

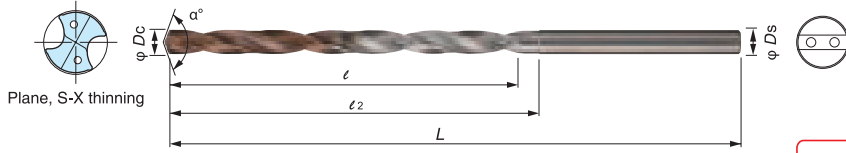
DRILLS

ดอกสว่าน

Stright Shank
ดอกสว่านแกนตรง



ดอกสว่านคาร์ไบด์ Non Step Carbide Oil Hole Non Step Borer H NSBH○○○○-○○-ATH



■ Tool dia. tolerance -NSBH-ATH

Tool dia.	2.0 ≤ Dc ≤ 6.0	6.0 < Dc ≤ 10.0	10.0 < Dc ≤ 12.0
Tolerance	+0.012 0	+0.015 0	+0.015 -0.003

Cutting depth should be set to "under flute length-2xDc" as a general rule.

- Carbide Drills
ดอกสว่านคาร์ไบด์
- HSS Drills
ดอกสว่านไฮสปีด
- Stub / Standard
ตัวสั้น / มาตรฐาน
- Long
ตัวยาว
- Micro Drill
ดอกสว่านไมโคร
- Z Plunging
- Step Borer



h7	Refer to this page	h6	3 < Ds ≤ 6	6 < Ds ≤ 10	10 < Ds
			0 ~ -0.008	0 ~ -0.009	0 ~ -0.011

(mm)

Order Code	Stock	Size (mm)					α Point angle	Order Code	Stock	Size (mm)					α Point angle
		Dc Drill Dia.	ℓ Flute Length	L Overall Length	ℓ2 Under neck length	Ds Shank Dia.				Dc Drill Dia.	ℓ Flute Length	L Overall Length	ℓ2 Under neck length	Ds Shank Dia.	
NSBH0200-10-ATH	●		10	60	14			NSBH0320-20-ATH	●		20	70	23		140
NSBH0200-20-ATH	●	2.0	20	70	24	4	140	NSBH0320-40-ATH	●	3.2	40	90	43	4	
NSBH0200-40-ATH	●		40	90	44		135	NSBH0320-60-ATH	□		60	110	63		135
NSBH0200-60-ATH	●		60	110	64			NSBH0320-90-ATH	□		90	140	93		
NSBH0210-10-ATH	●		10	60	14		140	NSBH0330-20-ATH	●		20	70	23		140
NSBH0210-20-ATH	□	2.1	20	70	24	4	135	NSBH0330-40-ATH	●	3.3	40	90	43	4	
NSBH0210-40-ATH	□		40	90	44			NSBH0330-60-ATH	□		60	110	63		135
NSBH0210-60-ATH	□		60	110	64			NSBH0330-90-ATH	□		90	140	93		
NSBH0220-10-ATH	●		10	60	14		140	NSBH0340-20-ATH	●		20	70	23		140
NSBH0220-20-ATH	□	2.2	20	70	24	4	135	NSBH0340-40-ATH	●	3.4	40	90	43	4	
NSBH0220-40-ATH	□		40	90	44			NSBH0340-60-ATH	□		60	110	63		135
NSBH0220-60-ATH	□		60	110	64			NSBH0340-90-ATH	□		90	140	93		
NSBH0230-10-ATH	●		10	60	14		140	NSBH0350-20-ATH	□		20	70	23		140
NSBH0230-20-ATH	□	2.3	20	70	24	4	135	NSBH0350-40-ATH	□	3.5	40	90	43	4	
NSBH0230-40-ATH	□		40	90	44			NSBH0350-60-ATH	□		60	110	63		135
NSBH0230-60-ATH	□		60	110	64			NSBH0350-90-ATH	□		90	140	93		
NSBH0240-10-ATH	●		10	60	14		140	NSBH0360-20-ATH	□		20	70	23		140
NSBH0240-20-ATH	□	2.4	20	70	24	4	135	NSBH0360-40-ATH	□	3.6	40	90	43	4	
NSBH0240-40-ATH	□		40	90	44			NSBH0360-60-ATH	□		60	110	63		135
NSBH0240-60-ATH	□		60	110	64			NSBH0360-90-ATH	□		90	140	93		
NSBH0250-10-ATH	●		10	60	14		140	NSBH0360-120-ATH	□		120	170	123		
NSBH0250-20-ATH	●	2.5	20	70	24	4	135	NSBH0370-20-ATH	□		20	70	23		140
NSBH0250-40-ATH	□		40	90	44			NSBH0370-40-ATH	□	3.7	40	90	43	4	
NSBH0250-60-ATH	□		60	110	64			NSBH0370-60-ATH	□		60	110	63		135
NSBH0260-10-ATH	●		10	60	14		140	NSBH0370-90-ATH	□		90	140	93		
NSBH0260-20-ATH	●	2.6	20	70	24	4	135	NSBH0370-120-ATH	□		120	170	123		
NSBH0260-40-ATH	□		40	90	44			NSBH0380-20-ATH	□		20	70	23		140
NSBH0260-60-ATH	□		60	110	64			NSBH0380-40-ATH	□	3.8	40	90	43	4	
NSBH0270-10-ATH	●		10	60	14		140	NSBH0380-60-ATH	□		60	110	63		135
NSBH0270-20-ATH	□	2.7	20	70	24	4	135	NSBH0380-90-ATH	□		90	140	93		
NSBH0270-40-ATH	□		40	90	44			NSBH0380-120-ATH	□		120	170	123		
NSBH0270-60-ATH	□		60	110	64			NSBH0390-20-ATH	□		20	70	23		140
NSBH0280-10-ATH	●		10	60	14		140	NSBH0390-40-ATH	□	3.9	40	90	43	4	
NSBH0280-20-ATH	□	2.8	20	70	24	4	135	NSBH0390-60-ATH	□		60	110	63		135
NSBH0280-40-ATH	□		40	90	44			NSBH0390-90-ATH	□		90	140	93		
NSBH0280-60-ATH	□		60	110	64			NSBH0390-120-ATH	□		120	170	123		
NSBH0290-10-ATH	●		10	60	14		140	NSBH0400-20-ATH	●		20	70	23		140
NSBH0290-20-ATH	□	2.9	20	70	24	4	135	NSBH0400-40-ATH	●	4.0	40	90	43	6	
NSBH0290-40-ATH	□		40	90	44			NSBH0400-60-ATH	●		60	110	63		135
NSBH0290-60-ATH	□		60	110	64			NSBH0400-90-ATH	●		90	140	93		
NSBH0300-20-ATH	●		20	70	23		140	NSBH0400-120-ATH	●		120	170	123		
NSBH0300-40-ATH	●	3.0	40	90	43	4	135	NSBH0410-20-ATH	●		20	70	23		140
NSBH0300-60-ATH	●		60	110	63			NSBH0410-40-ATH	□	4.1	40	90	43	6	
NSBH0300-90-ATH	●		90	140	93			NSBH0410-60-ATH	□		60	110	63		135
NSBH0310-20-ATH	□		20	70	23		140	NSBH0410-90-ATH	□		90	140	93		
NSBH0310-40-ATH	□	3.1	40	90	43	4	135	NSBH0410-120-ATH	□		120	170	123		
NSBH0310-60-ATH	□		60	110	63			NSBH0420-20-ATH	●	4.2	20	70	23	6	
NSBH0310-90-ATH	□		90	140	93			NSBH0420-40-ATH	●		40	90	43		140

