHNSB-1250-13-TH	●	12,50	37,5	64	63	129	13,0	1
CD554	03WHNSB-1260-13-TH	○	12,60	37,8	64	63	129	13,0	10
CD555	03WHNSB-1270-13-TH	○	12,70	38,1	64	63	129	13,0	10
CD556	03WHNSB-1280-13-TH	○	12,80	38,4	64	63	129	13,0	10
CD557	03WHNSB-1290-13-TH	○	12,90	38,7	64	63	129	13,0	10
CD246	03WHNSB-1300-13-TH	●	13,00	39,0	64	63	129	13,0	1

<b>Item</b>	<b>Drilling Depth</b>	<b>Diameter D</b>	<b>Cutting Conditions on page:</b>
03WHNSB-TH	3xD	3.0 ~ 13.0	28-29



**WHNSB-TH** | Carbide Oil Hole Non-Step Borer (NSB)



**5xD**

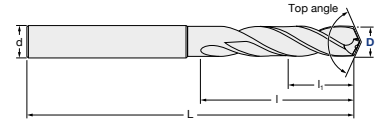
Tolerance Information on Page 39

ID Code	Item Code	Stock	Diameter	Using length	Flute length	Shank length	Total length	Shank Dia.	Minimum Order Quantity
			D	l <sub>1</sub>	l	l <sub>s</sub>	L	d	
CD383	05WHNSB-0200-3-TH	●	2.00	10.00	20	43	66	3.0	1
CD384	05WHNSB-0205-3-TH	●	2.05	10.25	24	47	74	3.0	1
CD385	05WHNSB-0210-3-TH	●	2.10	10.50	24	47	74	3.0	1
CD386	05WHNSB-0215-3-TH	●	2.15	10.75	24	47	74	3.0	1
CD387	05WHNSB-0220-3-TH	●	2.20	11.00	24	47	74	3.0	1
CD388	05WHNSB-0230-3-TH	●	2.30	11.50	24	47	74	3.0	1
CD389	05WHNSB-0240-3-TH	●	2.40	12.00	24	47	74	3.0	1
CD390	05WHNSB-0250-3-TH	●	2.50	12.50	24	47	74	3.0	1
CD391	05WHNSB-0260-3-TH	●	2.60	13.00	29	47	79	3.0	1
CD392	05WHNSB-0265-3-TH	●	2.65	13.25	29	47	79	3.0	1
CD393	05WHNSB-0270-3-TH	●	2.70	13.50	29	47	79	3.0	1
CD394	05WHNSB-0280-3-TH	●	2.80	14.00	29	47	79	3.0	1
CD395	05WHNSB-0290-3-TH	●	2.90	14.50	29	47	79	3.0	1
CD247	05WHNSB-0300-4-TH	●	3.00	15.00	29	47	79	4.0	1
CD558	05WHNSB-0310-4-TH	○	3.10	15.50	37	47	87	4.0	10
CD559	05WHNSB-0320-4-TH	○	3.20	16.00	37	47	87	4.0	10
CD248	05WHNSB-0330-4-TH	●	3.30	16.50	37	47	87	4.0	1
CD441	05WHNSB-0340-4-TH	●	3.40	17.00	37	47	87	4.0	1
CD249	05WHNSB-0350-4-TH	●	3.50	17.50	37	47	87	4.0	1
CD560	05WHNSB-0360-4-TH	○	3.60	18.00	37	47	87	4.0	10
CD442	05WHNSB-0370-4-TH	●	3.70	18.50	37	47	87	4.0	1
CD561	05WHNSB-0380-4-TH	○	3.80	19.00	37	47	87	4.0	10
CD562	05WHNSB-0390-4-TH	○	3.90	19.50	37	47	87	4.0	10
CD250	05WHNSB-0400-4-TH	●	4.00	20.00	37	47	87	4.0	1
CD563	05WHNSB-0410-6-TH	○	4.10	20.50	47	50	100	6.0	10
CD251	05WHNSB-0420-6-TH	●	4.20	21.00	47	50	100	6.0	1
CD564	05WHNSB-0430-6-TH	○	4.30	21.50	47	50	100	6.0	10
CD565	05WHNSB-0440-6-TH	○	4.40	22.00	47	50	100	6.0	10
CD252	05WHNSB-0450-6-TH	●	4.50	22.50	47	50	100	6.0	1
CD566	05WHNSB-0460-6-TH	○	4.60	23.00	47	50	100	6.0	10
CD443	05WHNSB-0465-6-TH	●	4.65	23.25	47	50	100	6.0	1
CD567	05WHNSB-0470-6-TH	○	4.70	23.50	47	50	100	6.0	10
CD444	05WHNSB-0475-6-TH	●	4.75	23.75	47	50	100	6.0	1
CD568	05WHNSB-0480-6-TH	○	4.80	24.00	47	50	100	6.0	10
CD569	05WHNSB-0490-6-TH	○	4.90	24.50	47	50	100	6.0	10
CD253	05WHNSB-0500-6-TH	●	5.00	25.00	47	50	100	6.0	1
CD570	05WHNSB-0510-6-TH	○	5.10	25.50	47	50	100	6.0	10
CD445	05WHNSB-0520-6-TH	●	5.20	26.00	47	50	100	6.0	1
CD571	05WHNSB-0530-6-TH	○	5.30	26.50	47	50	100	6.0	10
CD572	05WHNSB-0540-6-TH	○	5.40	27.00	47	50	100	6.0	10
CD254	05WHNSB-0550-6-TH	●	5.50	27.50	47	50	100	6.0	1
CD446	05WHNSB-0555-6-TH	●	5.55	27.75	47	50	100	6.0	1
CD573	05WHNSB-0560-6-TH	○	5.60	28.00	47	50	100	6.0	10
CD447	05WHNSB-0565-6-TH	●	5.65	28.25	47	50	100	6.0	1
CD574	05WHNSB-0570-6-TH	○	5.70	28.50	47	50	100	6.0	10
CD575	05WHNSB-0580-6-TH	○	5.80	29.00	47	50	100	6.0	10
CD576	05WHNSB-0590-6-TH	○	5.90	29.50	47	50	100	6.0	10
CD255	05WHNSB-0600-6-TH	●	6.00	30.00	47	50	100	6.0	1
CD577	05WHNSB-0610-8-TH	○	6.10	30.50	55	53	110	8.0	10
CD578	05WHNSB-0620-8-TH	○	6.20	31.00	55	53	110	8.0	10
CD579	05WHNSB-0630-8-TH	○	6.30	31.50	55	53	110	8.0	10
CD580	05WHNSB-0640-8-TH	○	6.40	32.00	55	53	110	8.0	10
CD256	05WHNSB-0650-8-TH	●	6.50	32.50	55	53	110	8.0	1
CD448	05WHNSB-0660-8-TH	●	6.60	33.00	55	53	110	8.0	1
CD581	05WHNSB-0670-8-TH	○	6.70	33.50	55	53	110	8.0	10
CD257	05WHNSB-0680-8-TH	●	6.80	34.00	55	53	110	8.0	1
CD582	05WHNSB-0690-8-TH	○	6.90	34.50	55	53	110	8.0	10
CD258	05WHNSB-0700-8-TH	●	7.00	35.00	55	53	110	8.0	1
CD583	05WHNSB-0710-8-TH	○	7.10	35.50	63	54	119	8.0	10
CD449	05WHNSB-0720-8-TH	●	7.20	36.00	63	54	119	8.0	1
CD584	05WHNSB-0730-8-TH	○	7.30	36.50	63	54	119	8.0	10
CD450	05WHNSB-0740-8-TH	●	7.40	37.00	63	54	119	8.0	1
CD259	05WHNSB-0750-8-TH	●	7.50	37.50	63	54	119	8.0	1
CD451	05WHNSB-0755-8-TH	●	7.55	37.75	63	54	119	8.0	1
CD585	05WHNSB-0760-8-TH	○	7.60	38.00	63	54	119	8.0	10
CD452	05WHNSB-0765-8-TH	●	7.65	38.25	63	54	119	8.0	1
CD586	05WHNSB-0770-8-TH	○	7.70	38.50	63	54	119	8.0	10
CD587	05WHNSB-0780-8-TH	○	7.80	39.00	63	54	119	8.0	10
CD588	05WHNSB-0790-8-TH	○	7.90	39.50	63	54	119	8.0	10
CD260	05WHNSB-0800-8-TH	●	8.00	40.00	63	54	119	8.0	1
CD589	05WHNSB-0810-10-TH	○	8.10	40.50	71	55	128	10.0	10
CD590	05WHNSB-0820-10-TH	○	8.20	41.00	71	55	128	10.0	10



**WHNSB-TH** | Carbide Oil Hole Non-Step Borer (NSB)

<b>Carbide</b> Micro Grain	<b>No. of Teeth</b> 2	<b>TH</b> Nano-PVD Coating	<b>HRC</b> ~50	<b>5xD</b>	<b>140°</b> 3D-8D
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**5xD**

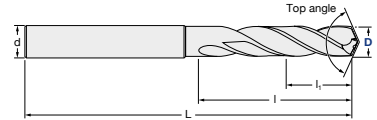
Tolerance Information on Page 39

ID Code	Item Code	Stock	Diameter	Using length	Flute length	Shank length	Total length	Shank Dia.	Minimum Order
			D	l <sub>1</sub>	l	l <sub>s</sub>	L	d	Quantity
CD591	05WHNSB-0830-10-TH	○	8,30	41,50	71	55	128	10,0	10
CD592	05WHNSB-0840-10-TH	○	8,40	42,00	71	55	128	10,0	10
CD261	05WHNSB-0850-10-TH	●	8,50	42,50	71	55	128	10,0	1
CD593	05WHNSB-0860-10-TH	○	8,60	43,00	71	55	128	10,0	10
CD594	05WHNSB-0870-10-TH	○	8,70	43,50	71	55	128	10,0	10
CD453	05WHNSB-0880-10-TH	●	8,80	44,00	71	55	128	10,0	1
CD595	05WHNSB-0890-10-TH	○	8,90	44,50	71	55	128	10,0	10
CD262	05WHNSB-0900-10-TH	●	9,00	45,00	71	55	128	10,0	1
CD596	05WHNSB-0910-10-TH	○	9,10	45,50	79	56	137	10,0	10
CD454	05WHNSB-0920-10-TH	●	9,20	46,00	79	56	137	10,0	1
CD455	05WHNSB-0925-10-TH	●	9,25	46,25	79	56	137	10,0	1
CD597	05WHNSB-0930-10-TH	○	9,30	46,50	79	56	137	10,0	10
CD456	05WHNSB-0940-10-TH	●	9,40	47,00	79	56	137	10,0	1
CD263	05WHNSB-0950-10-TH	●	9,50	47,50	79	56	137	10,0	1
CD457	05WHNSB-0955-10-TH	●	9,55	47,75	79	56	137	10,0	1
CD598	05WHNSB-0960-10-TH	○	9,60	48,00	79	56	137	10,0	10
CD458	05WHNSB-0965-10-TH	●	9,65	48,25	79	56	137	10,0	1
CD599	05WHNSB-0970-10-TH	○	9,70	48,50	79	56	137	10,0	10
CD600	05WHNSB-0980-10-TH	○	9,80	49,00	79	56	137	10,0	10
CD601	05WHNSB-0990-10-TH	○	9,90	49,50	79	56	137	10,0	10
CD264	05WHNSB-1000-10-TH	●	10,00	50,00	79	56	137	10,0	1
CD602	05WHNSB-1010-12-TH	○	10,10	50,50	87	61	150	12,0	10
CD265	05WHNSB-1020-12-TH	●	10,20	51,00	87	61	150	12,0	1
CD603	05WHNSB-1030-12-TH	○	10,30	51,50	87	61	150	12,0	10
CD604	05WHNSB-1040-12-TH	○	10,40	52,00	87	61	150	12,0	10
CD266	05WHNSB-1050-12-TH	●	10,50	52,50	87	61	150	12,0	1
CD605	05WHNSB-1060-12-TH	○	10,60	53,00	87	61	150	12,0	10
CD606	05WHNSB-1070-12-TH	○	10,70	53,50	87	61	150	12,0	10
CD267	05WHNSB-1080-12-TH	●	10,80	54,00	87	61	150	12,0	1
CD607	05WHNSB-1090-12-TH	○	10,90	54,50	87	61	150	12,0	10
CD268	05WHNSB-1100-12-TH	●	11,00	55,00	87	61	150	12,0	1
CD608	05WHNSB-1110-12-TH	○	11,10	55,50	93	61	156	12,0	10
CD459	05WHNSB-1120-12-TH	●	11,20	56,00	93	61	156	12,0	1
CD460	05WHNSB-1130-12-TH	●	11,30	56,50	93	61	156	12,0	1
CD461	05WHNSB-1140-12-TH	●	11,40	57,00	93	61	156	12,0	1
CD269	05WHNSB-1150-12-TH	●	11,50	57,50	93	61	156	12,0	1
CD462	05WHNSB-1155-12-TH	●	11,55	57,75	93	61	156	12,0	1
CD609	05WHNSB-1160-12-TH	○	11,60	58,00	93	61	156	12,0	10
CD610	05WHNSB-1170-12-TH	○	11,70	58,50	93	61	156	12,0	10
CD611	05WHNSB-1180-12-TH	○	11,80	59,00	93	61	156	12,0	10
CD612	05WHNSB-1190-12-TH	○	11,90	59,50	93	61	156	12,0	10
CD270	05WHNSB-1200-12-TH	●	12,00	60,00	93	61	156	12,0	1
CD613	05WHNSB-1210-13-TH	○	12,10	60,50	104	63	169	13,0	10
CD463	05WHNSB-1220-13-TH	●	12,20	61,00	104	63	169	13,0	1
CD614	05WHNSB-1230-13-TH	○	12,30	61,50	104	63	169	13,0	10
CD615	05WHNSB-1240-13-TH	○	12,40	62,00	104	63	169	13,0	10
CD271	05WHNSB-1250-13-TH	●	12,50	62,50	104	63	169	13,0	1
CD616	05WHNSB-1260-13-TH	○	12,60	63,00	104	63	169	13,0	10
CD617	05WHNSB-1270-13-TH	○	12,70	63,50	104	63	169	13,0	10
CD618	05WHNSB-1280-13-TH	○	12,80	64,00	104	63	169	13,0	10
CD619	05WHNSB-1290-13-TH	○	12,90	64,50	104	63	169	13,0	10
CD272	05WHNSB-1300-13-TH	●	13,00	65,00	104	63	169	13,0	1
CD464	05WHNSB-1320-14-TH	●	13,20	66,00	114	64	180	14,0	1
CD465	05WHNSB-1350-14-TH	●	13,50	67,50	114	64	180	14,0	1
CD466	05WHNSB-1400-14-TH	●	14,00	70,00	114	64	180	14,0	1
CD467	05WHNSB-1450-16-TH	○	14,50	72,50	122	65	189	16,0	10
CD468	05WHNSB-1500-16-TH	○	15,00	75,00	122	65	189	16,0	10
CD469	05WHNSB-1510-16-TH	○	15,10	75,50	130	66	198	16,0	10
CD470	05WHNSB-1530-16-TH	○	15,30	76,50	130	66	198	16,0	10
CD471	05WHNSB-1555-16-TH	○	15,55	77,75	130	66	198	16,0	10
CD472	05WHNSB-1750-18-TH	●	17,50	87,50	147	68	217	18,0	1
CD473	05WHNSB-1800-18-TH	○	18,00	90,00	147	68	217	18,0	10
CD474	05WHNSB-1850-20-TH	○	18,50	92,50	155	69	226	20,0	10
CD475	05WHNSB-1890-20-TH	○	18,90	94,50	155	69	226	20,0	10
CD476	05WHNSB-1900-20-TH	○	19,00	95,00	155	69	226	20,0	10
CD477	05WHNSB-1930-20-TH	○	19,30	96,50	163	70	235	20,0	10
CD478	05WHNSB-1955-20-TH	○	19,55	97,75	163	70	235	20,0	10

