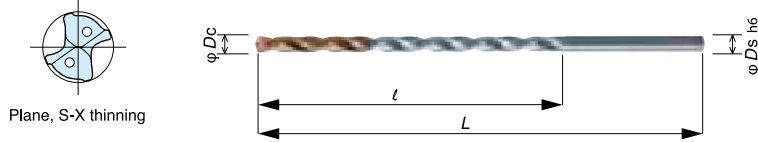




### ดอกสว่านคาร์ไบด์ Non Step มีรูน้ำมัน Carbide Oil Hole Non Step Borer 15D 15WHNSB000-TH



Refer to this page



Ds=3 : 0 ~ -0.006  
3<Ds≤6 : 0 ~ -0.008  
6<Ds≤10 : 0 ~ -0.009  
10<Ds : 0 ~ -0.011

(mm)

Order Code	Stock	Size(mm)			
		Dc Drill Dia.	ℓ Flute Length	L Overall Length	Ds Shank Dia.
15WHNSB0200-TH	●	2.0	40	83	3.0
15WHNSB0210-TH	●	2.1	44	87	3.0
15WHNSB0220-TH	●	2.2	44	87	3.0
15WHNSB0230-TH	●	2.3	50	93	3.0
15WHNSB0240-TH	●	2.4	50	93	3.0
15WHNSB0250-TH	●	2.5	50	93	3.0
15WHNSB0260-TH	●	2.6	54	102	3.0
15WHNSB0270-TH	●	2.7	54	102	3.0
15WHNSB0280-TH	●	2.8	54	102	3.0
15WHNSB0290-TH	●	2.9	54	102	3.0
15WHNSB0300-TH	●	3.0	54	102	3.0
15WHNSB0310-TH	●	3.1	63	111	4.0
15WHNSB0320-TH	●	3.2	63	111	4.0
15WHNSB0330-TH	●	3.3	63	111	4.0
15WHNSB0340-TH	●	3.4	63	111	4.0
15WHNSB0350-TH	●	3.5	63	111	4.0
15WHNSB0360-TH	●	3.6	72	121	4.0
15WHNSB0370-TH	●	3.7	72	121	4.0
15WHNSB0380-TH	●	3.8	72	121	4.0
15WHNSB0390-TH	●	3.9	72	121	4.0
15WHNSB0400-TH	●	4.0	72	121	4.0
15WHNSB0410-TH	●	4.1	81	132	5.0
15WHNSB0420-TH	●	4.2	81	132	5.0
15WHNSB0430-TH	●	4.3	81	132	5.0
15WHNSB0440-TH	●	4.4	81	132	5.0
15WHNSB0450-TH	●	4.5	81	132	5.0
15WHNSB0460-TH	●	4.6	91	142	5.0
15WHNSB0470-TH	●	4.7	91	142	5.0
15WHNSB0480-TH	●	4.8	91	142	5.0
15WHNSB0490-TH	●	4.9	91	142	5.0
15WHNSB0500-TH	●	5.0	91	142	5.0
15WHNSB0510-TH	●	5.1	100	151	6.0
15WHNSB0520-TH	●	5.2	100	151	6.0
15WHNSB0530-TH	●	5.3	100	151	6.0
15WHNSB0540-TH	●	5.4	100	151	6.0
15WHNSB0550-TH	●	5.5	100	151	6.0
15WHNSB0560-TH	●	5.6	109	160	6.0
15WHNSB0570-TH	●	5.7	109	160	6.0
15WHNSB0580-TH	●	5.8	109	160	6.0
15WHNSB0590-TH	●	5.9	109	160	6.0
15WHNSB0600-TH	●	6.0	109	160	6.0
15WHNSB0610-TH	●	6.1	118	171	7.0
15WHNSB0620-TH	●	6.2	118	171	7.0
15WHNSB0630-TH	●	6.3	118	171	7.0
15WHNSB0640-TH	●	6.4	118	171	7.0
15WHNSB0650-TH	●	6.5	118	171	7.0
15WHNSB0660-TH	●	6.6	127	180	7.0

