

Dia.	Shank dia.	Overall length	Flute length
Dc	Ds	L	ℓ

JIS

① Spiral Fluted Taps (for blind hole)

② Spiral Fluted Taps (for through hole)

③ Spiral Pointed Taps (for through hole)

④ Hand Taps

⑤ Cemented Carbide Taps

⑥ Roll Taps

⑦ Special Thread Taps (Simple inspection tools)

⑧ Pipe Taps

⑨ Thread Mills (Premium Thread Mills)

⑩ Dies

⑪ Center Drills / Centering Tools

⑫ Precision Machinery / Medical / Surgical Instruments

## NC-SD V

NC Starting Drills for Chamfering (90°), Coated



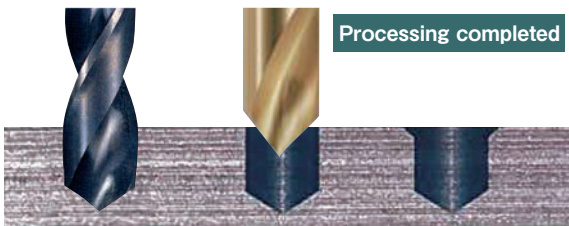
Specification Cutting Speed depending on Materials

HSS-Co	Low carbon steels 低炭素鋼	Medium carbon steels 中炭素鋼	High carbon steels 高炭素鋼	Alloy steels 合金鋼
	25~40 (m/min)	25~35 (m/min)	25~30 (m/min)	15~25 (m/min)
Coating	Stainless steels ステンレス鋼	Tool steels 工具鋼	Cast irons 鑄鉄	Aluminum alloy castings アルミ合金鑄物
	5~10 (m/min)	5~10 (m/min)	20~35 (m/min)	60~90 (m/min)

### Product Features

After drilling with a general purpose drill, using a NC - SD V (90°) that is larger than the drilled hole diameter makes an excellent chamfer surface finish.

Universal Drill      NC-SD V 90°



## NC-SD

NC Starting Drills for Center Positioning (125°)



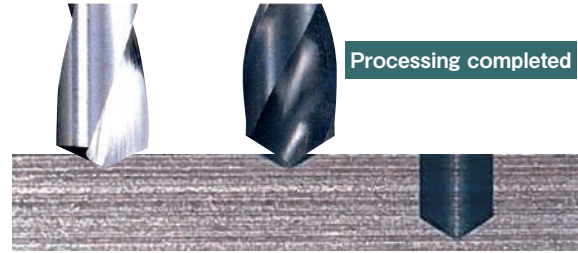
Specification Cutting Speed depending on Materials

HSS-Co	Low carbon steels 低炭素鋼	Medium carbon steels 中炭素鋼	High carbon steels 高炭素鋼	Alloy steels 合金鋼
	20~30 (m/min)	20~30 (m/min)	20~25 (m/min)	10~20 (m/min)
Coating	Stainless steels ステンレス鋼	Tool steels 工具鋼	Cast irons 鑄鉄	Aluminum alloy castings アルミ合金鑄物
	5~10 (m/min)	5~10 (m/min)	15~30 (m/min)	50~70 (m/min)

### Product Features

The NC starting drill with a 125° drill point is a positioning drill dedicated to centering to increase hole positioning accuracy. The NC starting drill with a 125° drill is selected to be slightly larger than the tip angle of the general-purpose drill. This creates a highly accurate hole positioning without causing chipping on the cutting edge of the drill.

NC-SD 125°      Universal Drill



### Difference between starting drill and center hole drill

It is also possible to use a center hole drill for positioning. If the center hole drill is used first and is allowed to go too deep, there is a chance the general purpose drill will hit the hole diameter instead of the center of the hole location. This can cause the drills cutting edge to chip.