Item	Drilling Depth	Diameter D	Cutting Conditions on page:	
05WHNSB-TH	5xD	2.0 ~ 19.55	28-29	5xD Large D: 30-31



**WHNSB-TH** | Carbide Oil Hole Non-Step Borer (NSB)



**8xD**

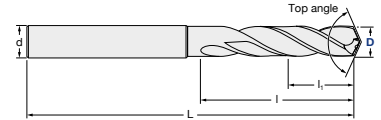
Tolerance Information on Page 39

ID Code	Item Code	Stock	Diameter	Using length	Flute length	Shank length	Total length	Shank Dia.	Minimum Order Quantity
			D	li	l	ls	L	d	
CD340	08WHNSB-0300-4-TH	●	3,00	24,0	35	47	83	4,0	1
CD620	08WHNSB-0310-4-TH	○	3,10	24,8	42	51	94	4,0	10
CD621	08WHNSB-0320-4-TH	○	3,20	25,6	42	51	94	4,0	10
CD622	08WHNSB-0330-4-TH	○	3,30	26,4	42	51	94	4,0	10
CD623	08WHNSB-0340-4-TH	○	3,40	27,2	42	51	94	4,0	10
CD341	08WHNSB-0350-4-TH	●	3,50	28,0	42	51	94	4,0	1
CD624	08WHNSB-0360-4-TH	○	3,60	28,8	46	47	94	4,0	10
CD625	08WHNSB-0370-4-TH	○	3,70	29,6	46	47	94	4,0	10
CD342	08WHNSB-0380-4-TH	●	3,80	30,4	46	47	94	4,0	1
CD626	08WHNSB-0390-4-TH	○	3,90	31,2	46	47	94	4,0	10
CD343	08WHNSB-0400-4-TH	●	4,00	32,0	46	47	94	4,0	1
CD627	08WHNSB-0410-6-TH	○	4,10	32,8	55	54	110	6,0	10
CD628	08WHNSB-0420-6-TH	○	4,20	33,6	55	54	110	6,0	10
CD629	08WHNSB-0430-6-TH	○	4,30	34,4	55	54	110	6,0	10
CD630	08WHNSB-0440-6-TH	○	4,40	35,2	55	54	110	6,0	10
CD344	08WHNSB-0450-6-TH	●	4,50	36,0	55	54	110	6,0	1
CD631	08WHNSB-0460-6-TH	○	4,60	36,8	59	50	110	6,0	10
CD632	08WHNSB-0470-6-TH	○	4,70	37,6	59	50	110	6,0	10
CD345	08WHNSB-0480-6-TH	●	4,80	38,4	59	50	110	6,0	1
CD633	08WHNSB-0490-6-TH	○	4,90	39,2	59	50	110	6,0	10
CD346	08WHNSB-0500-6-TH	●	5,00	40,0	59	50	110	6,0	1
CD634	08WHNSB-0510-6-TH	○	5,10	40,8	62	55	118	6,0	10
CD635	08WHNSB-0520-6-TH	○	5,20	41,6	62	55	118	6,0	10
CD636	08WHNSB-0530-6-TH	○	5,30	42,4	62	55	118	6,0	10
CD637	08WHNSB-0540-6-TH	○	5,40	43,2	62	55	118	6,0	10
CD347	08WHNSB-0550-6-TH	●	5,50	44,0	62	55	118	6,0	1
CD1042	08WHNSB-0560-6-TH	○	5,60	44,8	62	55	118	6,0	10
CD638	08WHNSB-0570-6-TH	○	5,70	45,6	67	50	118	6,0	10
CD348	08WHNSB-0580-6-TH	●	5,80	46,4	67	50	118	6,0	1
CD640	08WHNSB-0590-6-TH	○	5,90	47,2	67	50	118	6,0	10
CD349	08WHNSB-0600-6-TH	●	6,00	48,0	67	50	118	6,0	1
CD641	08WHNSB-0610-8-TH	○	6,10	48,8	73	57	132	8,0	10
CD350	08WHNSB-0620-8-TH	●	6,20	49,6	73	57	132	8,0	1
CD642	08WHNSB-0630-8-TH	○	6,30	50,4	73	57	132	8,0	10
CD643	08WHNSB-0640-8-TH	○	6,40	51,2	73	57	132	8,0	10
CD351	08WHNSB-0650-8-TH	●	6,50	52,0	73	57	132	8,0	1
CD644	08WHNSB-0660-8-TH	○	6,60	52,8	77	53	132	8,0	10
CD645	08WHNSB-0670-8-TH	○	6,70	53,6	77	53	132	8,0	10
CD352	08WHNSB-0680-8-TH	●	6,80	54,4	77	53	132	8,0	1
CD646	08WHNSB-0690-8-TH	○	6,90	55,2	77	53	132	8,0	10
CD353	08WHNSB-0700-8-TH	●	7,00	56,0	77	53	132	8,0	1
CD647	08WHNSB-0710-8-TH	○	7,10	56,8	84	58	144	8,0	10
CD479	08WHNSB-0720-8-TH	●	7,20	57,6	84	58	144	8,0	1
CD648	08WHNSB-0730-8-TH	○	7,30	58,4	84	58	144	8,0	10
CD649	08WHNSB-0740-8-TH	○	7,40	59,2	84	58	144	8,0	10
CD354	08WHNSB-0750-8-TH	●	7,50	60,0	84	58	144	8,0	1
CD650	08WHNSB-0760-8-TH	○	7,60	60,8	88	54	144	8,0	10
CD651	08WHNSB-0770-8-TH	○	7,70	61,6	88	54	144	8,0	10
CD355	08WHNSB-0780-8-TH	●	7,80	62,4	88	54	144	8,0	1
CD652	08WHNSB-0790-8-TH	○	7,90	63,2	88	54	144	8,0	10
CD356	08WHNSB-0800-8-TH	●	8,00	64,0	88	54	144	8,0	1
CD653	08WHNSB-0810-10-TH	○	8,10	64,8	94	60	156	10,0	10
CD480	08WHNSB-0820-10-TH	●	8,20	65,6	94	60	156	10,0	1
CD654	08WHNSB-0830-10-TH	○	8,30	66,4	94	60	156	10,0	10
CD655	08WHNSB-0840-10-TH	○	8,40	67,2	94	60	156	10,0	10
CD357	08WHNSB-0850-10-TH	●	8,50	68,0	94	60	156	10,0	1
CD656	08WHNSB-0860-10-TH	○	8,60	68,8	99	55	156	10,0	10
CD657	08WHNSB-0870-10-TH	○	8,70	69,6	99	55	156	10,0	10
CD658	08WHNSB-0880-10-TH	○	8,80	70,4	99	55	156	10,0	10
CD659	08WHNSB-0890-10-TH	○	8,90	71,2	99	55	156	10,0	10
CD358	08WHNSB-0900-10-TH	●	9,00	72,0	99	55	156	10,0	1
CD660	08WHNSB-0910-10-TH	○	9,10	72,8	105	61	168	10,0	10
CD481	08WHNSB-0920-10-TH	●	9,20	73,6	105	61	168	10,0	1
CD661	08WHNSB-0930-10-TH	○	9,30	74,4	105	61	168	10,0	10
CD662	08WHNSB-0940-10-TH	○	9,40	75,2	105	61	168	10,0	10
CD359	08WHNSB-0950-10-TH	●	9,50	76,0	105	61	168	10,0	1
CD663	08WHNSB-0960-10-TH	○	9,60	76,8	110	56	168	10,0	10
CD664	08WHNSB-0970-10-TH	○	9,70	77,6	110	56	168	10,0	10
CD360	08WHNSB-0980-10-TH	●	9,80	78,4	110	56	168	10,0	1



**WHNSB-TH** | Carbide Oil Hole Non-Step Borer (NSB)

<b>Carbide</b> Micro Grain	<b>No. of Teeth</b> 2	<b>TH</b> Nano-PVD Coating	<b>HRC</b> ~50	<b>8xD</b>	<b>140°</b> 3D~8D
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**8xD**

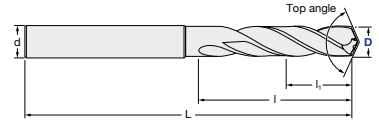
Tolerance Information on Page 39

ID Code	Item Code	Stock	Diameter	Using length	Flute length	Shank length	Total length	Shank Dia.	Minimum Order Quantity
			D	l <sub>1</sub>	l	l <sub>s</sub>	L	d	
CD665	08WHNSB-0990-10-TH	○	9,90	79,2	110	56	168	10,0	10
CD361	08WHNSB-1000-10-TH	●	10,00	80,0	110	56	168	10,0	1
CD666	08WHNSB-1010-12-TH	○	10,10	80,8	116	66	184	12,0	10
CD362	08WHNSB-1020-12-TH	●	10,20	81,6	116	66	184	12,0	1
CD363	08WHNSB-1030-12-TH	●	10,30	82,4	116	66	184	12,0	1
CD667	08WHNSB-1040-12-TH	○	10,40	83,2	116	66	184	12,0	10
CD364	08WHNSB-1050-12-TH	●	10,50	84,0	116	66	184	12,0	1
CD668	08WHNSB-1060-12-TH	○	10,60	84,8	121	61	184	12,0	10
CD365	08WHNSB-1070-12-TH	●	10,70	85,6	121	61	184	12,0	1
CD366	08WHNSB-1080-12-TH	●	10,80	86,4	121	61	184	12,0	1
CD669	08WHNSB-1090-12-TH	○	10,90	87,2	121	61	184	12,0	10
CD367	08WHNSB-1100-12-TH	●	11,00	88,0	121	61	184	12,0	1
CD670	08WHNSB-1110-12-TH	○	11,10	88,8	127	66	195	12,0	10
CD671	08WHNSB-1120-12-TH	○	11,20	89,6	127	66	195	12,0	10
CD672	08WHNSB-1130-12-TH	○	11,30	90,4	127	66	195	12,0	10
CD673	08WHNSB-1140-12-TH	○	11,40	91,2	127	66	195	12,0	10
CD368	08WHNSB-1150-12-TH	●	11,50	92,0	127	66	195	12,0	1
CD369	08WHNSB-1160-12-TH	●	11,60	92,8	132	61	195	12,0	1
CD674	08WHNSB-1170-12-TH	○	11,70	93,6	132	61	195	12,0	10
CD675	08WHNSB-1180-12-TH	○	11,80	94,4	132	61	195	12,0	10
CD676	08WHNSB-1190-12-TH	○	11,90	95,2	132	61	195	12,0	10
CD370	08WHNSB-1200-12-TH	●	12,00	96,0	132	61	195	12,0	1
CD677	08WHNSB-1210-13-TH	○	12,10	96,8	138	68	208	13,0	10
CD678	08WHNSB-1220-13-TH	○	12,20	97,6	138	68	208	13,0	10
CD679	08WHNSB-1230-13-TH	○	12,30	98,4	138	68	208	13,0	10
CD680	08WHNSB-1240-13-TH	○	12,40	99,2	138	68	208	13,0	10
CD371	08WHNSB-1250-13-TH	●	12,50	100,0	138	68	208	13,0	1
CD681	08WHNSB-1260-13-TH	○	12,60	100,8	143	63	208	13,0	10
CD682	08WHNSB-1270-13-TH	○	12,70	101,6	143	63	208	13,0	10
CD683	08WHNSB-1280-13-TH	○	12,80	102,4	143	63	208	13,0	10
CD684	08WHNSB-1290-13-TH	○	12,90	103,2	143	63	208	13,0	10
CD372	08WHNSB-1300-13-TH	●	13,00	104,0	143	63	208	13,0	1