Order Code	Stock	Size(mm)			
		Dc Drill Dia.	ℓ Flute Length	L Overall Length	Ds Shank Dia.
15WHNSB0670-TH	●	6.7	127	180	7.0
15WHNSB0680-TH	●	6.8	127	180	7.0
15WHNSB0690-TH	●	6.9	127	180	7.0
15WHNSB0700-TH	●	7.0	127	180	7.0
15WHNSB0710-TH	●	7.1	136	191	8.0
15WHNSB0720-TH	●	7.2	136	191	8.0
15WHNSB0730-TH	●	7.3	136	191	8.0
15WHNSB0740-TH	●	7.4	136	191	8.0
15WHNSB0750-TH	●	7.5	136	191	8.0
15WHNSB0760-TH	●	7.6	145	200	8.0
15WHNSB0770-TH	●	7.7	145	200	8.0
15WHNSB0780-TH	●	7.8	145	200	8.0
15WHNSB0790-TH	●	7.9	145	200	8.0
15WHNSB0800-TH	●	8.0	145	200	8.0
15WHNSB0810-TH	□	8.1	154	209	9.0
15WHNSB0820-TH	□	8.2	154	209	9.0
15WHNSB0830-TH	□	8.3	154	209	9.0
15WHNSB0840-TH	□	8.4	154	209	9.0
15WHNSB0850-TH	●	8.5	154	209	9.0
15WHNSB0860-TH	□	8.6	163	218	9.0
15WHNSB0870-TH	□	8.7	163	218	9.0
15WHNSB0880-TH	□	8.8	163	218	9.0
15WHNSB0890-TH	□	8.9	163	218	9.0
15WHNSB0900-TH	●	9.0	163	218	9.0
15WHNSB0910-TH	□	9.1	172	227	10.0
15WHNSB0920-TH	□	9.2	172	227	10.0
15WHNSB0930-TH	□	9.3	172	227	10.0
15WHNSB0940-TH	□	9.4	172	227	10.0
15WHNSB0950-TH	□	9.5	172	227	10.0
15WHNSB0960-TH	□	9.6	181	236	10.0
15WHNSB0970-TH	□	9.7	181	236	10.0
15WHNSB0980-TH	□	9.8	181	236	10.0
15WHNSB0990-TH	□	9.9	181	236	10.0
15WHNSB1000-TH	●	10.0	181	236	10.0
15WHNSB1010-TH	□	10.1	190	245	11.0
15WHNSB1020-TH	□	10.2	190	245	11.0
15WHNSB1030-TH	□	10.3	190	245	11.0
15WHNSB1040-TH	□	10.4	190	245	11.0
15WHNSB1050-TH	□	10.5	190	245	11.0
15WHNSB1060-TH	□	10.6	199	260	11.0
15WHNSB1070-TH	□	10.7	199	260	11.0
15WHNSB1080-TH	□	10.8	199	260	11.0
15WHNSB1090-TH	□	10.9	199	260	11.0
15WHNSB1100-TH	□	11.0	199	260	11.0
15WHNSB1110-TH	□	11.1	208	269	12.0
15WHNSB1120-TH	□	11.2	208	269	12.0
15WHNSB1130-TH	□	11.3	208	269	12.0

Order Code	Stock	Size(mm)			
		Dc Drill Dia.	ℓ Flute Length	L Overall Length	Ds Shank Dia.
15WHNSB1140-TH	□	11.4	208	269	12.0
15WHNSB1150-TH	□	11.5	208	269	12.0
15WHNSB1160-TH	□	11.6	217	278	12.0
15WHNSB1170-TH	□	11.7	217	278	12.0
15WHNSB1180-TH	□	11.8	217	278	12.0
15WHNSB1190-TH	□	11.9	217	278	12.0
15WHNSB1200-TH	□	12.0	217	278	12.0
15WHNSB1210-TH	□	12.1	226	287	13.0
15WHNSB1220-TH	□	12.2	226	287	13.0
15WHNSB1230-TH	□	12.3	226	287	13.0
15WHNSB1240-TH	□	12.4	226	287	13.0
15WHNSB1250-TH	□	12.5	226	287	13.0
15WHNSB1260-TH	□	12.6	235	301	13.0
15WHNSB1270-TH	□	12.7	235	301	13.0
15WHNSB1280-TH	□	12.8	235	301	13.0
15WHNSB1290-TH	□	12.9	235	301	13.0
15WHNSB1300-TH	□	13.0	235	301	13.0

15WHNSB  
Table of Tolerance on tool dia.

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.  
For other items, the diameter tolerance will be as in the table below.

15WHNSB			
	3.0<Dc<6.0	6.0<Dc<10.0	10.0<Dc≤13.0
Max	-0.020	-0.024	-0.030
Min	-0.036	-0.045	-0.053

(mm)

● : Stocked Items. □ : Stocked by specified distributor. Contact with our sales department.