### Recommended cutting conditions.

Workpiece Material	Cutting Speed (m/min)	Diameter (mm)									
		φ 3	φ 4	φ 5	φ 6	φ 8	φ 10	φ 12	φ 16	φ 20	φ 25
SS400	25 ~ 40	3400	2600	2100	1700	1300	1050	850	640	510	410
S50C	25 ~ 32	3000	2300	1800	1500	1150	900	750	560	450	360
FC250	20 ~ 35	2900	2200	1750	1450	1100	860	720	540	430	350
SCM440	15 ~ 25	2200	1600	1300	1100	800	640	540	400	320	260
SUS304	7 ~ 12	1100	800	640	540	400	320	270	200	160	130
SKD61	8 ~ 15	1200	880	700	590	440	360	300	220	180	150
SKD11	7 ~ 12	1100	800	640	540	400	320	270	200	160	130
AC4C	60 ~ 90	8000	6000	4800	4000	3000	2400	2000	1500	1200	1000

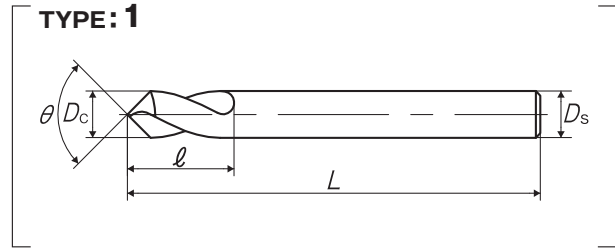
\* Standard feed rates (mm / rev) should be 1% to 3% of the drill diameter. In the case of machining on a curved surface or an inclined surface, please set a consistent feed rate of 0.1 mm / rev.

Dia.	Shank dia.	Overall length	Flute length
Dc	Ds	L	ℓ

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JIS

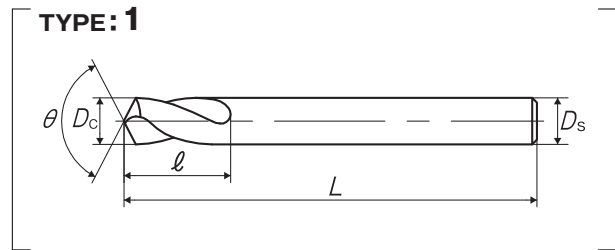
## NC-SD V NC Starting Drills for Chamfering (90°), Coated



Segment : 56

Size Dc × θ	Code	Dc (mm)	Ds (mm)	L (mm)	ℓ (mm)	TYPE	MSRP
3 × 90°	VCS-D3.0Q	3	3	46	10	1	¥ 2,650
4 × 90°	VCS-D4.0Q	4	4	55	12	1	¥ 3,140
5 × 90°	VCS-D5.0Q	5	5	62	13	1	¥ 3,410
6 × 90°	VCS-D6.0Q	6	6	66	15	1	¥ 3,600
8 × 90°	VCS-D8.0Q	8	8	79	20	1	¥ 4,770
10 × 90°	VCS-D010Q	10	10	89	23	1	¥ 6,530
12 × 90°	VCS-D012Q	12	12	102	26	1	¥ 9,760
16 × 90°	VCS-D016Q	16	16	115	32	1	¥ 13,100
20 × 90°	VCS-D020Q	20	20	131	40	1	¥ 18,400
25 × 90°	VCS-D025Q	25	25	151	50	1	¥ 28,900

## NC-SD NC Starting Drills for Center Positioning (125°)



Segment : 56

Size Dc × θ	Code	Dc (mm)	Ds (mm)	L (mm)	ℓ (mm)	TYPE	MSRP
3 × 125°	CS-D3.0	3	3	46	10	1	¥ 2,050
4 × 125°	CS-D4.0	4	4	55	12	1	¥ 2,300
5 × 125°	CS-D5.0	5	5	62	13	1	¥ 2,600
6 × 125°	CS-D6.0	6	6	66	15	1	¥ 2,780
8 × 125°	CS-D8.0	8	8	79	20	1	¥ 3,430
10 × 125°	CS-D010	10	10	89	23	1	¥ 5,220
12 × 125°	CS-D012	12	12	102	26	1	¥ 7,810
16 × 125°	CS-D016	16	16	115	32	1	¥ 9,570
20 × 125°	CS-D020	20	20	131	40	1	¥ 13,800
25 × 125°	CS-D025	25	25	151	50	1	¥ 20,200

Spiral Fluted Taps  
(for blind hole) ①Spiral Fluted Taps  
(for through hole) ②Spiral Pointed Taps  
(for through hole) ③

Hand Taps ④

Cemented  
Carbide Taps ⑤

Roll Taps ⑥

Special Thread Taps  
Simple inspection tools ⑦

Pipe Taps ⑧

Thread Mills  
Premium Thread Mills ⑨

Dies ⑩

Center Drills  
Centering Tools ⑪Precision Machinery/  
Metal Surgical Instruments ⑫