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



Order Code	Stock	Size (mm)						α Point angle	Order Code	Stock	Size (mm)						α Point angle
		Dc Drill Dia.	ℓ Flute Length	L Overall Length	ℓ2 Under neck length	Ds Shank Dia.					Dc Drill Dia.	ℓ Flute Length	L Overall Length	ℓ2 Under neck length	Ds Shank Dia.		
NSBH0420-60-ATH	<input type="checkbox"/>		60	110	63			NSBH0550-30-ATH	<input type="checkbox"/>		30	85	33		140		
NSBH0420-90-ATH	<input type="checkbox"/>	4.2	90	140	93	6	135	NSBH0550-60-ATH	<input type="checkbox"/>		60	115	63				
NSBH0420-120-ATH	<input type="checkbox"/>		120	170	123			NSBH0550-90-ATH	<input type="checkbox"/>	5.5	90	145	93	6	135		
NSBH0430-20-ATH	<input checked="" type="checkbox"/>		20	70	23		140	NSBH0550-120-ATH	<input type="checkbox"/>		120	175	123				
NSBH0430-40-ATH	<input checked="" type="checkbox"/>		40	90	43			NSBH0550-150-ATH	<input type="checkbox"/>		150	205	153				
NSBH0430-60-ATH	<input type="checkbox"/>	4.3	60	110	63	6	135	NSBH0560-30-ATH	<input type="checkbox"/>		30	85	33		140		
NSBH0430-90-ATH	<input type="checkbox"/>		90	140	93			NSBH0560-60-ATH	<input type="checkbox"/>		60	115	63				
NSBH0430-120-ATH	<input type="checkbox"/>		120	170	123			NSBH0560-90-ATH	<input type="checkbox"/>	5.6	90	145	93	6	135		
NSBH0440-20-ATH	<input type="checkbox"/>		20	70	23		140	NSBH0560-120-ATH	<input type="checkbox"/>		120	175	123				
NSBH0440-40-ATH	<input type="checkbox"/>		40	90	43			NSBH0560-150-ATH	<input type="checkbox"/>		150	205	153				
NSBH0440-60-ATH	<input type="checkbox"/>	4.4	60	110	63	6	135	NSBH0570-30-ATH	<input type="checkbox"/>		30	85	33		140		
NSBH0440-90-ATH	<input type="checkbox"/>		90	140	93			NSBH0570-60-ATH	<input type="checkbox"/>		60	115	63				
NSBH0440-120-ATH	<input type="checkbox"/>		120	170	123			NSBH0570-90-ATH	<input type="checkbox"/>	5.7	90	145	93	6	135		
NSBH0450-20-ATH	<input type="checkbox"/>		20	70	23		140	NSBH0570-120-ATH	<input type="checkbox"/>		120	175	123				
NSBH0450-40-ATH	<input type="checkbox"/>		40	90	43			NSBH0570-150-ATH	<input type="checkbox"/>		150	205	153				
NSBH0450-60-ATH	<input type="checkbox"/>	4.5	60	110	63	6	135	NSBH0580-30-ATH	<input type="checkbox"/>		30	85	33		140		
NSBH0450-90-ATH	<input type="checkbox"/>		90	140	93			NSBH0580-60-ATH	<input type="checkbox"/>		60	115	63				
NSBH0450-120-ATH	<input type="checkbox"/>		120	170	123			NSBH0580-90-ATH	<input type="checkbox"/>	5.8	90	145	93	6	135		
NSBH0460-20-ATH	<input type="checkbox"/>		20	70	23		140	NSBH0580-120-ATH	<input type="checkbox"/>		120	175	123				
NSBH0460-40-ATH	<input type="checkbox"/>		40	90	43			NSBH0580-150-ATH	<input type="checkbox"/>		150	205	153				
NSBH0460-60-ATH	<input type="checkbox"/>	4.6	60	110	63	6	135	NSBH0590-30-ATH	<input type="checkbox"/>		30	85	33		140		
NSBH0460-90-ATH	<input type="checkbox"/>		90	140	93			NSBH0590-60-ATH	<input type="checkbox"/>		60	115	63				
NSBH0460-120-ATH	<input type="checkbox"/>		120	170	123			NSBH0590-90-ATH	<input type="checkbox"/>	5.9	90	145	93	6	135		
NSBH0460-150-ATH	<input type="checkbox"/>		150	205	153			NSBH0590-120-ATH	<input type="checkbox"/>		120	175	123				
NSBH0470-20-ATH	<input type="checkbox"/>		20	70	23		140	NSBH0590-150-ATH	<input type="checkbox"/>		150	205	153				
NSBH0470-40-ATH	<input type="checkbox"/>		40	90	43			NSBH0600-30-ATH	<input checked="" type="checkbox"/>		30	85	33		140		
NSBH0470-60-ATH	<input type="checkbox"/>	4.7	60	110	63	6	135	NSBH0600-60-ATH	<input checked="" type="checkbox"/>		60	115	63				
NSBH0470-90-ATH	<input type="checkbox"/>		90	140	93			NSBH0600-90-ATH	<input checked="" type="checkbox"/>	6.0	90	145	93	8	135		
NSBH0470-120-ATH	<input type="checkbox"/>		120	170	123			NSBH0600-120-ATH	<input checked="" type="checkbox"/>		120	175	123				
NSBH0470-150-ATH	<input type="checkbox"/>		150	205	153			NSBH0600-150-ATH	<input checked="" type="checkbox"/>		150	205	153				
NSBH0480-20-ATH	<input type="checkbox"/>		20	70	23		140	NSBH0610-30-ATH	<input type="checkbox"/>		30	85	33		140		
NSBH0480-40-ATH	<input type="checkbox"/>		40	90	43			NSBH0610-60-ATH	<input type="checkbox"/>		60	115	63				
NSBH0480-60-ATH	<input type="checkbox"/>	4.8	60	110	63	6	135	NSBH0610-90-ATH	<input type="checkbox"/>	6.1	90	145	93	8	135		