# DRILLS

ดอกสว่าน



## Recommended cutting conditions

**10WHNSB-TH**

**15WHNSB-TH**

**20WHNSB-TH**

**30WHNSB-TH**

Work material (hardness)	Cutting speed (Vc) m/min	Cutting conditions	Tool Dia. (mm)					
			Ø2.0	Ø4.0	Ø6.0	Ø8.0	Ø10.0	Ø12.0
Structural steel (~180HB) SS	Internal Coolant 40~120	(n)min <sup>-1</sup> Revolution speed (n) (f)mm/rev Feed per Rev	8000	7000	4800	3600	2900	2400
	MQL (mist) 40~110	(n)min <sup>-1</sup> Revolution speed (n) (f)mm/rev Feed per Rev	8000	5500	4300	3200	2600	2200
Carbon steel (~200HB) S00C	Internal Coolant 40~120	(n)min <sup>-1</sup> Revolution speed (n) (f)mm/rev Feed per Rev	8000	7000	4800	3600	2900	2400
	MQL (mist) 40~110	(n)min <sup>-1</sup> Revolution speed (n) (f)mm/rev Feed per Rev	8000	5500	4700	3600	2900	2400
Alloy steel (~30HRC) SCM, SKD	Internal Coolant 40~100	(n)min <sup>-1</sup> Revolution speed (n) (f)mm/rev Feed per Rev	8000	6300	4500	3400	2700	2400
	MQL (mist) 40~90	(n)min <sup>-1</sup> Revolution speed (n) (f)mm/rev Feed per Rev	8000	5000	3700	2900	2400	2100
Stainless steel SUS300, SUS400	Internal Coolant 30~100	(n)min <sup>-1</sup> Revolution speed (n) (f)mm/rev Feed per Rev	6000	4800	3700	2700	2200	1800
	Prehardened steel	(n)min <sup>-1</sup> Revolution speed (n) (f)mm/rev Feed per Rev	4500	2400	1600	1200	950	800
Ductile iron FCD500	Internal Coolant 40~120	(n)min <sup>-1</sup> Revolution speed (n) (f)mm/rev Feed per Rev	8000	7000	4800	3600	2900	2400
	MQL (mist) 40~100	(n)min <sup>-1</sup> Revolution speed (n) (f)mm/rev Feed per Rev	8000	6300	4500	3400	2700	2400
Casting FC250	Internal Coolant 40~150	(n)min <sup>-1</sup> Revolution speed (n) (f)mm/rev Feed per Rev	8000	8000	5300	4000	3200	2650
	MQL (mist) 40~120	(n)min <sup>-1</sup> Revolution speed (n) (f)mm/rev Feed per Rev	8000	7000	4800	3600	2900	2400

**[Setting of Cutting Conditions]**

- ※ Use the appropriate coolant for the work material and machining shape.
- ※ These Recommended Cutting Conditions indicate only the rule of a thumb for the cutting conditions. In actual machining, the condition should be adjusted according to the machining shape, purpose and the machine type.
- ※ The above cutting conditions are based on the use of a water-soluble coolant diluted to a maximum of 20 times. When coolant dilution exceeds 20 times, decrease the cutting speed to the lowest in the specified range. When the tool diameter is Ø5.0 or less, the coolant pressure should be 2.0 MPa or higher, and when the diameter is over Ø5.0, the pressure should be 1.5 MPa or higher.
- ※ When performing MQL (mist) machining, depending on the amount or status of spray from the tool, it may be necessary to reduce the cutting speed in order to perform machining.
- ※ When changing the tool, use collet free from flaws and stains and attach the tool firmly so that its runout is 0.02mm or less.
- ※ The above conditions apply to a hole-depth of 5 times the diameter or less.
- ※ When cutting fluid is used, reduce the cutting speed to a speed lower than the lowest speed in the specified range. Take the greatest care to avoid heating of chips and the tool. smoke or ignition due to
- ※ Works should be gripped firmly to prevent deformation, deflection and vibration.
- ※ You can use borers at a revolution speed lower than the above values.

Straight Shank  
ดอกสว่านแกนตรง

**Carbide Drills**  
ดอกสว่านคาร์ไบด์

**HSS Drills**  
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ตัวยาว

Micro Drill  
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Z Plunging

Step Borer