Item	Drilling Depth	Diameter D	Cutting Conditions on page:
08WHNSB-TH	8xD	3.0 ~ 13.0	28-29



**WHNSB-TH** | Carbide Oil Hole Non-Step Borer (NSB)



**10xD**

Tolerance Information on Page 39

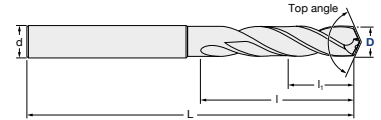
ID Code	Item Code	Stock	Diameter	Using length	Flute length	Shank length	Total length	Shank Dia.	Minimum Order Quantity
			D	l <sub>1</sub>	l	l <sub>s</sub>	L	d	
CD396	10WHNSB-0200-3-TH	●	2,00	20,00	30	40	73	3,0	1
CD397	10WHNSB-0210-3-TH	●	2,10	21,00	33	40	76	3,0	1
CD398	10WHNSB-0220-3-TH	●	2,20	22,00	33	40	76	3,0	1
CD399	10WHNSB-0230-3-TH	●	2,30	23,00	37	40	80	3,0	1
CD400	10WHNSB-0240-3-TH	●	2,40	24,00	37	40	80	3,0	1
CD401	10WHNSB-0250-3-TH	●	2,50	25,00	37	40	80	3,0	1
CD402	10WHNSB-0260-3-TH	●	2,60	26,00	39	45	87	3,0	1
CD403	10WHNSB-0270-3-TH	●	2,70	27,00	39	45	87	3,0	1
CD404	10WHNSB-0280-3-TH	●	2,80	28,00	39	45	87	3,0	1
CD405	10WHNSB-0290-3-TH	●	2,90	29,00	39	45	87	3,0	1
CD273	10WHNSB-0300-4-TH	●	3,00	30,00	39	45	87	4,0	1
CD685	10WHNSB-0310-4-TH	○	3,10	31,00	46	47	94	4,0	5
CD686	10WHNSB-0320-4-TH	○	3,20	32,00	46	47	94	4,0	5
CD687	10WHNSB-0330-4-TH	○	3,30	33,00	46	47	94	4,0	5
CD688	10WHNSB-0340-4-TH	○	3,40	34,00	46	47	94	4,0	5
CD274	10WHNSB-0350-4-TH	●	3,50	35,00	46	47	94	4,0	1
CD689	10WHNSB-0360-4-TH	○	3,60	36,00	52	48	101	4,0	5
CD690	10WHNSB-0370-4-TH	○	3,70	37,00	52	48	101	4,0	5
CD691	10WHNSB-0380-4-TH	○	3,80	38,00	52	48	101	4,0	5
CD692	10WHNSB-0390-4-TH	○	3,90	39,00	52	48	101	4,0	5
CD275	10WHNSB-0400-4-TH	●	4,00	40,00	52	48	101	4,0	1
CD693	10WHNSB-0410-6-TH	○	4,10	41,00	59	50	110	6,0	5
CD1041	10WHNSB-0420-6-TH	○	4,20	42,00	59	50	110	6,0	5
CD694	10WHNSB-0430-6-TH	○	4,30	43,00	59	50	110	6,0	5
CD695	10WHNSB-0440-6-TH	○	4,40	44,00	59	50	110	6,0	5
CD276	10WHNSB-0450-6-TH	●	4,50	45,00	59	50	110	6,0	1
CD696	10WHNSB-0460-6-TH	○	4,60	46,00	66	50	117	6,0	5
CD697	10WHNSB-0470-6-TH	○	4,70	47,00	66	50	117	6,0	5
CD698	10WHNSB-0480-6-TH	○	4,80	48,00	66	50	117	6,0	5
CD699	10WHNSB-0490-6-TH	○	4,90	49,00	66	50	117	6,0	5
CD277	10WHNSB-0500-6-TH	●	5,00	50,00	66	50	117	6,0	1
CD700	10WHNSB-0510-6-TH	○	5,10	51,00	72	50	123	6,0	5
CD482	10WHNSB-0520-6-TH	●	5,20	52,00	72	50	123	6,0	1
CD701	10WHNSB-0530-6-TH	○	5,30	53,00	72	50	123	6,0	5
CD702	10WHNSB-0540-6-TH	○	5,40	54,00	72	50	123	6,0	5
CD278	10WHNSB-0550-6-TH	●	5,50	55,00	72	50	123	6,0	1
CD703	10WHNSB-0560-6-TH	○	5,60	56,00	79	50	130	6,0	5
CD704	10WHNSB-0570-6-TH	○	5,70	57,00	79	50	130	6,0	5
CD705	10WHNSB-0580-6-TH	○	5,80	58,00	79	50	130	6,0	5
CD706	10WHNSB-0590-6-TH	○	5,90	59,00	79	50	130	6,0	5
CD279	10WHNSB-0600-6-TH	●	6,00	60,00	79	50	130	6,0	1
CD707	10WHNSB-0610-8-TH	○	6,10	61,00	85	52	138	8,0	5
CD708	10WHNSB-0620-8-TH	○	6,20	62,00	85	52	138	8,0	5
CD709	10WHNSB-0630-8-TH	○	6,30	63,00	85	52	138	8,0	5
CD710	10WHNSB-0640-8-TH	○	6,40	64,00	85	52	138	8,0	5
CD280	10WHNSB-0650-8-TH	●	6,50	65,00	85	52	138	8,0	1
CD711	10WHNSB-0660-8-TH	○	6,60	66,00	92	52	145	8,0	5
CD712	10WHNSB-0670-8-TH	○	6,70	67,00	92	52	145	8,0	5
CD713	10WHNSB-0680-8-TH	○	6,80	68,00	92	52	145	8,0	5
CD714	10WHNSB-0690-8-TH	○	6,90	69,00	92	52	145	8,0	5
CD281	10WHNSB-0700-8-TH	●	7,00	70,00	92	52	145	8,0	1
CD715	10WHNSB-0710-8-TH	○	7,10	71,00	98	54	153	8,0	5
CD716	10WHNSB-0720-8-TH	○	7,20	72,00	98	54	153	8,0	5
CD717	10WHNSB-0730-8-TH	○	7,30	73,00	98	54	153	8,0	5
CD718	10WHNSB-0740-8-TH	○	7,40	74,00	98	54	153	8,0	5
CD282	10WHNSB-0750-8-TH	●	7,50	75,00	98	54	153	8,0	1
CD719	10WHNSB-0760-8-TH	○	7,60	76,00	105	54	161	8,0	5
CD720	10WHNSB-0770-8-TH	○	7,70	77,00	105	54	161	8,0	5
CD721	10WHNSB-0780-8-TH	○	7,80	78,00	105	54	161	8,0	5
CD722	10WHNSB-0790-8-TH	○	7,90	79,00	105	54	161	8,0	5
CD283	10WHNSB-0800-8-TH	●	8,00	80,00	105	54	161	8,0	1
CD723	10WHNSB-0810-10-TH	○	8,10	81,00	111	54	166	10,0	5
CD724	10WHNSB-0820-10-TH	○	8,20	82,00	111	54	166	10,0	5
CD725	10WHNSB-0830-10-TH	○	8,30	83,00	111	54	166	10,0	5
CD726	10WHNSB-0840-10-TH	○	8,40	84,00	111	54	166	10,0	5
CD284	10WHNSB-0850-10-TH	●	8,50	85,00	111	54	166	10,0	1
CD727	10WHNSB-0860-10-TH	○	8,60	86,00	118	54	173	10,0	5
CD728	10WHNSB-0870-10-TH	○	8,70	87,00	118	54	173	10,0	5
CD729	10WHNSB-0880-10-TH	○	8,80	88,00	118	54	173	10,0	5





**WHNSB-TH** | Carbide Oil Hole Non-Step Borer (NSB)

<b>Carbide</b> Micro Grain	<b>No. of Teeth</b> 2	<b>TH</b> Nano-PVD Coating	<b>HRC</b> ~50	<b>10xD</b>	<b>135°</b> 10D~30D
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**10xD**

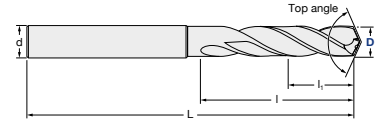
Tolerance Information on Page 39

ID Code	Item Code	Stock	Diameter	Using length	Flute length	Shank length	Total length	Shank Dia.	Minimum Order Quantity
			D	l <sub>1</sub>	l	l <sub>s</sub>	L	d	
CD730	10WHNSB-0890-10-TH	○	8,90	89,00	118	54	173	10,0	5
CD285	10WHNSB-0900-10-TH	●	9,00	90,00	118	54	173	10,0	1
CD731	10WHNSB-0910-10-TH	○	9,10	91,00	124	54	179	10,0	5
CD732	10WHNSB-0920-10-TH	○	9,20	92,00	124	54	179	10,0	5
CD733	10WHNSB-0930-10-TH	○	9,30	93,00	124	54	179	10,0	5
CD734	10WHNSB-0940-10-TH	○	9,40	94,00	124	54	179	10,0	5
CD286	10WHNSB-0950-10-TH	●	9,50	95,00	124	54	179	10,0	1
CD735	10WHNSB-0960-10-TH	○	9,60	96,00	131	54	186	10,0	5
CD736	10WHNSB-0970-10-TH	○	9,70	97,00	131	54	186	10,0	5
CD737	10WHNSB-0980-10-TH	○	9,80	98,00	131	54	186	10,0	5
CD738	10WHNSB-0990-10-TH	○	9,90	99,00	131	54	186	10,0	5
CD287	10WHNSB-1000-10-TH	●	10,00	100,00	131	54	186	10,0	1
CD739	10WHNSB-1010-12-TH	○	10,10	101,00	138	54	193	12,0	5
CD740	10WHNSB-1020-12-TH	○	10,20	102,00	138	54	193	12,0	5
CD741	10WHNSB-1030-12-TH	○	10,30	103,00	138	54	193	12,0	5
CD742	10WHNSB-1040-12-TH	○	10,40	104,00	138	54	193	12,0	5
CD743	10WHNSB-1050-12-TH	○	10,50	105,00	138	54	193	12,0	5
CD744	10WHNSB-1060-12-TH	○	10,60	106,00	144	60	205	12,0	5
CD745	10WHNSB-1070-12-TH	○	10,70	107,00	144	60	205	12,0	5
CD746	10WHNSB-1080-12-TH	○	10,80	108,00	144	60	205	12,0	5
CD747	10WHNSB-1090-12-TH	○	10,90	109,00	144	60	205	12,0	5
CD288	10WHNSB-1100-12-TH	●	11,00	110,00	144	60	205	12,0	1
CD748	10WHNSB-1110-12-TH	○	11,10	111,00	151	60	212	12,0	5
CD749	10WHNSB-1120-12-TH	○	11,20	112,00	151	60	212	12,0	5
CD750	10WHNSB-1130-12-TH	○	11,30	113,00	151	60	212	12,0	5
CD751	10WHNSB-1140-12-TH	○	11,40	114,00	151	60	212	12,0	5
CD752	10WHNSB-1150-12-TH	○	11,50	115,00	151	60	212	12,0	5
CD753	10WHNSB-1160-12-TH	○	11,60	116,00	157	60	218	12,0	5
CD754	10WHNSB-1170-12-TH	○	11,70	117,00	157	60	218	12,0	5
CD755	10WHNSB-1180-12-TH	○	11,80	118,00	157	60	218	12,0	5
CD756	10WHNSB-1190-12-TH	○	11,90	119,00	157	60	218	12,0	5
CD289	10WHNSB-1200-12-TH	●	12,00	120,00	157	60	218	12,0	1
CD757	10WHNSB-1210-13-TH	○	12,10	121,00	164	60	225	13,0	5
CD758	10WHNSB-1220-13-TH	○	12,20	122,00	164	60	225	13,0	5
CD759	10WHNSB-1230-13-TH	○	12,30	123,00	164	60	225	13,0	5
CD760	10WHNSB-1240-13-TH	○	12,40	124,00	164	60	225	13,0	5
CD761	10WHNSB-1250-13-TH	○	12,50	125,00	164	60	225	13,0	5
CD762	10WHNSB-1260-13-TH	○	12,60	126,00	170	65	236	13,0	5
CD763	10WHNSB-1270-13-TH	○	12,70	127,00	170	65	236	13,0	5
CD764	10WHNSB-1280-13-TH	○	12,80	128,00	170	65	236	13,0	5
CD765	10WHNSB-1290-13-TH	○	12,90	129,00	170	65	236	13,0	5
CD766	10WHNSB-1300-13-TH	○	13,00	130,00	170	65	236	13,0	5

Item	Drilling Depth	Diameter D	Cutting Conditions on page:
10WHNSB-TH	10xD	2.0 ~ 13.0	32-33