NSBH0480-90-ATH	<input type="checkbox"/>		90	140	93			NSBH0610-120-ATH	<input type="checkbox"/>		120	175	123				
NSBH0480-120-ATH	<input type="checkbox"/>		120	170	123			NSBH0610-150-ATH	<input type="checkbox"/>		150	205	153				
NSBH0480-150-ATH	<input type="checkbox"/>		150	205	153			NSBH0620-30-ATH	<input type="checkbox"/>		30	85	33		140		
NSBH0490-20-ATH	<input type="checkbox"/>		20	70	23		140	NSBH0620-60-ATH	<input type="checkbox"/>		60	115	63				
NSBH0490-40-ATH	<input type="checkbox"/>		40	90	43			NSBH0620-90-ATH	<input type="checkbox"/>	6.2	90	145	93	8	135		
NSBH0490-60-ATH	<input type="checkbox"/>	4.9	60	110	63	6	135	NSBH0620-120-ATH	<input type="checkbox"/>		120	175	123				
NSBH0490-90-ATH	<input type="checkbox"/>		90	140	93			NSBH0620-150-ATH	<input type="checkbox"/>		150	205	153				
NSBH0490-120-ATH	<input type="checkbox"/>		120	170	123			NSBH0630-30-ATH	<input type="checkbox"/>		30	85	33		140		
NSBH0490-150-ATH	<input type="checkbox"/>		150	205	153			NSBH0630-60-ATH	<input type="checkbox"/>		60	115	63				
NSBH0500-25-ATH	<input checked="" type="checkbox"/>		25	80	28		140	NSBH0630-90-ATH	<input type="checkbox"/>	6.3	90	145	93	8	135		
NSBH0500-40-ATH	<input checked="" type="checkbox"/>		40	95	43			NSBH0630-120-ATH	<input type="checkbox"/>		120	175	123				
NSBH0500-60-ATH	<input checked="" type="checkbox"/>		60	115	63			NSBH0630-150-ATH	<input type="checkbox"/>		150	205	153				
NSBH0500-90-ATH	<input checked="" type="checkbox"/>	5.0	90	145	93	6	135	NSBH0640-30-ATH	<input type="checkbox"/>		30	85	33		140		
NSBH0500-120-ATH	<input checked="" type="checkbox"/>		120	175	123			NSBH0640-60-ATH	<input type="checkbox"/>		60	115	63				
NSBH0500-150-ATH	<input checked="" type="checkbox"/>		150	205	153			NSBH0640-90-ATH	<input type="checkbox"/>	6.4	90	145	93	8	135		
NSBH0510-30-ATH	<input checked="" type="checkbox"/>		30	85	33		140	NSBH0640-120-ATH	<input type="checkbox"/>		120	175	123				
NSBH0510-60-ATH	<input checked="" type="checkbox"/>		60	115	63			NSBH0640-150-ATH	<input type="checkbox"/>		150	205	153				
NSBH0510-90-ATH	<input type="checkbox"/>	5.1	90	145	93	6	135	NSBH0640-30-ATH	<input type="checkbox"/>		30	85	33		140		
NSBH0510-120-ATH	<input type="checkbox"/>		120	175	123			NSBH0650-60-ATH	<input type="checkbox"/>		60	115	63				
NSBH0510-150-ATH	<input type="checkbox"/>		150	205	153			NSBH0650-90-ATH	<input type="checkbox"/>	6.5	90	145	93	8	135		
NSBH0520-30-ATH	<input type="checkbox"/>		30	85	33		140	NSBH0650-120-ATH	<input type="checkbox"/>		120	175	123				
NSBH0520-60-ATH	<input type="checkbox"/>		60	115	63			NSBH0650-150-ATH	<input type="checkbox"/>		150	205	153				
NSBH0520-90-ATH	<input type="checkbox"/>	5.2	90	145	93	6	135	NSBH0660-30-ATH	<input type="checkbox"/>		30	85	33		140		
NSBH0520-120-ATH	<input type="checkbox"/>		120	175	123			NSBH0660-60-ATH	<input type="checkbox"/>		60	115	63				
NSBH0520-150-ATH	<input type="checkbox"/>		150	205	153			NSBH0660-90-ATH	<input type="checkbox"/>	6.6	90	145	93	8	135		
NSBH0530-30-ATH	<input type="checkbox"/>		30	85	33		140	NSBH0660-120-ATH	<input type="checkbox"/>		120	175	123				
NSBH0530-60-ATH	<input type="checkbox"/>		60	115	63			NSBH0660-150-ATH	<input type="checkbox"/>		150	205	153				
NSBH0530-90-ATH	<input type="checkbox"/>	5.3	90	145	93	6	135	NSBH0660-200-ATH	<input type="checkbox"/>		200	255	203				
NSBH0530-120-ATH	<input type="checkbox"/>		120	175	123			NSBH0670-30-ATH	<input type="checkbox"/>		30	85	33		140		
NSBH0530-150-ATH	<input type="checkbox"/>		150	205	153			NSBH0670-60-ATH	<input type="checkbox"/>		60	115	63				
NSBH0540-30-ATH	<input type="checkbox"/>		30	85	33		140	NSBH0670-90-ATH	<input type="checkbox"/>		90	145	93				
NSBH0540-60-ATH	<input type="checkbox"/>		60	115	63			NSBH0670-120-ATH	<input type="checkbox"/>	6.7	120	175	123	8	135		
NSBH0540-90-ATH	<input type="checkbox"/>	5.4	90	145	93	6	135	NSBH0670-150-ATH	<input type="checkbox"/>		150	205	153				
NSBH0540-120-ATH	<input type="checkbox"/>		120	175	123			NSBH0670-200-ATH	<input type="checkbox"/>		200	255	203				
NSBH0540-150-ATH	<input type="checkbox"/>		150	205	153												