**WHNSB-TH** | Carbide Oil Hole Non-Step Borer (NSB)



**15xD**

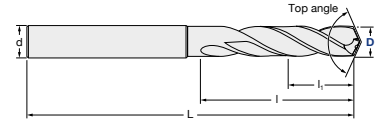
Tolerance Information on Page 39

ID Code	Item Code	Stock	Diameter	Using length	Flute length	Shank length	Total length	Shank Dia.	Minimum Order Quantity
			D	li	l	ls	L	d	
CD406	15WHNSB-0200-3-TH	●	2,00	30,0	40	40	83	3,0	1
CD407	15WHNSB-0210-3-TH	●	2,10	31,5	44	40	87	3,0	1
CD408	15WHNSB-0220-3-TH	●	2,20	33,0	44	40	87	3,0	1
CD409	15WHNSB-0230-3-TH	●	2,30	34,5	50	40	93	3,0	1
CD410	15WHNSB-0240-3-TH	●	2,40	36,0	50	40	93	3,0	1
CD411	15WHNSB-0250-3-TH	●	2,50	37,5	50	40	93	3,0	1
CD412	15WHNSB-0260-3-TH	●	2,60	39,0	54	45	102	3,0	1
CD413	15WHNSB-0270-3-TH	●	2,70	40,5	54	45	102	3,0	1
CD414	15WHNSB-0280-3-TH	●	2,80	42,0	54	45	102	3,0	1
CD415	15WHNSB-0290-3-TH	●	2,90	43,5	54	45	102	3,0	1
CD290	15WHNSB-0300-4-TH	●	3,00	45,0	54	45	102	4,0	1
CD767	15WHNSB-0310-4-TH	○	3,10	46,5	63	47	111	4,0	5
CD768	15WHNSB-0320-4-TH	○	3,20	48,0	63	47	111	4,0	5
CD769	15WHNSB-0330-4-TH	○	3,30	49,5	63	47	111	4,0	5
CD770	15WHNSB-0340-4-TH	○	3,40	51,0	63	47	111	4,0	5
CD291	15WHNSB-0350-4-TH	●	3,50	52,5	63	47	111	4,0	1
CD771	15WHNSB-0360-4-TH	○	3,60	54,0	72	48	121	4,0	5
CD772	15WHNSB-0370-4-TH	○	3,70	55,5	72	48	121	4,0	5
CD773	15WHNSB-0380-4-TH	○	3,80	57,0	72	48	121	4,0	5
CD774	15WHNSB-0390-4-TH	○	3,90	58,5	72	48	121	4,0	5
CD292	15WHNSB-0400-4-TH	●	4,00	60,0	72	48	121	4,0	1
CD775	15WHNSB-0410-6-TH	○	4,10	61,5	81	50	132	6,0	5
CD483	15WHNSB-0420-6-TH	●	4,20	63,0	81	50	132	6,0	1
CD776	15WHNSB-0430-6-TH	○	4,30	64,5	81	50	132	6,0	5
CD777	15WHNSB-0440-6-TH	○	4,40	66,0	81	50	132	6,0	5
CD293	15WHNSB-0450-6-TH	●	4,50	67,5	81	50	132	6,0	1
CD778	15WHNSB-0460-6-TH	○	4,60	69,0	91	50	142	6,0	5
CD779	15WHNSB-0470-6-TH	○	4,70	70,5	91	50	142	6,0	5
CD780	15WHNSB-0480-6-TH	○	4,80	72,0	91	50	142	6,0	5
CD781	15WHNSB-0490-6-TH	○	4,90	73,5	91	50	142	6,0	5
CD294	15WHNSB-0500-6-TH	●	5,00	75,0	91	50	142	6,0	1
CD782	15WHNSB-0510-6-TH	○	5,10	76,5	100	50	151	6,0	5
CD783	15WHNSB-0520-6-TH	○	5,20	78,0	100	50	151	6,0	5
CD784	15WHNSB-0530-6-TH	○	5,30	79,5	100	50	151	6,0	5
CD785	15WHNSB-0540-6-TH	○	5,40	81,0	100	50	151	6,0	5
CD295	15WHNSB-0550-6-TH	●	5,50	82,5	100	50	151	6,0	1
CD786	15WHNSB-0560-6-TH	○	5,60	84,0	109	50	160	6,0	5
CD787	15WHNSB-0570-6-TH	○	5,70	85,5	109	50	160	6,0	5
CD788	15WHNSB-0580-6-TH	○	5,80	87,0	109	50	160	6,0	5
CD789	15WHNSB-0590-6-TH	○	5,90	88,5	109	50	160	6,0	5
CD296	15WHNSB-0600-6-TH	●	6,00	90,0	109	50	160	6,0	1
CD790	15WHNSB-0610-8-TH	○	6,10	91,5	118	52	171	8,0	5
CD791	15WHNSB-0620-8-TH	○	6,20	93,0	118	52	171	8,0	5
CD792	15WHNSB-0630-8-TH	○	6,30	94,5	118	52	171	8,0	5
CD793	15WHNSB-0640-8-TH	○	6,40	96,0	118	52	171	8,0	5
CD297	15WHNSB-0650-8-TH	●	6,50	97,5	118	52	171	8,0	1
CD794	15WHNSB-0660-8-TH	○	6,60	99,0	127	52	180	8,0	5
CD795	15WHNSB-0670-8-TH	○	6,70	100,5	127	52	180	8,0	5
CD796	15WHNSB-0680-8-TH	○	6,80	102,0	127	52	180	8,0	5
CD797	15WHNSB-0690-8-TH	○	6,90	103,5	127	52	180	8,0	5
CD298	15WHNSB-0700-8-TH	●	7,00	105,0	127	52	180	8,0	1
CD798	15WHNSB-0710-8-TH	○	7,10	106,5	136	54	191	8,0	5
CD799	15WHNSB-0720-8-TH	○	7,20	108,0	136	54	191	8,0	5
CD800	15WHNSB-0730-8-TH	○	7,30	109,5	136	54	191	8,0	5
CD801	15WHNSB-0740-8-TH	○	7,40	111,0	136	54	191	8,0	5
CD299	15WHNSB-0750-8-TH	●	7,50	112,5	136	54	191	8,0	1
CD802	15WHNSB-0760-8-TH	○	7,60	114,0	145	54	200	8,0	5
CD803	15WHNSB-0770-8-TH	○	7,70	115,5	145	54	200	8,0	5
CD804	15WHNSB-0780-8-TH	○	7,80	117,0	145	54	200	8,0	5
CD805	15WHNSB-0790-8-TH	○	7,90	118,5	145	54	200	8,0	5
CD300	15WHNSB-0800-8-TH	●	8,00	120,0	145	54	200	8,0	1
CD806	15WHNSB-0810-10-TH	○	8,10	121,5	154	54	209	10,0	5
CD807	15WHNSB-0820-10-TH	○	8,20	123,0	154	54	209	10,0	5
CD808	15WHNSB-0830-10-TH	○	8,30	124,5	154	54	209	10,0	5
CD809	15WHNSB-0840-10-TH	○	8,40	126,0	154	54	209	10,0	5
CD301	15WHNSB-0850-10-TH	●	8,50	127,5	154	54	209	10,0	1
CD810	15WHNSB-0860-10-TH	○	8,60	129,0	163	54	218	10,0	5
CD811	15WHNSB-0870-10-TH	○	8,70	130,5	163	54	218	10,0	5
CD812	15WHNSB-0880-10-TH	○	8,80	132,0	163	54	218	10,0	5



**WHNSB-TH** | Carbide Oil Hole Non-Step Borer (NSB)

<b>Carbide</b> Micro Grain	<b>No. of Teeth</b> 2	<b>TH</b> Nano-PVD Coating	<b>HRC</b> ~50	<b>15xD</b>	<b>135°</b> 10D~30D
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**15xD**

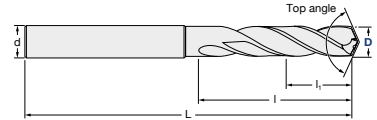
Tolerance Information on Page 39

ID Code	Item Code	Stock	Diameter	Using length	Flute length	Shank length	Total length	Shank Dia.	Minimum Order Quantity
			D	l <sub>1</sub>	l	l <sub>s</sub>	L	d	
CD813	15WHNSB-0890-10-TH	○	8,90	133,5	163	54	218	10,0	5
CD302	15WHNSB-0900-10-TH	●	9,00	135,0	163	54	218	10,0	1
CD814	15WHNSB-0910-10-TH	○	9,10	136,5	172	54	227	10,0	5
CD815	15WHNSB-0920-10-TH	○	9,20	138,0	172	54	227	10,0	5
CD816	15WHNSB-0930-10-TH	○	9,30	139,5	172	54	227	10,0	5
CD817	15WHNSB-0940-10-TH	○	9,40	141,0	172	54	227	10,0	5
CD303	15WHNSB-0950-10-TH	●	9,50	142,5	172	54	227	10,0	1
CD818	15WHNSB-0960-10-TH	○	9,60	144,0	181	54	236	10,0	5
CD819	15WHNSB-0970-10-TH	○	9,70	145,5	181	54	236	10,0	5
CD820	15WHNSB-0980-10-TH	○	9,80	147,0	181	54	236	10,0	5
CD821	15WHNSB-0990-10-TH	○	9,90	148,5	181	54	236	10,0	5
CD304	15WHNSB-1000-10-TH	●	10,00	150,0	181	54	236	10,0	1
CD822	15WHNSB-1010-12-TH	○	10,10	151,5	190	54	245	12,0	5
CD823	15WHNSB-1020-12-TH	○	10,20	153,0	190	54	245	12,0	5
CD824	15WHNSB-1030-12-TH	○	10,30	154,5	190	54	245	12,0	5
CD825	15WHNSB-1040-12-TH	○	10,40	156,0	190	54	245	12,0	5
CD826	15WHNSB-1050-12-TH	○	10,50	157,5	190	54	245	12,0	5
CD827	15WHNSB-1060-12-TH	○	10,60	159,0	199	60	260	12,0	5
CD828	15WHNSB-1070-12-TH	○	10,70	160,5	199	60	260	12,0	5
CD829	15WHNSB-1080-12-TH	○	10,80	162,0	199	60	260	12,0	5
CD830	15WHNSB-1090-12-TH	○	10,90	163,5	199	60	260	12,0	5
CD305	15WHNSB-1100-12-TH	●	11,00	165,0	199	60	260	12,0	1
CD831	15WHNSB-1110-12-TH	○	11,10	166,5	208	60	269	12,0	5
CD832	15WHNSB-1120-12-TH	○	11,20	168,0	208	60	269	12,0	5
CD833	15WHNSB-1130-12-TH	○	11,30	169,5	208	60	269	12,0	5
CD834	15WHNSB-1140-12-TH	○	11,40	171,0	208	60	269	12,0	5
CD835	15WHNSB-1150-12-TH	○	11,50	172,5	208	60	269	12,0	5
CD836	15WHNSB-1160-12-TH	○	11,60	174,0	217	60	278	12,0	5
CD837	15WHNSB-1170-12-TH	○	11,70	175,5	217	60	278	12,0	5
CD838	15WHNSB-1180-12-TH	○	11,80	177,0	217	60	278	12,0	5
CD839	15WHNSB-1190-12-TH	○	11,90	178,5	217	60	278	12,0	5
CD306	15WHNSB-1200-12-TH	●	12,00	180,0	217	60	278	12,0	1
CD840	15WHNSB-1210-13-TH	○	12,10	181,5	226	60	287	13,0	5
CD841	15WHNSB-1220-13-TH	○	12,20	183,0	226	60	287	13,0	5
CD842	15WHNSB-1230-13-TH	○	12,30	184,5	226	60	287	13,0	5
CD843	15WHNSB-1240-13-TH	○	12,40	186,0	226	60	287	13,0	5
CD844	15WHNSB-1250-13-TH	○	12,50	187,5	226	60	287	13,0	5
CD845	15WHNSB-1260-13-TH	○	12,60	189,0	235	65	301	13,0	5
CD846	15WHNSB-1270-13-TH	○	12,70	190,5	235	65	301	13,0	5
CD847	15WHNSB-1280-13-TH	○	12,80	192,0	235	65	301	13,0	5
CD848	15WHNSB-1290-13-TH	○	12,90	193,5	235	65	301	13,0	5
CD849	15WHNSB-1300-13-TH	○	13,00	195,0	235	65	301	13,0	5

Item	Drilling Depth	Diameter D	Cutting Conditions on page:
15WHNSB-TH	15xD	2.0 ~ 13.0	32-33