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

DRILLS

ดอกสว่าน



Straight Shank

ดอกสว่านมาตรฐาน

Carbide Drills
ดอกสว่านคาร์ไบด์

HSS Drills
ดอกสว่านไฮสปีด

Stub / Standard
ตัวสั้น / มาตรฐาน

Long
ตัวยาว

Micro Drill
ดอกสว่านไมโคร

Z Plunging

Step Borer

Order Code	Stock	Size (mm)					α Point angle	Order Code	Stock	Size (mm)					α Point angle
		Dc Drill Dia.	ℓ Flute Length	L Overall Length	ℓ ₂ Under neck length	Ds Shank Dia.				Dc Drill Dia.	ℓ Flute Length	L Overall Length	ℓ ₂ Under neck length	Ds Shank Dia.	
NSBH0680-30-ATH	●		30	85	33		140	NSBH0780-200-ATH	□		200	255	203	8	135
NSBH0680-60-ATH	●		60	115	63			NSBH0780-250-ATH	□	7.8	250	305	253		
NSBH0680-90-ATH	□	6.8	90	145	93	8	135	NSBH0790-35-ATH	□		35	90	38		140
NSBH0680-120-ATH	□		120	175	123			NSBH0790-60-ATH	□		60	115	63		
NSBH0680-150-ATH	□		150	205	153			NSBH0790-90-ATH	□		90	145	93		
NSBH0680-200-ATH	□		200	255	203			NSBH0790-120-ATH	□	7.9	120	175	123	8	135
NSBH0690-30-ATH	●		30	85	33		140	NSBH0790-150-ATH	□		150	205	153		
NSBH0690-60-ATH	●		60	115	63			NSBH0790-200-ATH	□		200	255	203		
NSBH0690-90-ATH	□	6.9	90	145	93	8	135	NSBH0790-250-ATH	□		250	305	253		
NSBH0690-120-ATH	□		120	175	123			NSBH0800-40-ATH	●		40	95	43		140
NSBH0690-150-ATH	□		150	205	153			NSBH0800-60-ATH	●		60	115	63		
NSBH0690-200-ATH	□		200	255	203			NSBH0800-90-ATH	●		90	145	93		
NSBH0700-35-ATH	●		35	90	38		140	NSBH0800-120-ATH	●	8.0	120	175	123	10	135
NSBH0700-60-ATH	●		60	115	63			NSBH0800-150-ATH	●		150	205	153		
NSBH0700-90-ATH	●	7.0	90	145	93	8	135	NSBH0800-200-ATH	●		200	255	203		
NSBH0700-120-ATH	●		120	175	123			NSBH0800-250-ATH	●		250	305	253		
NSBH0700-150-ATH	●		150	205	153			NSBH0810-45-ATH	□		45	105	48		140
NSBH0700-200-ATH	●		200	255	203			NSBH0810-90-ATH	□		90	150	93		
NSBH0710-35-ATH	□		35	90	38		140	NSBH0810-120-ATH	□		120	180	123		
NSBH0710-60-ATH	□		60	115	63			NSBH0810-150-ATH	□	8.1	150	210	153	10	135
NSBH0710-90-ATH	□	7.1	90	145	93	8	135	NSBH0810-200-ATH	□		200	260	203		
NSBH0710-120-ATH	□		120	175	123			NSBH0810-250-ATH	□		250	310	253		
NSBH0710-150-ATH	□		150	205	153			NSBH0820-45-ATH	□		45	105	48		140
NSBH0710-200-ATH	□		200	255	203			NSBH0820-90-ATH	□		90	150	93		
NSBH0720-35-ATH	□		35	90	38		140	NSBH0820-120-ATH	□	8.2	120	180	123	10	135
NSBH0720-60-ATH	□		60	115	63			NSBH0820-150-ATH	□		150	210	153		
NSBH0720-90-ATH	□	7.2	90	145	93	8	135	NSBH0820-200-ATH	□		200	260	203		
NSBH0720-120-ATH	□		120	175	123			NSBH0820-250-ATH	□		250	310	253		
NSBH0720-150-ATH	□		150	205	153			NSBH0830-45-ATH	□		45	105	48		140
NSBH0720-200-ATH	□		200	255	203			NSBH0830-90-ATH	□		90	150	93		