**WHNSB-TH** | Carbide Oil Hole Non-Step Borer (NSB)



**20xD**

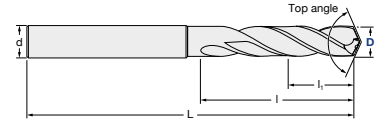
Tolerance Information on Page 39

ID Code	Item Code	Stock	Diameter	Using length	Flute length	Shank length	Total length	Shank Dia.	Minimum Order Quantity
			D	l <sub>1</sub>	l	l <sub>s</sub>	L	d	
CD416	20WHNSB-0200-3-TH	●	2,00	40,00	50	40	93	3,0	1
CD417	20WHNSB-0210-3-TH	●	2,10	42,00	55	40	98	3,0	1
CD418	20WHNSB-0220-3-TH	●	2,20	44,00	55	40	98	3,0	1
CD419	20WHNSB-0230-3-TH	●	2,30	46,00	62	40	105	3,0	1
CD420	20WHNSB-0240-3-TH	●	2,40	48,00	62	40	105	3,0	1
CD421	20WHNSB-0250-3-TH	●	2,50	50,00	62	40	105	3,0	1
CD422	20WHNSB-0260-3-TH	●	2,60	52,00	67	40	110	3,0	1
CD423	20WHNSB-0270-3-TH	●	2,70	54,00	67	40	110	3,0	1
CD424	20WHNSB-0280-3-TH	●	2,80	56,00	69	43	115	3,0	1
CD425	20WHNSB-0290-3-TH	●	2,90	58,00	69	43	115	3,0	1
CD307	20WHNSB-0300-4-TH	●	3,00	60,00	69	43	117	4,0	1
CD850	20WHNSB-0310-4-TH	○	3,10	62,00	81	47	129	4,0	5
CD484	20WHNSB-0320-4-TH	●	3,20	64,00	81	47	129	4,0	1
CD851	20WHNSB-0330-4-TH	○	3,30	66,00	81	47	129	4,0	5
CD852	20WHNSB-0340-4-TH	○	3,40	68,00	81	47	129	4,0	5
CD308	20WHNSB-0350-4-TH	●	3,50	70,00	81	47	129	4,0	1
CD853	20WHNSB-0360-4-TH	○	3,60	72,00	92	48	141	4,0	5
CD854	20WHNSB-0370-4-TH	○	3,70	74,00	92	48	141	4,0	5
CD855	20WHNSB-0380-4-TH	○	3,80	76,00	92	48	141	4,0	5
CD856	20WHNSB-0390-4-TH	○	3,90	78,00	92	48	141	4,0	5
CD309	20WHNSB-0400-4-TH	●	4,00	80,00	92	48	141	4,0	1
CD857	20WHNSB-0410-6-TH	○	4,10	82,00	104	50	155	6,0	5
CD858	20WHNSB-0420-6-TH	○	4,20	84,00	104	50	155	6,0	5
CD859	20WHNSB-0430-6-TH	○	4,30	86,00	104	50	155	6,0	5
CD860	20WHNSB-0440-6-TH	○	4,40	88,00	104	50	155	6,0	5
CD310	20WHNSB-0450-6-TH	●	4,50	90,00	104	50	155	6,0	1
CD861	20WHNSB-0460-6-TH	○	4,60	92,00	116	50	167	6,0	5
CD862	20WHNSB-0470-6-TH	○	4,70	94,00	116	50	167	6,0	5
CD863	20WHNSB-0480-6-TH	○	4,80	96,00	116	50	167	6,0	5
CD864	20WHNSB-0490-6-TH	○	4,90	98,00	116	50	167	6,0	5
CD311	20WHNSB-0500-6-TH	●	5,00	100,00	116	50	167	6,0	1
CD865	20WHNSB-0510-6-TH	○	5,10	102,00	127	50	178	6,0	5
CD866	20WHNSB-0520-6-TH	○	5,20	104,00	127	50	178	6,0	5
CD867	20WHNSB-0530-6-TH	○	5,30	106,00	127	50	178	6,0	5
CD868	20WHNSB-0540-6-TH	○	5,40	108,00	127	50	178	6,0	5
CD312	20WHNSB-0550-6-TH	●	5,50	110,00	127	50	178	6,0	1
CD869	20WHNSB-0560-6-TH	○	5,60	112,00	139	50	190	6,0	5
CD870	20WHNSB-0570-6-TH	○	5,70	114,00	139	50	190	6,0	5
CD871	20WHNSB-0580-6-TH	○	5,80	116,00	139	50	190	6,0	5
CD872	20WHNSB-0590-6-TH	○	5,90	118,00	139	50	190	6,0	5
CD313	20WHNSB-0600-6-TH	●	6,00	120,00	139	50	190	6,0	1
CD873	20WHNSB-0610-8-TH	○	6,10	122,00	150	52	203	8,0	5
CD874	20WHNSB-0620-8-TH	○	6,20	124,00	150	52	203	8,0	5
CD875	20WHNSB-0630-8-TH	○	6,30	126,00	150	52	203	8,0	5
CD876	20WHNSB-0640-8-TH	○	6,40	128,00	150	52	203	8,0	5
CD314	20WHNSB-0650-8-TH	●	6,50	130,00	150	52	203	8,0	1
CD877	20WHNSB-0660-8-TH	○	6,60	132,00	162	52	215	8,0	5
CD878	20WHNSB-0670-8-TH	○	6,70	134,00	162	52	215	8,0	5
CD879	20WHNSB-0680-8-TH	○	6,80	136,00	162	52	215	8,0	5
CD880	20WHNSB-0690-8-TH	○	6,90	138,00	162	52	215	8,0	5
CD315	20WHNSB-0700-8-TH	●	7,00	140,00	162	52	215	8,0	1
CD881	20WHNSB-0710-8-TH	○	7,10	142,00	173	54	228	8,0	5
CD882	20WHNSB-0720-8-TH	○	7,20	144,00	173	54	228	8,0	5
CD883	20WHNSB-0730-8-TH	○	7,30	146,00	173	54	228	8,0	5
CD884	20WHNSB-0740-8-TH	○	7,40	148,00	173	54	228	8,0	5
CD316	20WHNSB-0750-8-TH	●	7,50	150,00	173	54	228	8,0	1
CD885	20WHNSB-0760-8-TH	○	7,60	152,00	185	54	240	8,0	5
CD886	20WHNSB-0770-8-TH	○	7,70	154,00	185	54	240	8,0	5
CD887	20WHNSB-0780-8-TH	○	7,80	156,00	185	54	240	8,0	5
CD888	20WHNSB-0790-8-TH	○	7,90	158,00	185	54	240	8,0	5
CD317	20WHNSB-0800-8-TH	●	8,00	160,00	185	54	240	8,0	1
CD889	20WHNSB-0810-10-TH	○	8,10	162,00	196	54	251	10,0	5
CD890	20WHNSB-0820-10-TH	○	8,20	164,00	196	54	251	10,0	5
CD891	20WHNSB-0830-10-TH	○	8,30	166,00	196	54	251	10,0	5
CD892	20WHNSB-0840-10-TH	○	8,40	168,00	196	54	251	10,0	5
CD318	20WHNSB-0850-10-TH	●	8,50	170,00	196	54	251	10,0	1
CD893	20WHNSB-0860-10-TH	○	8,60	172,00	208	54	263	10,0	5
CD894	20WHNSB-0870-10-TH	○	8,70	174,00	208	54	263	10,0	5
CD895	20WHNSB-0880-10-TH	○	8,80	176,00	208	54	263	10,0	5



**WHNSB-TH** | Carbide Oil Hole Non-Step Borer (NSB)

<b>Carbide</b> Micro Grain	<b>No. of Teeth</b> 2	<b>TH</b> Nano-PVD Coating	<b>HRC</b> -50	<b>20xD</b>	<b>135°</b> 10D-30D
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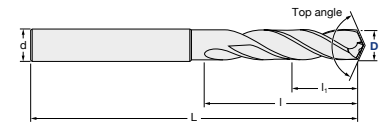


**20xD**

Tolerance Information on Page 39

ID Code	Item Code	Stock	Diameter	Using length	Flute length	Shank length	Total length	Shank Dia.	Minimum Order Quantity
			D	l <sub>1</sub>	l	l <sub>s</sub>	L	d	
CD896	20WHNSB-0890-10-TH	○	8,90	178,00	208	54	263	10,0	5
CD319	20WHNSB-0900-10-TH	●	9,00	180,00	208	54	263	10,0	1
CD897	20WHNSB-0910-10-TH	○	9,10	182,00	219	54	274	10,0	5
CD898	20WHNSB-0920-10-TH	○	9,20	184,00	219	54	274	10,0	5
CD899	20WHNSB-0930-10-TH	○	9,30	186,00	219	54	274	10,0	5
CD900	20WHNSB-0940-10-TH	○	9,40	188,00	219	54	274	10,0	5
CD320	20WHNSB-0950-10-TH	●	9,50	190,00	219	54	274	10,0	1
CD901	20WHNSB-0960-10-TH	○	9,60	192,00	231	54	286	10,0	5
CD902	20WHNSB-0970-10-TH	○	9,70	194,00	231	54	286	10,0	5
CD903	20WHNSB-0980-10-TH	○	9,80	196,00	231	54	286	10,0	5
CD904	20WHNSB-0990-10-TH	○	9,90	198,00	231	54	286	10,0	5
CD321	20WHNSB-1000-10-TH	●	10,00	200,00	231	54	286	10,0	1
CD905	20WHNSB-1010-12-TH	○	10,10	202,00	243	54	298	12,0	5
CD906	20WHNSB-1020-12-TH	○	10,20	204,00	243	54	298	12,0	5
CD907	20WHNSB-1030-12-TH	○	10,30	206,00	243	54	298	12,0	5
CD908	20WHNSB-1040-12-TH	○	10,40	208,00	243	54	298	12,0	5
CD909	20WHNSB-1050-12-TH	○	10,50	210,00	243	54	298	12,0	5
CD910	20WHNSB-1060-12-TH	○	10,60	212,00	254	60	315	12,0	5
CD911	20WHNSB-1070-12-TH	○	10,70	214,00	254	60	315	12,0	5
CD912	20WHNSB-1080-12-TH	○	10,80	216,00	254	60	315	12,0	5
CD913	20WHNSB-1090-12-TH	○	10,90	218,00	254	60	315	12,0	5
CD322	20WHNSB-1100-12-TH	●	11,00	220,00	254	60	315	12,0	1
CD914	20WHNSB-1110-12-TH	○	11,10	222,00	266	60	327	12,0	5
CD915	20WHNSB-1120-12-TH	○	11,20	224,00	266	60	327	12,0	5
CD916	20WHNSB-1130-12-TH	○	11,30	226,00	266	60	327	12,0	5
CD917	20WHNSB-1140-12-TH	○	11,40	228,00	266	60	327	12,0	5
CD918	20WHNSB-1150-12-TH	○	11,50	230,00	266	60	327	12,0	5
CD919	20WHNSB-1160-12-TH	○	11,60	232,00	277	60	338	12,0	5
CD920	20WHNSB-1170-12-TH	○	11,70	234,00	277	60	338	12,0	5
CD921	20WHNSB-1180-12-TH	○	11,80	236,00	277	60	338	12,0	5
CD922	20WHNSB-1190-12-TH	○	11,90	238,00	277	60	338	12,0	5
CD323	20WHNSB-1200-12-TH	●	12,00	240,00	277	60	338	12,0	1
CD923	20WHNSB-1210-13-TH	○	12,10	242,00	292	59	352	13,0	5
CD924	20WHNSB-1220-13-TH	○	12,20	244,00	292	59	352	13,0	5
CD925	20WHNSB-1230-13-TH	○	12,30	246,00	292	59	352	13,0	5
CD926	20WHNSB-1240-13-TH	○	12,40	248,00	292	59	352	13,0	5
CD927	20WHNSB-1250-13-TH	○	12,50	250,00	292	59	352	13,0	5
CD928	20WHNSB-1260-13-TH	○	12,60	252,00	302	65	368	13,0	5
CD929	20WHNSB-1270-13-TH	○	12,70	254,00	302	65	368	13,0	5
CD930	20WHNSB-1280-13-TH	○	12,80	256,00	302	65	368	13,0	5
CD931	20WHNSB-1290-13-TH	○	12,90	258,00	302	65	368	13,0	5
CD932	20WHNSB-1300-13-TH	○	13,00	260,00	302	65	368	13,0	5

<b>Carbide</b> Micro Grain	<b>No. of Teeth</b> 2	<b>TH</b> Nano-PVD Coating	<b>HRC</b> -50	<b>25xD</b>	<b>135°</b> 10D-30D
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**25xD**

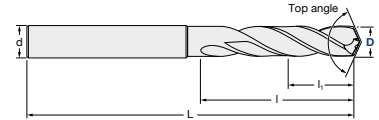
Tolerance Information on Page 39

ID Code	Item Code	Stock	Diameter	Using length	Flute length	Shank length	Total length	Shank Dia.	Minimum Order Quantity
			D	l <sub>1</sub>	l	l <sub>s</sub>	L	d	
CD426	25WHNSB-0200-3-TH	●	2,00	50,0	60	40	103	3,0	1
CD427	25WHNSB-0220-3-TH	●	2,20	55,0	66	40	109	3,0	1
CD428	25WHNSB-0250-3-TH	●	2,50	62,5	75	40	118	3,0	1

Item	Drilling Depth	Diameter D	Cutting Conditions on page:
20WHNSB-TH	20xD	2.0 - 13.0	32-33
25WHNSB-TH	25xD	2.0 / 2.2 / 2.5	32-33