NSBH0730-35-ATH	□		35	90	38		140	NSBH0830-120-ATH	□	8.3	120	180	123	10	135
NSBH0730-60-ATH	□		60	115	63			NSBH0830-150-ATH	□		150	210	153		
NSBH0730-90-ATH	□	7.3	90	145	93	8	135	NSBH0830-200-ATH	□		200	260	203		
NSBH0730-120-ATH	□		120	175	123			NSBH0830-250-ATH	□		250	310	253		
NSBH0730-150-ATH	□		150	205	153			NSBH0840-45-ATH	□		45	105	48		140
NSBH0730-200-ATH	□		200	255	203			NSBH0840-90-ATH	□		90	150	93		
NSBH0740-35-ATH	□		35	90	38		140	NSBH0840-120-ATH	□	8.4	120	180	123	10	135
NSBH0740-60-ATH	□		60	115	63			NSBH0840-150-ATH	□		150	210	153		
NSBH0740-90-ATH	□	7.4	90	145	93	8	135	NSBH0840-200-ATH	□		200	260	203		
NSBH0740-120-ATH	□		120	175	123			NSBH0840-250-ATH	□		250	310	253		
NSBH0740-150-ATH	□		150	205	153			NSBH0850-45-ATH	●		45	105	48		140
NSBH0740-200-ATH	□		200	255	203			NSBH0850-90-ATH	●		90	150	93		
NSBH0750-35-ATH	□		35	90	38		140	NSBH0850-120-ATH	●	8.5	120	180	123	10	135
NSBH0750-60-ATH	□		60	115	63			NSBH0850-150-ATH	●		150	210	153		
NSBH0750-90-ATH	□	7.5	90	145	93	8	135	NSBH0850-200-ATH	●		200	260	203		
NSBH0750-120-ATH	□		120	175	123			NSBH0850-250-ATH	●		250	310	253		
NSBH0750-150-ATH	□		150	205	153			NSBH0860-45-ATH	□		45	105	48		140
NSBH0750-200-ATH	□		200	255	203			NSBH0860-90-ATH	□		90	150	93		
NSBH0760-35-ATH	□		35	90	38		140	NSBH0860-120-ATH	□	8.6	120	180	123	10	135
NSBH0760-60-ATH	□		60	115	63			NSBH0860-150-ATH	□		150	210	153		
NSBH0760-90-ATH	□	7.6	90	145	93	8	135	NSBH0860-200-ATH	□		200	260	203		
NSBH0760-120-ATH	□		120	175	123			NSBH0860-250-ATH	□		250	310	253		
NSBH0760-150-ATH	□		150	205	153			NSBH0870-45-ATH	●		45	105	48		140
NSBH0760-200-ATH	□		200	255	203			NSBH0870-90-ATH	□		90	150	93		
NSBH0760-250-ATH	□		250	305	253			NSBH0870-120-ATH	□	8.7	120	180	123	10	135
NSBH0770-35-ATH	□		35	90	38		140	NSBH0870-150-ATH	□		150	210	153		
NSBH0770-60-ATH	□		60	115	63			NSBH0870-200-ATH	□		200	260	203		
NSBH0770-90-ATH	□	7.7	90	145	93	8	135	NSBH0870-250-ATH	□		250	310	253		
NSBH0770-120-ATH	□		120	175	123			NSBH0880-45-ATH	●		45	105	48		140
NSBH0770-150-ATH	□		150	205	153			NSBH0880-90-ATH	□		90	150	93		
NSBH0770-200-ATH	□		200	255	203			NSBH0880-120-ATH	□	8.8	120	180	123	10	135
NSBH0770-250-ATH	□		250	305	253			NSBH0880-150-ATH	□		150	210	153		
NSBH0780-35-ATH	□		35	90	38		140	NSBH0880-200-ATH	□		200	260	203		
NSBH0780-60-ATH	□		60	115	63			NSBH0880-250-ATH	□		250	310	253		
NSBH0780-90-ATH	□	7.8	90	145	93	8	135	NSBH0890-45-ATH	●		45	105	48		140
NSBH0780-120-ATH	□		120	175	123			NSBH0890-90-ATH	□	8.9	90	150	93	10	135
NSBH0780-150-ATH	□		150	205	153			NSBH0890-120-ATH	□		120	180	123		
								NSBH0890-150-ATH	□		150	210	153		

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



Order Code	Stock	Size (mm)					α Point angle	Order Code	Stock	Size (mm)					α Point angle	
		Dc Drill Dia.	ℓ Flute Length	L Overall Length	ℓ ₂ Under neck length	Ds Shank Dia.				Dc Drill Dia.	ℓ Flute Length	L Overall Length	ℓ ₂ Under neck length	Ds Shank Dia.		
NSBH0890-200-ATH	☐	8.9	200	260	203	10	135	NSBH0890-200-ATH	☐	9.9	200	260	203	10	135	
NSBH0890-250-ATH	☐		250	310	253			NSBH0890-250-ATH	☐		250	310	253			
NSBH0900-45-ATH	●	9.0	45	105	48	10	140	NSBH0900-300-ATH	●	10.0	300	360	303	12	135	
NSBH0900-90-ATH	●		90	150	93			NSBH1000-50-ATH	●		50	110	53			140
NSBH0900-120-ATH	●		120	180	123			NSBH1000-90-ATH	●		90	150	93			
NSBH0900-150-ATH	●		150	210	153			NSBH1000-120-ATH	●		120	180	123			
NSBH0900-200-ATH	●		200	260	203			NSBH1000-150-ATH	●		150	210	153			
NSBH0900-250-ATH	●		250	310	253			NSBH1000-200-ATH	●		200	260	203			
NSBH0910-50-ATH	☐	9.1	50	110	53	10	140	NSBH1000-250-ATH	●	10.1	250	310	253	12	135	
NSBH0910-90-ATH	☐		90	150	93			NSBH1000-300-ATH	●		300	360	303			
NSBH0910-120-ATH	☐		120	180	123			NSBH1010-50-ATH	☐		50	110	53			140
NSBH0910-150-ATH	☐		150	210	153			NSBH1010-90-ATH	☐		90	150	93			
NSBH0910-200-ATH	☐		200	260	203			NSBH1010-120-ATH	☐		120	180	123			
NSBH0910-250-ATH	☐		250	310	253			NSBH1010-150-ATH	☐		150	210	153			
NSBH0920-300-ATH	☐	300	360	303	NSBH1010-200-ATH	☐	200	260	203							
NSBH0920-50-ATH	☐	9.2	50	110	53	10	140	NSBH1010-250-ATH	☐	10.2	250	310	253	12	135	
NSBH0920-90-ATH	☐		90	150	93			NSBH1010-300-ATH	☐		300	360	303			
NSBH0920-120-ATH	☐		120	180	123			NSBH1020-50-ATH	☐		50	110	53			140
NSBH0920-150-ATH	☐		150	210	153			NSBH1020-90-ATH	☐		90	150	93			
NSBH0920-200-ATH	☐		200	260	203			NSBH1020-120-ATH	☐		120	180	123			
NSBH0920-250-ATH	☐		250	310	253			NSBH1020-150-ATH	☐		150	210	153			
NSBH0920-300-ATH	☐	300	360	303	NSBH1020-200-ATH	☐	200	260	203							
NSBH0930-50-ATH	☐	9.3	50	110	53	10	140	NSBH1020-250-ATH	☐	10.3	250	310	253	12	135	
NSBH0930-90-ATH	☐		90	150	93			NSBH1020-300-ATH	☐		300	360	303			
NSBH0930-120-ATH	☐		120	180	123			NSBH1030-50-ATH	●		50	110	53			140
NSBH0930-150-ATH	☐		150	210	153			NSBH1030-90-ATH	☐		90	150	93			
NSBH0930-200-ATH	☐		200	260	203			NSBH1030-120-ATH	☐		120	180	123			
NSBH0930-250-ATH	☐		250	310	253			NSBH1030-150-ATH	☐		150	210	153			
NSBH0930-300-ATH	☐	300	360	303	NSBH1030-200-ATH	☐	200	260	203							
NSBH0940-50-ATH	☐	9.4	50	110	53	10	140	NSBH1030-250-ATH	☐	10.4	250	310	253	12	135	
NSBH0940-90-ATH	☐		90	150	93			NSBH1030-300-ATH	☐		300	360	303			
NSBH0940-120-ATH	☐		120	180	123			NSBH1040-50-ATH	●		50	110	53			140