**WHNSB-TH** | Carbide Oil Hole Non-Step Borer (NSB)



**30xD**

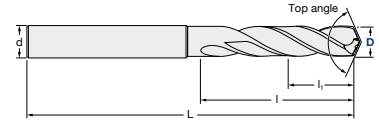
Tolerance Information on Page 39

ID Code	Item Code	Stock	Diameter	Using length	Flute length	Shank length	Total length	Shank Dia.	Minimum Order Quantity
			D	l <sub>1</sub>	l	l <sub>s</sub>	L	d	
CD429	30WHNSB-0200-3-TH	●	2,00	60,0	70	40	113	3,0	1
CD430	30WHNSB-0210-3-TH	●	2,10	63,0	77	40	120	3,0	1
CD431	30WHNSB-0220-3-TH	●	2,20	66,0	77	40	120	3,0	1
CD432	30WHNSB-0230-3-TH	●	2,30	69,0	87	40	130	3,0	1
CD433	30WHNSB-0240-3-TH	●	2,40	72,0	87	40	130	3,0	1
CD434	30WHNSB-0250-3-TH	●	2,50	75,0	87	40	130	3,0	1
CD435	30WHNSB-0260-3-TH	●	2,60	78,0	94	40	137	3,0	1
CD436	30WHNSB-0270-3-TH	●	2,70	81,0	94	40	137	3,0	1
CD437	30WHNSB-0280-3-TH	●	2,80	84,0	99	42	144	3,0	1
CD438	30WHNSB-0290-3-TH	●	2,90	87,0	99	42	144	3,0	1
CD324	30WHNSB-0300-4-TH	●	3,00	90,0	99	42	147	4,0	1
CD933	30WHNSB-0310-4-TH	○	3,10	93,0	116	47	164	4,0	5
CD934	30WHNSB-0320-4-TH	○	3,20	96,0	116	47	164	4,0	5
CD935	30WHNSB-0330-4-TH	○	3,30	99,0	116	47	164	4,0	5
CD936	30WHNSB-0340-4-TH	○	3,40	102,0	116	47	164	4,0	5
CD325	30WHNSB-0350-4-TH	●	3,50	105,0	116	47	164	4,0	1
CD937	30WHNSB-0360-4-TH	○	3,60	108,0	132	48	181	4,0	5
CD938	30WHNSB-0370-4-TH	○	3,70	111,0	132	48	181	4,0	5
CD939	30WHNSB-0380-4-TH	○	3,80	114,0	132	48	181	4,0	5
CD940	30WHNSB-0390-4-TH	○	3,90	117,0	132	48	181	4,0	5
CD326	30WHNSB-0400-4-TH	●	4,00	120,0	132	48	181	4,0	1
CD941	30WHNSB-0410-6-TH	○	4,10	123,0	149	50	200	6,0	5
CD942	30WHNSB-0420-6-TH	○	4,20	126,0	149	50	200	6,0	5
CD943	30WHNSB-0430-6-TH	○	4,30	129,0	149	50	200	6,0	5
CD944	30WHNSB-0440-6-TH	○	4,40	132,0	149	50	200	6,0	5
CD327	30WHNSB-0450-6-TH	●	4,50	135,0	149	50	200	6,0	1
CD945	30WHNSB-0460-6-TH	○	4,60	138,0	166	50	217	6,0	5
CD946	30WHNSB-0470-6-TH	○	4,70	141,0	166	50	217	6,0	5
CD947	30WHNSB-0480-6-TH	○	4,80	144,0	166	50	217	6,0	5
CD948	30WHNSB-0490-6-TH	○	4,90	147,0	166	50	217	6,0	5
CD328	30WHNSB-0500-6-TH	●	5,00	150,0	166	50	217	6,0	1
CD949	30WHNSB-0510-6-TH	○	5,10	153,0	182	50	233	6,0	5
CD950	30WHNSB-0520-6-TH	○	5,20	156,0	182	50	233	6,0	5
CD951	30WHNSB-0530-6-TH	○	5,30	159,0	182	50	233	6,0	5
CD952	30WHNSB-0540-6-TH	○	5,40	162,0	182	50	233	6,0	5
CD329	30WHNSB-0550-6-TH	●	5,50	165,0	182	50	233	6,0	1
CD953	30WHNSB-0560-6-TH	○	5,60	168,0	199	50	250	6,0	5
CD954	30WHNSB-0570-6-TH	○	5,70	171,0	199	50	250	6,0	5
CD955	30WHNSB-0580-6-TH	○	5,80	174,0	199	50	250	6,0	5
CD956	30WHNSB-0590-6-TH	○	5,90	177,0	199	50	250	6,0	5
CD330	30WHNSB-0600-6-TH	●	6,00	180,0	199	50	250	6,0	1
CD957	30WHNSB-0610-8-TH	○	6,10	183,0	215	52	268	8,0	5
CD958	30WHNSB-0620-8-TH	○	6,20	186,0	215	52	268	8,0	5
CD959	30WHNSB-0630-8-TH	○	6,30	189,0	215	52	268	8,0	5
CD960	30WHNSB-0640-8-TH	○	6,40	192,0	215	52	268	8,0	5
CD331	30WHNSB-0650-8-TH	●	6,50	195,0	215	52	268	8,0	1
CD961	30WHNSB-0660-8-TH	○	6,60	198,0	232	52	285	8,0	5
CD962	30WHNSB-0670-8-TH	○	6,70	201,0	232	52	285	8,0	5
CD963	30WHNSB-0680-8-TH	○	6,80	204,0	232	52	285	8,0	5
CD964	30WHNSB-0690-8-TH	○	6,90	207,0	232	52	285	8,0	5
CD332	30WHNSB-0700-8-TH	●	7,00	210,0	232	52	285	8,0	1
CD965	30WHNSB-0710-8-TH	○	7,10	213,0	248	54	303	8,0	5
CD966	30WHNSB-0720-8-TH	○	7,20	216,0	248	54	303	8,0	5
CD967	30WHNSB-0730-8-TH	○	7,30	219,0	248	54	303	8,0	5
CD968	30WHNSB-0740-8-TH	○	7,40	222,0	248	54	303	8,0	5
CD333	30WHNSB-0750-8-TH	●	7,50	225,0	248	54	303	8,0	1
CD969	30WHNSB-0760-8-TH	○	7,60	228,0	265	54	320	8,0	5
CD970	30WHNSB-0770-8-TH	○	7,70	231,0	265	54	320	8,0	5
CD971	30WHNSB-0780-8-TH	○	7,80	234,0	265	54	320	8,0	5
CD972	30WHNSB-0790-8-TH	○	7,90	237,0	265	54	320	8,0	5
CD334	30WHNSB-0800-8-TH	●	8,00	240,0	265	54	320	8,0	1



**WHNSB-TH** | Carbide Oil Hole Non-Step Borer (NSB)

<b>Carbide</b> Micro Grain	<b>No. of Teeth</b> 2	<b>TH</b> Nano-PVD Coating	<b>HRC</b> ~50	<b>30xD</b>	<b>135°</b> 10D~30D
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**30xD**

Tolerance Information on Page 39

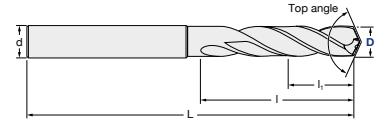
ID Code	Item Code	Stock	Diameter	Using length	Flute length	Shank length	Total length	Shank Dia.	Minimum Order Quantity
			D	l <sub>1</sub>	l	l <sub>s</sub>	L	d	
CD973	30WHNSB-0810-10-TH	○	8,10	243,0	281	54	336	10,0	5
CD974	30WHNSB-0820-10-TH	○	8,20	246,0	281	54	336	10,0	5
CD975	30WHNSB-0830-10-TH	○	8,30	249,0	281	54	336	10,0	5
CD976	30WHNSB-0840-10-TH	○	8,40	252,0	281	54	336	10,0	5
CD335	30WHNSB-0850-10-TH	●	8,50	255,0	281	54	336	10,0	1
CD977	30WHNSB-0860-10-TH	○	8,60	258,0	298	54	353	10,0	5
CD978	30WHNSB-0870-10-TH	○	8,70	261,0	298	54	353	10,0	5
CD979	30WHNSB-0880-10-TH	○	8,80	264,0	298	54	353	10,0	5
CD980	30WHNSB-0890-10-TH	○	8,90	267,0	298	54	353	10,0	5
CD336	30WHNSB-0900-10-TH	●	9,00	270,0	298	54	353	10,0	1
CD981	30WHNSB-0910-10-TH	○	9,10	273,0	314	54	369	10,0	5
CD982	30WHNSB-0920-10-TH	○	9,20	276,0	314	54	369	10,0	5
CD983	30WHNSB-0930-10-TH	○	9,30	279,0	314	54	369	10,0	5
CD984	30WHNSB-0940-10-TH	○	9,40	282,0	314	54	369	10,0	5
CD337	30WHNSB-0950-10-TH	●	9,50	285,0	314	54	369	10,0	1
CD985	30WHNSB-0960-10-TH	○	9,60	288,0	331	54	386	10,0	5
CD986	30WHNSB-0970-10-TH	○	9,70	291,0	331	54	386	10,0	5
CD987	30WHNSB-0980-10-TH	○	9,80	294,0	331	54	386	10,0	5
CD988	30WHNSB-0990-10-TH	○	9,90	297,0	331	54	386	10,0	5
CD338	30WHNSB-1000-10-TH	●	10,00	300,0	331	54	386	10,0	1
CD989	30WHNSB-1010-12-TH	○	10,10	303,0	350	54	405	12,0	5
CD990	30WHNSB-1020-12-TH	○	10,20	306,0	350	54	405	12,0	5
CD991	30WHNSB-1030-12-TH	○	10,30	309,0	350	54	405	12,0	5
CD992	30WHNSB-1040-12-TH	○	10,40	312,0	350	54	405	12,0	5
CD993	30WHNSB-1050-12-TH	○	10,50	315,0	350	54	405	12,0	5
CD994	30WHNSB-1060-12-TH	○	10,60	318,0	364	54	420	12,0	5
CD995	30WHNSB-1070-12-TH	○	10,70	321,0	364	54	420	12,0	5
CD996	30WHNSB-1080-12-TH	○	10,80	324,0	364	54	420	12,0	5
CD997	30WHNSB-1090-12-TH	○	10,90	327,0	364	54	420	12,0	5
CD339	30WHNSB-1100-12-TH	●	11,00	330,0	364	60	425	12,0	1
CD998	30WHNSB-1110-12-TH	○	11,10	333,0	383	60	444	12,0	5
CD999	30WHNSB-1120-12-TH	○	11,20	336,0	383	60	444	12,0	5
CD1000	30WHNSB-1130-12-TH	○	11,30	339,0	383	60	444	12,0	5
CD1001	30WHNSB-1140-12-TH	○	11,40	342,0	383	60	444	12,0	5
CD1002	30WHNSB-1150-12-TH	○	11,50	345,0	383	60	444	12,0	5
CD1003	30WHNSB-1160-12-TH	○	11,60	348,0	399	60	460	12,0	5
CD1004	30WHNSB-1170-12-TH	○	11,70	351,0	399	60	460	12,0	5
CD1005	30WHNSB-1180-12-TH	○	11,80	354,0	399	60	460	12,0	5
CD1006	30WHNSB-1190-12-TH	○	11,90	357,0	399	60	460	12,0	5
CD1007	30WHNSB-1200-12-TH	○	12,00	360,0	399	60	460	12,0	5

Item	Drilling Depth	Diameter D	Cutting Conditions on page:
30WHNSB-TH	30xD	2.0 ~ 12.0	32-33



**WHNSB-TH** | Carbide Oil Hole Non-Step Borer (NSB)

<b>Carbide</b> Micro Grain	<b>No. of Teeth</b> 2	<b>TH</b> Nano-PVD Coating	<b>HRC</b> ~50	<b>3xD</b>	<b>140°</b> 3D
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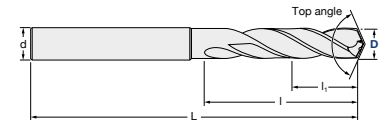


**3xD Pilot Hole Drills**

Tolerance Information on Page 39

ID Code	Item Code	Stock	Diameter	Using length	Flute length	Shank length	Total length	Shank Dia.	Minimum Order Quantity
			D	l <sub>1</sub>	l	l <sub>s</sub>	L	d	
CD076	03WHNSB-0305-TH	■	3,05	9,15	23	48	73	4,0	1
CD084	03WHNSB-0405-TH	■	4,05	12,15	29	51	82	5,0	1
CD092	03WHNSB-0505-TH	■	5,05	15,15	29	51	82	6,0	1
CD097	03WHNSB-0555-TH	■	5,55	16,65	29	51	82	6,0	1
CD102	03WHNSB-0605-TH	■	6,05	18,15	34	53	89	7,0	1
CD107	03WHNSB-0655-TH	■	6,55	19,65	34	53	89	7,0	1
CD111	03WHNSB-0705-TH	■	7,05	21,15	39	54	95	8,0	1
CD120	03WHNSB-0805-TH	■	8,05	24,15	44	55	101	9,0	1

<b>Carbide</b> Micro Grain	<b>No. of Teeth</b> 2	<b>TH</b> Nano-PVD Coating	<b>HRC</b> ~50	<b>3xD</b>	<b>140°</b> 3D
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**3xD**

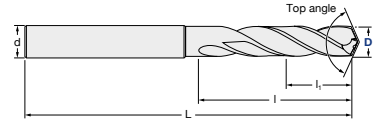
Tolerance Information on Page 39

ID Code	Item Code	Stock	Diameter	Using length	Flute length	Shank length	Total length	Shank Dia.	Minimum Order Quantity
			D	l <sub>1</sub>	l	l <sub>s</sub>	L	d	
CD001	03WHNSB-0300-TH	■	3,00	9,0	19	48	69	3,0	1
CD077	03WHNSB-0310-TH	■	3,10	9,3	23	48	73	4,0	1
CD078	03WHNSB-0320-TH	■	3,20	9,6	23	48	73	4,0	1
CD002	03WHNSB-0330-TH	■	3,30	9,9	23	48	73	4,0	1
CD079	03WHNSB-0340-TH	■	3,40	10,2	23	48	73	4,0	1
CD003	03WHNSB-0350-TH	■	3,50	10,5	23	48	73	4,0	1
CD080	03WHNSB-0360-TH	■	3,60	10,8	23	48	73	4,0	1
CD081	03WHNSB-0370-TH	■	3,70	11,1	23	48	73	4,0	1
CD082	03WHNSB-0380-TH	■	3,80	11,4	23	48	73	4,0	1
CD083	03WHNSB-0390-TH	■	3,90	11,7	23	48	73	4,0	1
CD004	03WHNSB-0400-TH	■	4,00	12,0	23	48	73	4,0	1
CD085	03WHNSB-0410-TH	■	4,10	12,3	29	51	82	5,0	1
CD005	03WHNSB-0420-TH	■	4,20	12,6	29	51	82	5,0	1
CD086	03WHNSB-0430-TH	■	4,30	12,9	29	51	82	5,0	1
CD087	03WHNSB-0440-TH	■	4,40	13,2	29	51	82	5,0	1
CD006	03WHNSB-0450-TH	■	4,50	13,5	29	51	82	5,0	1
CD088	03WHNSB-0460-TH	■	4,60	13,8	29	51	82	5,0	1
CD089	03WHNSB-0470-TH	■	4,70	14,1	29	51	82	5,0	1
CD090	03WHNSB-0480-TH	■	4,80	14,4	29	51	82	5,0	1
CD091	03WHNSB-0490-TH	■	4,90	14,7	29	51	82	5,0	1
CD007	03WHNSB-0500-TH	■	5,00	15,0	29	51	82	6,0	1
CD093	03WHNSB-0510-TH	■	5,10	15,3	29	51	82	6,0	1
CD094	03WHNSB-0520-TH	■	5,20	15,6	29	51	82	6,0	1
CD095	03WHNSB-0530-TH	■	5,30	15,9	29	51	82	6,0	1
CD096	03WHNSB-0540-TH	■	5,40	16,2	29	51	82	6,0	1
CD008	03WHNSB-0550-TH	■	5,50	16,5	29	51	82	6,0	1
CD098	03WHNSB-0560-TH	■	5,60	16,8	30	51	82	6,0	1
CD099	03WHNSB-0570-TH	■	5,70	17,1	30	51	82	6,0	1
CD100	03WHNSB-0580-TH	■	5,80	17,4	30	51	82	6,0	1
CD101	03WHNSB-0590-TH	■	5,90	17,7	30	51	82	6,0	1
CD009	03WHNSB-0600-TH	■	6,00	18,0	30	51	82	6,0	1
CD103	03WHNSB-0610-TH	■	6,10	18,3	34	53	89	7,0	1
CD104	03WHNSB-0620-TH	■	6,20	18,6	34	53	89	7,0	1
CD105	03WHNSB-0630-TH	■	6,30	18,9	34	53	89	7,0	1
CD106	03WHNSB-0640-TH	■	6,40	19,2	34	53	89	7,0	1