NSBH0940-150-ATH	☐		150	210	153			NSBH1040-90-ATH	☐		90	150	93			
NSBH0940-200-ATH	☐		200	260	203			NSBH1040-120-ATH	☐		120	180	123			
NSBH0940-250-ATH	☐		250	310	253			NSBH1040-150-ATH	☐		150	210	153			
NSBH0940-300-ATH	☐	300	360	303	NSBH1040-200-ATH	☐	200	260	203							
NSBH0950-50-ATH	☐	9.5	50	110	53	10	140	NSBH1040-250-ATH	☐	10.5	250	310	253	12	135	
NSBH0950-90-ATH	☐		90	150	93			NSBH1040-300-ATH	☐		300	360	303			
NSBH0950-120-ATH	☐		120	180	123			NSBH1050-50-ATH	●		50	110	53			140
NSBH0950-150-ATH	☐		150	210	153			NSBH1050-90-ATH	☐		90	150	93			
NSBH0950-200-ATH	☐		200	260	203			NSBH1050-120-ATH	☐		120	180	123			
NSBH0950-250-ATH	☐		250	310	253			NSBH1050-150-ATH	☐		150	210	153			
NSBH0950-300-ATH	☐	300	360	303	NSBH1050-200-ATH	☐	200	260	203							
NSBH0960-50-ATH	☐	9.6	50	110	53	10	140	NSBH1050-250-ATH	☐	10.6	250	310	253	12	135	
NSBH0960-90-ATH	☐		90	150	93			NSBH1050-300-ATH	☐		300	360	303			
NSBH0960-120-ATH	☐		120	180	123			NSBH1060-50-ATH	●		50	110	53			140
NSBH0960-150-ATH	☐		150	210	153			NSBH1060-90-ATH	☐		90	150	93			
NSBH0960-200-ATH	☐		200	260	203			NSBH1060-120-ATH	☐		120	180	123			
NSBH0960-250-ATH	☐		250	310	253			NSBH1060-150-ATH	☐		150	210	153			
NSBH0960-300-ATH	☐	300	360	303	NSBH1060-200-ATH	☐	200	260	203							
NSBH0970-50-ATH	☐	9.7	50	110	53	10	140	NSBH1060-250-ATH	☐	10.7	250	310	253	12	135	
NSBH0970-90-ATH	☐		90	150	93			NSBH1060-300-ATH	☐		300	360	303			
NSBH0970-120-ATH	☐		120	180	123			NSBH1070-50-ATH	☐		50	110	53			140
NSBH0970-150-ATH	☐		150	210	153			NSBH1070-90-ATH	☐		90	150	93			
NSBH0970-200-ATH	☐		200	260	203			NSBH1070-120-ATH	☐		120	180	123			
NSBH0970-250-ATH	☐		250	310	253			NSBH1070-150-ATH	☐		150	210	153			
NSBH0970-300-ATH	☐	300	360	303	NSBH1070-200-ATH	☐	200	260	203							
NSBH0980-50-ATH	☐	9.8	50	110	53	10	140	NSBH1070-250-ATH	☐	10.8	250	310	253	12	135	
NSBH0980-90-ATH	☐		90	150	93			NSBH1070-300-ATH	☐		300	360	303			
NSBH0980-120-ATH	☐		120	180	123			NSBH1080-50-ATH	●		50	110	53			140
NSBH0980-150-ATH	☐		150	210	153			NSBH1080-90-ATH	☐		90	150	93			
NSBH0980-200-ATH	☐		200	260	203			NSBH1080-120-ATH	☐		120	180	123			
NSBH0980-250-ATH	☐		250	310	253			NSBH1080-150-ATH	☐		150	210	153			
NSBH0980-300-ATH	☐	300	360	303	NSBH1080-200-ATH	☐	200	260	203							
NSBH0990-50-ATH	☐	9.9	50	110	53	10	140	NSBH1080-250-ATH	☐	10.9	250	310	253	12	135	
NSBH0990-90-ATH	☐		90	150	93			NSBH1080-300-ATH	☐		300	360	303			
NSBH0990-120-ATH	☐		120	180	123			NSBH1090-50-ATH	●		50	110	53			140
NSBH0990-150-ATH	☐		150	210	153			NSBH1090-90-ATH	☐		90	150	93			