**WHNSB-TH** | Carbide Oil Hole Non-Step Borer (NSB)



**3xD**

Tolerance Information on Page 39

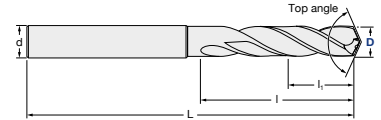
ID Code	Item Code	Stock	Diameter	Using length	Flute length	Shank length	Total length	Shank Dia.	Minimum Order Quantity
			D	l <sub>1</sub>	l	l <sub>s</sub>	L	d	
CD010	03WHNSB-0650-TH	■	6,50	19,5	34	53	89	7,0	1
CD108	03WHNSB-0660-TH	■	6,60	19,8	34	53	89	7,0	1
CD109	03WHNSB-0670-TH	■	6,70	20,1	34	53	89	7,0	1
CD011	03WHNSB-0680-TH	■	6,80	20,4	34	53	89	7,0	1
CD110	03WHNSB-0690-TH	■	6,90	20,7	34	53	89	7,0	1
CD012	03WHNSB-0700-TH	■	7,00	21,0	34	53	89	7,0	1
CD112	03WHNSB-0710-TH	■	7,10	21,3	39	54	95	8,0	1
CD113	03WHNSB-0720-TH	■	7,20	21,6	39	54	95	8,0	1
CD114	03WHNSB-0730-TH	■	7,30	21,9	39	54	95	8,0	1
CD115	03WHNSB-0740-TH	■	7,40	22,2	39	54	95	8,0	1
CD013	03WHNSB-0750-TH	■	7,50	22,5	39	54	95	8,0	1
CD116	03WHNSB-0760-TH	■	7,60	22,8	39	54	95	8,0	1
CD117	03WHNSB-0770-TH	■	7,70	23,1	39	54	95	8,0	1
CD118	03WHNSB-0780-TH	■	7,80	23,4	39	54	95	8,0	1
CD119	03WHNSB-0790-TH	■	7,90	23,7	39	54	95	8,0	1
CD014	03WHNSB-0800-TH	■	8,00	24,0	39	54	95	8,0	1
CD121	03WHNSB-0810-TH	■	8,10	24,3	44	55	101	9,0	1
CD122	03WHNSB-0820-TH	■	8,20	24,6	44	55	101	9,0	1
CD123	03WHNSB-0830-TH	■	8,30	24,9	44	55	101	9,0	1
CD124	03WHNSB-0840-TH	■	8,40	25,2	44	55	101	9,0	1
CD015	03WHNSB-0850-TH	■	8,50	25,5	44	55	101	9,0	1
CD125	03WHNSB-0860-TH	■	8,60	25,8	44	55	101	9,0	1
CD126	03WHNSB-0870-TH	■	8,70	26,1	44	55	101	9,0	1
CD127	03WHNSB-0880-TH	■	8,80	26,4	44	55	101	9,0	1
CD128	03WHNSB-0890-TH	■	8,90	26,7	44	55	101	9,0	1
CD016	03WHNSB-0900-TH	■	9,00	27,0	44	55	101	9,0	1
CD017	03WHNSB-0950-TH	■	9,50	28,5	49	56	107	10,0	1
CD129	03WHNSB-0980-TH	■	9,80	29,4	49	56	107	10,0	1
CD018	03WHNSB-1000-TH	■	10,00	30,0	49	56	107	10,0	1
CD130	03WHNSB-1020-TH	■	10,20	30,6	54	61	117	11,0	1
CD131	03WHNSB-1030-TH	■	10,30	30,9	54	61	117	11,0	1
CD019	03WHNSB-1050-TH	■	10,50	31,5	54	61	117	11,0	1
CD020	03WHNSB-1080-TH	■	10,80	32,4	54	61	117	11,0	1
CD021	03WHNSB-1100-TH	■	11,00	33,0	54	61	117	11,0	1
CD022	03WHNSB-1150-TH	■	11,50	34,5	59	62	123	12,0	1
CD132	03WHNSB-1180-TH	■	11,80	35,4	59	62	123	12,0	1
CD023	03WHNSB-1200-TH	■	12,00	36,0	59	62	123	12,0	1
CD024	03WHNSB-1250-TH	■	12,50	37,5	64	63	129	13,0	1
CD025	03WHNSB-1300-TH	■	13,00	39,0	64	63	129	13,0	1

Item	Drilling Depth	Diameter D	Cutting Conditions on page:
3xD Pilot Hole Drills	3xD	3.05 – 8.05	28–29
03WHNSB-TH	3xD	3.0 ~ 13.0	28–29



**WHNSB-TH** | Carbide Oil Hole Non-Step Borer (NSB)

<b>Carbide</b> Micro Grain	<b>No. of Teeth</b> 2	<b>TH</b> Nano-PVD Coating	<b>HRC</b> ~50	<b>5xD</b>	<b>140°</b> 3D-8D
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**5xD**

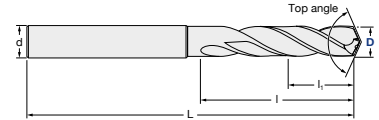
Tolerance Information on Page 39

ID Code	Item Code	Stock	Diameter	Using length	Flute length	Shank length	Total length	Shank Dia.	Minimum Order Quantity
			D	l <sub>1</sub>	l	l <sub>s</sub>	L	d	
CD026	05WHNSB-0300-TH	■	3,00	15,00	29	47	79	3,0	1
CD133	05WHNSB-0310-TH	■	3,10	15,50	37	47	87	4,0	1
CD134	05WHNSB-0320-TH	■	3,20	16,00	37	47	87	4,0	1
CD027	05WHNSB-0330-TH	■	3,30	16,50	37	47	87	4,0	1
CD135	05WHNSB-0340-TH	■	3,40	17,00	37	47	87	4,0	1
CD028	05WHNSB-0350-TH	■	3,50	17,50	37	47	87	4,0	1
CD136	05WHNSB-0360-TH	■	3,60	18,00	37	47	87	4,0	1
CD137	05WHNSB-0370-TH	■	3,70	18,50	37	47	87	4,0	1
CD138	05WHNSB-0380-TH	■	3,80	19,00	37	47	87	4,0	1
CD139	05WHNSB-0390-TH	■	3,90	19,50	37	47	87	4,0	1
CD029	05WHNSB-0400-TH	■	4,00	20,00	37	47	87	4,0	1
CD140	05WHNSB-0410-TH	■	4,10	20,50	47	50	100	5,0	1
CD030	05WHNSB-0420-TH	■	4,20	21,00	47	50	100	5,0	1
CD141	05WHNSB-0430-TH	■	4,30	21,50	47	50	100	5,0	1
CD142	05WHNSB-0440-TH	■	4,40	22,00	47	50	100	5,0	1
CD031	05WHNSB-0450-TH	■	4,50	22,50	47	50	100	5,0	1
CD143	05WHNSB-0460-TH	■	4,60	23,00	47	50	100	5,0	1
CD144	05WHNSB-0470-TH	■	4,70	23,50	47	50	100	5,0	1
CD145	05WHNSB-0480-TH	■	4,80	24,00	47	50	100	5,0	1
CD146	05WHNSB-0490-TH	■	4,90	24,50	47	50	100	5,0	1
CD032	05WHNSB-0500-TH	■	5,00	25,00	47	50	100	5,0	1
CD147	05WHNSB-0510-TH	■	5,10	25,50	47	50	100	6,0	1
CD148	05WHNSB-0520-TH	■	5,20	26,00	47	50	100	6,0	1
CD149	05WHNSB-0530-TH	■	5,30	26,50	47	50	100	6,0	1
CD150	05WHNSB-0540-TH	■	5,40	27,00	47	50	100	6,0	1
CD033	05WHNSB-0550-TH	■	5,50	27,50	47	50	100	6,0	1
CD151	05WHNSB-0560-TH	■	5,60	28,00	47	50	100	6,0	1
CD152	05WHNSB-0570-TH	■	5,70	28,50	47	50	100	6,0	1
CD153	05WHNSB-0580-TH	■	5,80	29,00	47	50	100	6,0	1
CD154	05WHNSB-0590-TH	■	5,90	29,50	47	50	100	6,0	1
CD034	05WHNSB-0600-TH	■	6,00	30,00	47	50	100	6,0	1
CD155	05WHNSB-0610-TH	■	6,10	30,50	55	53	110	7,0	1
CD156	05WHNSB-0620-TH	■	6,20	31,00	55	53	110	7,0	1
CD157	05WHNSB-0630-TH	■	6,30	31,50	55	53	110	7,0	1
CD158	05WHNSB-0640-TH	■	6,40	32,00	55	53	110	7,0	1
CD035	05WHNSB-0650-TH	■	6,50	32,50	55	53	110	7,0	1
CD159	05WHNSB-0660-TH	■	6,60	33,00	55	53	110	7,0	1



**WHNSB-TH** | Carbide Oil Hole Non-Step Borer (NSB)

<b>Carbide</b> Micro Grain	<b>No. of Teeth</b> 2	<b>TH</b> Nano-PVD Coating	<b>HRC</b> ~50	<b>5xD</b>	<b>140°</b> 3D-8D
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**5xD**

Tolerance Information on Page 39

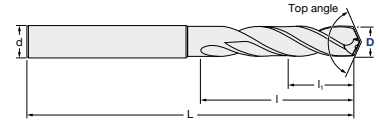
ID Code	Item Code	Stock	Diameter	Using length	Flute length	Shank length	Total length	Shank Dia.	Minimum Order Quantity
			D	l <sub>1</sub>	l	l <sub>s</sub>	L	d	
CD160	05WHNSB-0670-TH	■	6,70	33,50	55	53	110	7,0	1
CD036	05WHNSB-0680-TH	■	6,80	34,00	55	53	110	7,0	1
CD161	05WHNSB-0690-TH	■	6,90	34,50	55	53	110	7,0	1
CD037	05WHNSB-0700-TH	■	7,00	35,00	55	53	110	7,0	1
CD162	05WHNSB-0710-TH	■	7,10	35,50	63	54	119	8,0	1
CD163	05WHNSB-0720-TH	■	7,20	36,00	63	54	119	8,0	1
CD164	05WHNSB-0730-TH	■	7,30	36,50	63	54	119	8,0	1
CD165	05WHNSB-0740-TH	■	7,40	37,00	63	54	119	8,0	1
CD038	05WHNSB-0750-TH	■	7,50	37,50	63	54	119	8,0	1
CD166	05WHNSB-0760-TH	■	7,60	38,00	63	54	119	8,0	1
CD167	05WHNSB-0770-TH	■	7,70	38,50	63	54	119	8,0	1
CD168	05WHNSB-0780-TH	■	7,80	39,00	63	54	119	8,0	1
CD169	05WHNSB-0790-TH	■	7,90	39,50	63	54	119	8,0	1
CD039	05WHNSB-0800-TH	■	8,00	40,00	63	54	119	8,0	1
CD170	05WHNSB-0810-TH	■	8,10	40,50	71	55	128	9,0	1
CD171	05WHNSB-0820-TH	■	8,20	41,00	71	55	128	9,0	1
CD172	05WHNSB-0830-TH	■	8,30	41,50	71	55	128	9,0	1
CD173	05WHNSB-0840-TH	■	8,40	42,00	71	55	128	9,0	1
CD040	05WHNSB-0850-TH	■	8,50	42,50	71	55	128	9,0	1
CD174	05WHNSB-0860-TH	■	8,60	43,00	71	55	128	9,0	1
CD175	05WHNSB-0870-TH	■	8,70	43,50	71	55	128	9,0	1
CD176	05WHNSB-0880-TH	■	8,80	44,00	71	55	128	9,0	1
CD177	05WHNSB-0890-TH	■	8,90	44,50	71	55	128	9,0	1
CD041	05WHNSB-0900-TH	■	9,00	45,00	71	55	128	9,0	1
CD042	05WHNSB-0950-TH	■	9,50	47,50	79	56	137	10,0	1
CD178	05WHNSB-0980-TH	■	9,80	49,00	79	56	137	10,0	1
CD043	05WHNSB-1000-TH	■	10,00	50,00	79	56	137	10,0	1
CD179	05WHNSB-1020-TH	■	10,20	51,00	87	61	150	11,0	1
CD180	05WHNSB-1030-TH	■	10,30	51,50	87	61	150	11,0	1
CD044	05WHNSB-1050-TH	■	10,50	52,50	87	61	150	11,0	1
CD045	05WHNSB-1080-TH	■	10,80	54,00	87	61	150	11,0	1
CD046	05WHNSB-1100-TH	■	11,00	55,00	87	61	150	11,0	1
CD047	05WHNSB-1150-TH	■	11,50	57,50	93	61	156	12,0	1
CD181	05WHNSB-1180-TH	■	11,80	59,00	93	61	156	12,0	1
CD048	05WHNSB-1200-TH	■	12,00	60,00	93	61	156	12,0	1
CD049	05WHNSB-1250-TH	■	12,50	62,50	104	63	169	13,0	1
CD050	05WHNSB-1300-TH	■	13,00	65,00	104	63	169	13,0	1

Item	Drilling Depth	Diameter D	Cutting Conditions on page:	
05WHNSB-TH	5xD	3.0 ~ 13.00	28-29	5xD Large D: 30-31



**WHNSB-TH** | Carbide Oil Hole Non-Step Borer (NSB)

<b>Carbide</b> Micro Grain	<b>No. of Teeth</b> 2	<b>TH</b> Nano-PVD Coating	<b>HRC</b> ~50	<b>8xD</b>	<b>140°</b> 3D-8D
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**8xD**

Tolerance Information on Page 39

ID Code	Item Code	Stock	Diameter	Using length	Flute length	Shank length	Total length	Shank Dia.	Minimum Order Quantity
			D	l <sub>1</sub>	l	l <sub>s</sub>	L	d	
CD1008	08WHNSB-0300-TH	■	3,00	24,0	35	47	83	3,0	1
CD1009	08WHNSB-0350-TH	■	3,50	28,0	42	51	94	4,0	1
CD1010	08WHNSB-0380-TH	■	3,80	30,4	46	47	94	4,0	1
CD1011	08WHNSB-0400-TH	■	4,00	32,0	46	47	94	4,0	1
CD1012	08WHNSB-0450-TH	■	4,50	36,0	55	54	110	5,0	1
CD1013	08WHNSB-0480-TH	■	4,80	38,4	59	50	110	5,0	1
CD1014	08WHNSB-0500-TH	■	5,00	40,0	59	50	110	5,0	1
CD1015	08WHNSB-0550-TH	■	5,50	44,0	62	55	118	6,0	1
CD1016	08WHNSB-0580-TH	■	5,80	46,4	67	50	118	6,0	1
CD1017	08WHNSB-0600-TH	■	6,00	48,0	67	50	118	6,0	1
CD1018	08WHNSB-0620-TH	■	6,20	49,6	73	57	132	7,0	1
CD1019	08WHNSB-0650-TH	■	6,50	52,0	73	57	132	7,0	1
CD1020	08WHNSB-0680-TH	■	6,80	54,4	77	53	132	7,0	1
CD1021	08WHNSB-0700-TH	■	7,00	56,0	77	53	132	7,0	1
CD1022	08WHNSB-0750-TH	■	7,50	60,0	84	58	144	8,0	1
CD1023	08WHNSB-0780-TH	■	7,80	62,4	88	54	144	8,0	1
CD1024	08WHNSB-0800-TH	■	8,00	64,0	88	54	144	8,0	1
CD1025	08WHNSB-0850-TH	■	8,50	68,0	94	60	156	9,0	1
CD1026	08WHNSB-0900-TH	■	9,00	72,0	99	55	156	9,0	1
CD1027	08WHNSB-0950-TH	■	9,50	76,0	105	61	168	10,0	1
CD1028	08WHNSB-0980-TH	■	9,80	78,4	110	56	168	10,0	1
CD1029	08WHNSB-1000-TH	■	10,00	80,0	110	56	168	10,0	1
CD1030	08WHNSB-1020-TH	■	10,20	81,6	116	66	184	11,0	1
CD1031	08WHNSB-1030-TH	■	10,30	82,4	116	66	184	11,0	1
CD1032	08WHNSB-1050-TH	■	10,50	84,0	116	66	184	11,0	1
CD1033	08WHNSB-1070-TH	■	10,70	85,6	121	61	184	11,0	1
CD1034	08WHNSB-1080-TH	■	10,80	86,4	121	61	184	11,0	1
CD1035	08WHNSB-1100-TH	■	11,00	88,0	121	61	184	11,0	1
CD1036	08WHNSB-1150-TH	■	11,50	92,0	127	66	195	12,0	1
CD1037	08WHNSB-1160-TH	■	11,60	92,8	132	61	195	12,0	1
CD1038	08WHNSB-1200-TH	■	12,00	96,0	132	61	195	12,0	1
CD1039	08WHNSB-1250-TH	■	12,50	100,0	138	68	208	13,0	1
CD1040	08WHNSB-1300-TH	■	13,00	104,0	143	63	208	13,0	1

<b>Carbide</b> Micro Grain	<b>No. of Teeth</b> 2	<b>TH</b> Nano-PVD Coating	<b>HRC</b> ~50	<b>10xD</b>	<b>135°</b> 10D-30D
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**10xD**

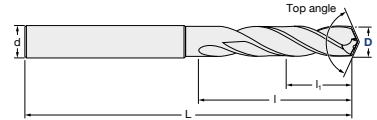
Tolerance Information on Page 39

ID Code	Item Code	Stock	Diameter	Using length	Flute length	Shank length	Total length	Shank Dia.	Minimum Order Quantity
			D	l <sub>1</sub>	l	l <sub>s</sub>	L	d	
CD051	10WHNSB-0300-TH	■	3,00	30,00	39	45	87	3,0	1
CD182	10WHNSB-0350-TH	■	3,50	35,00	46	47	94	4,0	1
CD052	10WHNSB-0400-TH	■	4,00	40,00	52	48	101	4,0	1
CD183	10WHNSB-0450-TH	■	4,50	45,00	59	50	110	5,0	1
CD053	10WHNSB-0500-TH	■	5,00	50,00	66	50	117	5,0	1
CD184	10WHNSB-0550-TH	■	5,50	55,00	72	50	123	6,0	1
CD054	10WHNSB-0600-TH	■	6,00	60,00	79	50	130	6,0	1
CD185	10WHNSB-0650-TH	■	6,50	65,00	85	52	138	7,00	1
CD055	10WHNSB-0700-TH	■	7,00	70,00	92	52	145	7,00	1
CD186	10WHNSB-0750-TH	■	7,50	75,00	98	54	153	8,00	1
CD056	10WHNSB-0800-TH	■	8,00	80,00	105	54	160	8,00	1
CD187	10WHNSB-0850-TH	■	8,50	85,00	111	54	166	9,00	1
CD057	10WHNSB-0900-TH	■	9,00	90,00	118	54	173	9,00	1



**WHNSB-TH** | Carbide Oil Hole Non-Step Borer (NSB)

<b>Carbide</b> Micro Grain	<b>No. of Teeth</b> 2	<b>TH</b> Nano-PVD Coating	<b>HRC</b> ~50		 100-30D
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**15xD**

Tolerance Information on Page 39

ID Code	Item Code	Stock	Diameter	Using length	Flute length	Shank length	Total length	Shank Dia.	Minimum Order Quantity
			D	l <sub>i</sub>	l	l <sub>s</sub>	L	d	
CD058	15WHNSB-0300-TH	■	3,00	45,0	54	45	102	3,0	1
CD188	15WHNSB-0350-TH	■	3,50	52,5	63	47	111	4,0	1
CD059	15WHNSB-0400-TH	■	4,00	60,0	72	48	121	4,0	1
CD189	15WHNSB-0450-TH	■	4,50	67,5	81	50	132	5,0	1
CD060	15WHNSB-0500-TH	■	5,00	75,0	91	50	142	5,0	1
CD190	15WHNSB-0550-TH	■	5,50	82,5	100	50	151	6,0	1
CD061	15WHNSB-0600-TH	■	6,00	90,0	109	50	160	6,0	1
CD191	15WHNSB-0650-TH	■	6,50	97,5	118	52	171	7,0	1
CD062	15WHNSB-0700-TH	■	7,00	105,0	127	52	180	7,0	1
CD192	15WHNSB-0750-TH	■	7,50	112,5	136	54	191	8,0	1
CD063	15WHNSB-0800-TH	■	8,00	120,0	145	54	200	8,0	1
CD193	15WHNSB-0850-TH	■	8,50	127,5	154	54	209	9,0	1
CD064	15WHNSB-0900-TH	■	9,00	135,0	163	54	218	9,0	1
CD194	15WHNSB-1000-TH	■	10,00	150,0	181	54	236	10,0	1



**20xD**

Tolerance Information on Page 39

ID Code	Item Code	Stock	Diameter	Using length	Flute length	Shank length	Total length	Shank Dia.	Minimum Order Quantity
			D	l <sub>i</sub>	l	l <sub>s</sub>	L	d	
CD065	20WHNSB-0300-TH	■	3,00	60,00	69	43	117	3,0	1
CD195	20WHNSB-0350-TH	■	3,50	70,00	81	47	129	4,0	1
CD066	20WHNSB-0400-TH	■	4,00	80,00	92	48	141	4,0	1
CD196	20WHNSB-0450-TH	■	4,50	90,00	104	50	155	5,0	1
CD067	20WHNSB-0500-TH	■	5,00	100,00	116	50	167	5,0	1
CD197	20WHNSB-0550-TH	■	5,50	110,00	127	50	178	6,0	1
CD068	20WHNSB-0600-TH	■	6,00	120,00	139	50	190	6,0	1
CD198	20WHNSB-0650-TH	■	6,50	130,00	150	52	203	7,0	1
CD069	20WHNSB-0700-TH	■	7,00	140,00	162	52	215	7,0	1
CD199	20WHNSB-0750-TH	■	7,50	150,00	173	54	228	8,0	1
CD070	20WHNSB-0800-TH	■	8,00	160,00	185	54	240	8,0	1
CD200	20WHNSB-0850-TH	■	8,50	170,00	196	54	251	9,0	1
CD071	20WHNSB-0900-TH	■	9,00	180,00	208	54	263	10,0	1



**30xD**

Tolerance Information on Page 39

ID Code	Item Code	Stock	Diameter	Using length	Flute length	Shank length	Total length	Shank Dia.	Minimum Order Quantity
			D	l <sub>i</sub>	l	l <sub>s</sub>	L	d	
CD072	30WHNSB-0300-TH	■	3,00	90,0	99	42	147	3,0	1
CD201	30WHNSB-0350-TH	■	3,50	105,0	116	47	164	4,0	1
CD073	30WHNSB-0400-TH	■	4,00	120,0	132	48	181	4,0	1
CD202	30WHNSB-0450-TH	■	4,50	135,0	149	50	200	5,0	1
CD074	30WHNSB-0500-TH	■	5,00	150,0	166	50	217	5,0	1
CD203	30WHNSB-0550-TH	■	5,50	165,0	182	50	233	6,0	1
CD075	30WHNSB-0600-TH	■	6,00	180,0	199	50	250	6,0	1

Item	Drilling Depth	Diameter D	Cutting Conditions on page:
08WHNSB-TH	8xD	3.0 ~ 13.0	28-29
10WHNSB-TH	10xD	3.0 ~ 9.0	32-33
15WHNSB-TH	15xD	3.0 ~ 10.0	32-33
20WHNSB-TH	20xD	3.0 ~ 9.0	32-33
30WHNSB-TH	30xD	3.0 ~ 6.0	32-33



**WHNSB-TH** | Tolerance Information

Item code	D Tol. [mm]	d Tol.
03WHNSB	<b>h8</b>	<b>0/-0.01mm</b>
05WHNSB	<b>h8</b>	<b>0/-0.01mm</b>
08WHNSB	<b>h8</b>	<b>0/-0.01mm</b>
10WHNSB	shown as following caution and table	<b>h6</b>
15WHNSB	shown as following caution and table	<b>h6</b>
20WHNSB	shown as following caution and table	<b>h6</b>
25WHNSB	<b>h8</b>	<b>h6</b>
30WHNSB	shown as following caution and table	<b>h6</b>

Table of Tolerance on tool Diameter – 10WHNSB			
<b>h8 for diameters of 2.0 to 3.0, 3.5, 4.0, 4.5, 5.0, 5.5, 6.0, 6.5, 7.0, 7.5, 8.0, 8.5 and 9.0 mm</b>			
<b>For other items, the diameter tolerance will be as in the table below.</b>			
10WHNSB [mm]			
	3.0<D<6.0	6.0<D≤10.0	10.0<D≤13.0
max	<b>-0.020 mm</b>	<b>-0.024</b>	<b>-0.030</b>
min	<b>-0.036 mm</b>	<b>-0.045</b>	<b>-0.053</b>

Table of Tolerance on tool Diameter – 15WHNSB			
<b>h8 for diameters of 2.0 to 3.0, 3.5, 4.0, 4.5, 5.0, 5.5, 6.0, 6.5, 7.0, 7.5, 8.0, 8.5, 9.0 and 10.0 mm.</b>			
<b>For other items, the diameter tolerance will be as in the table below.</b>			
15WHNSB [mm]			
	3.0<D<6.0	6.0<D<10.0	10.0<D≤13.0
max	<b>-0.020</b>	<b>-0.024</b>	<b>-0.030</b>
min	<b>-0.036</b>	<b>-0.045</b>	<b>-0.053</b>

Table of Tolerance on tool Diameter – 20WHNSB			
<b>h8 for diameters of 2.0 to 3.0, 3.5, 4.0, 4.5, 5.0, 5.5, 6.0, 6.5, 7.0, 7.5, 8.0, 8.5 and 9.0 mm.</b>			
<b>For other items, the diameter tolerance will be as in the table below.</b>			
20WHNSB [mm]			
	3.0<D<6.0	6.0<D≤10.0	10.0<D≤12.0
max	<b>-0.020</b>	<b>-0.024</b>	<b>-0.030</b>
min	<b>-0.036</b>	<b>-0.045</b>	<b>-0.053</b>

Table of Tolerance on tool Diameter – 30WHNSB		
<b>h8 for diameters of 2.0 to 3.0, 3.5, 4.0, 4.5, 5.0, 5.5 and 6.0 mm.</b>		
<b>For other items, the diameter tolerance will be as in the table below.</b>		
30WHNSB [mm]		
	3.0<D<6.0	6.0<D≤9.0
max	<b>-0.020</b>	<b>-0.024</b>
min	<b>-0.036</b>	<b>-0.045</b>