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

- Carbide Drills**
ดอกสว่านคาร์ไบด์
- HSS Drills**
ดอกสว่านไฮสปีด
- Stub / Standard
หัวสว่าน / มาตรฐาน
- Long
หัวยาว
- Micro Drill
ดอกสว่านไมโคร
- Z Plunging
- Step Borer

DRILLS

ดอกสว่าน



Straight Shank

ดอกสว่านมาตรฐาน

Carbide Drills
ดอกสว่านคาร์ไบด์

HSS Drills
ดอกสว่านไฮสปีด

Stub / Standard
ตัวสั้น / มาตรฐาน

Long
ตัวยาว

Micro Drill
ดอกสว่านไมโคร

Z Plunging

Step Borer

Order Code	Stock	Size (mm)					α Point angle	Order Code	Stock	Size (mm)					α Point angle
		Dc Drill Dia.	ℓ Flute Length	L Overall Length	ℓ ₂ Under neck length	Ds Shank Dia.				Dc Drill Dia.	ℓ Flute Length	L Overall Length	ℓ ₂ Under neck length	Ds Shank Dia.	
NSBH1090-120-ATH	☐		120	180	123		NSBH1150-60-ATH	●		60	125	63		140	
NSBH1090-150-ATH	☐		150	210	153		NSBH1150-90-ATH	●		90	155	93			
NSBH1090-200-ATH	☐	10.9	200	260	203	12	135	NSBH1150-120-ATH	●		120	185	123		
NSBH1090-250-ATH	☐		250	310	253			NSBH1150-150-ATH	●	11.5	150	215	153	12	135
NSBH1090-300-ATH	☐		300	360	303			NSBH1150-200-ATH	●		200	265	203		
NSBH1100-55-ATH	●		55	120	58		140	NSBH1150-250-ATH	●		250	315	253		
NSBH1100-90-ATH	●		90	155	93			NSBH1150-300-ATH	●		300	365	303		
NSBH1100-120-ATH	●		120	185	123			NSBH1160-60-ATH	☐		60	125	63		140
NSBH1100-150-ATH	●	11.0	150	215	153	12	135	NSBH1160-90-ATH	☐		90	155	93		
NSBH1100-200-ATH	●		200	265	203			NSBH1160-120-ATH	☐		120	185	123		
NSBH1100-250-ATH	●		250	315	253			NSBH1160-150-ATH	☐	11.6	150	215	153	12	135
NSBH1100-300-ATH	●		300	365	303			NSBH1160-200-ATH	☐		200	265	203		
NSBH1110-55-ATH	☐		55	120	58		140	NSBH1160-250-ATH	☐		250	315	253		
NSBH1110-90-ATH	☐		90	155	93			NSBH1160-300-ATH	☐		300	365	303		
NSBH1110-120-ATH	☐		120	185	123			NSBH1170-60-ATH	☐		60	125	63		140
NSBH1110-150-ATH	☐	11.1	150	215	153	12	135	NSBH1170-90-ATH	☐		90	155	93		
NSBH1110-200-ATH	☐		200	265	203			NSBH1170-120-ATH	☐		120	185	123		
NSBH1110-250-ATH	☐		250	315	253			NSBH1170-150-ATH	☐	11.7	150	215	153	12	135
NSBH1110-300-ATH	☐		300	365	303			NSBH1170-200-ATH	☐		200	265	203		135
NSBH1120-55-ATH	☐		55	120	58		140	NSBH1170-250-ATH	☐		250	315	253		
NSBH1120-90-ATH	☐		90	155	93			NSBH1170-300-ATH	☐		300	365	303		
NSBH1120-120-ATH	☐		120	185	123			NSBH1180-60-ATH	☐		60	125	63		140
NSBH1120-150-ATH	☐	11.2	150	215	153	12	135	NSBH1180-90-ATH	☐		90	155	93		
NSBH1120-200-ATH	☐		200	265	203			NSBH1180-120-ATH	☐		120	185	123		
NSBH1120-250-ATH	☐		250	315	253			NSBH1180-150-ATH	☐	11.8	150	215	153	12	135
NSBH1120-300-ATH	☐		300	365	303			NSBH1180-200-ATH	☐		200	265	203		
NSBH1130-55-ATH	☐		55	120	58		140	NSBH1180-250-ATH	☐		250	315	253		
NSBH1130-90-ATH	☐		90	155	93			NSBH1180-300-ATH	☐		300	365	303		
NSBH1130-120-ATH	☐		120	185	123			NSBH1190-60-ATH	☐		60	125	63		140
NSBH1130-150-ATH	☐	11.3	150	215	153	12	135	NSBH1190-90-ATH	☐		90	155	93		
NSBH1130-200-ATH	☐		200	265	203			NSBH1190-120-ATH	☐		120	185	123		
NSBH1130-250-ATH	☐		250	315	253			NSBH1190-150-ATH	☐	11.9	150	215	153	12	135
NSBH1130-300-ATH	☐		300	365	303			NSBH1190-200-ATH	☐		200	265	203		135
NSBH1140-55-ATH	☐		55	120	58		140	NSBH1190-250-ATH	☐		250	315	253		
NSBH1140-90-ATH	☐		90	155	93			NSBH1190-300-ATH	☐		300	365	303		
NSBH1140-120-ATH	☐		120	185	123			NSBH1200-60-ATH	●		60	125	63		140
NSBH1140-150-ATH	☐	11.4	150	215	153	12	135	NSBH1200-90-ATH	●		90	155	93		
NSBH1140-200-ATH	☐		200	265	203			NSBH1200-120-ATH	●		120	185	123		
NSBH1140-250-ATH	☐		250	315	253			NSBH1200-150-ATH	●	12.0	150	215	153	12	135
NSBH1140-300-ATH	☐		300	365	303			NSBH1200-200-ATH	●		200	265	203		
								NSBH1200-250-ATH	●		250	315	253		
								NSBH1200-300-ATH	●		300	365	303		

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Recommended cutting conditions

NSBH-ATH

Work material	Hardness (HRC)	Vc Cutting Speed (m/min)	Feed rate (mm/rev)					
			φ2	φ4	φ6	φ8	φ10	φ12
Pre-hardened steel	40~45	20~60~80	0.01~0.05	0.02~0.08	0.08~0.15	0.1~0.2	0.12~0.25	0.13~0.25
Hardened steel	45~55	20~40~60	0.01~0.03	0.01~0.06	0.05~0.09	0.06~0.12	0.08~0.15	0.1~0.15
	55~60	10~20	0.01~0.02	0.01~0.04	0.03~0.06	0.04~0.08	0.06~0.1	0.06~0.1

Selection of cutting condition

Be sure to refer to the drilling process as follows when selecting a tool.

- These standard cutting conditions are intended as approximate values for cutting conditions. For actual drilling, cutting conditions should be adjusted according to the drilling shape, purpose, machine used, etc.
- NSBH-ATH series have positive tolerance on the diameter. Please select guide and long-hole drills out of NSBH-ATH series. Mixed use of conventional WHNSB-TH series harms drilling stability due to negative tolerance of WHNSB-TH series.
- 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.
- Works should be gripped firmly to prevent deformation, deflection and vibration.
- Upon drilling hole, dwell time at the final depth helps chip removal.
- If cutting chips are not smoothly removed, perform step drilling at depth around the tool diameter.
- Upon matters in chip removal during drilling, please refer to following countermeasures;
 1. Keep vc and lower feed. (The thinner chip for better removal)
 2. Keep f and higher vc. (Higher rotation for better removal)
- At the time of through-hole reduce feed rate f to one-half or less.
- Internal supply of water based coolant is recommended.
- The above cutting conditions are based on the use of a water base 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 φ5.0 or less, the coolant pressure should be 2.0 MPa or higher, and when the diameter is over φ5.0, the pressure should be 1.5 Mpa or higher.
- When performing MQL (mist) machining, depending on the amount or conditions of spray from the tool, it may be necessary to reduce the cutting speed in order to drilling.
- When oil base coolant is used, reduce the cutting speed to a speed lower than the lowest speed in the specified range. Take the greatest care to avoid smoke or ignition due to heating of chips and the tool.
- Perform sufficient maintenance of coolant system to prevent clogging of the oil hole.