



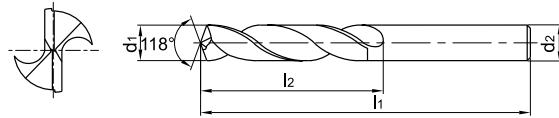
SC series

SC series (twist drill) for machining of cast iron, Al alloy



External coolant

Straight shank



- For materials with short chips such as cast iron, silicon-aluminum alloy, etc.
- Cutting edge and shank with same diameter.

Drill diameter d ₁ (h ₈)	Drilling depth (l/d)	Cooling mode	Shank type	Type	Basic dimension(mm)			Recommended grade
					Shank diameter	Overall length	Flute length	
					d ₂ (h ₇)	l ₁	l ₂	YK20F
2.0	3	External coolant	Straight shank	1105SC03-0200	2.0	38	12	☆
	5			1101SC05-0200	2.0	49	24	☆
2.5	3			1105SC03-0250	2.5	43	14	☆
	5			1101SC05-0250	2.5	57	30	☆
2.8	3			1105SC03-0280	2.8	46	16	☆
	5			1101SC05-0280	2.8	61	33	☆
3.0	3			1105SC03-0300	3.0	46	16	☆
	5			1101SC05-0300	3.0	61	33	☆
3.1	3			1105SC03-0310	3.1	49	18	☆
3.2	3			1105SC03-0320	3.2	49	18	☆
3.3	3			1105SC03-0330	3.3	49	18	☆
3.4	3			1105SC03-0340	3.4	52	20	☆
3.5	3			1105SC03-0350	3.5	52	20	☆
	5			1101SC05-0350	3.5	70	39	☆
3.6	3			1105SC03-0360	3.6	52	20	☆
3.7	3			1105SC03-0370	3.7	52	20	☆
3.8	3			1105SC03-0380	3.8	55	22	☆
	5			1101SC05-0380	3.8	75	43	☆
3.9	3			1105SC03-0390	3.9	55	22	☆
4.0	3			1105SC03-0400	4.0	55	22	☆
	5			1101SC05-0400	4.0	75	43	☆
4.1	3			1105SC03-0410	4.1	55	22	☆
4.2	3			1105SC03-0420	4.2	55	22	☆
	5			1101SC05-0420	4.2	75	43	☆
4.3	3			1105SC03-0430	4.3	58	24	☆
4.4	3			1105SC03-0440	4.4	58	24	☆
4.5	3			1105SC03-0450	4.5	58	24	☆
	5			1101SC05-0450	4.5	80	47	☆
4.6	3	1105SC03-0460	4.6	58	24	☆		
4.7	3	1105SC03-0470	4.7	58	24	☆		
4.8	3	1105SC03-0480	4.8	62	26	☆		
	5	1101SC05-0480	4.8	86	52	☆		

☆ Recommended grade (produce according to order)



Drill diameter d1(h8)	Drilling depth (l/d)	Cooling mode	Shank type	Type	Basic dimension(mm)			Recommended grade
					Shank diameter	Overall length	Flute length	YK20F
					d2(h7)	l1	l2	
4.9	3	External coolant	Straight shank	1105SC03-0490	4.9	62	26	☆
5.0	3			1105SC03-0500	5.0	62	26	☆
	5			1101SC05-0500	5.0	86	52	☆
5.1	3			1105SC03-0510	5.1	62	26	☆
5.2	3			1105SC03-0520	5.2	62	26	☆
5.3	3			1105SC03-0530	5.3	62	26	☆
5.4	3			1105SC03-0540	5.4	66	28	☆
5.5	3			1105SC03-0550	5.5	66	28	☆
	5			1101SC05-0550	5.5	93	57	☆
5.6	3			1105SC03-0560	5.6	66	28	☆
5.7	3			1105SC03-0570	5.7	66	28	☆
5.8	3			1105SC03-0580	5.8	66	28	☆
	5			1101SC05-0580	5.8	93	57	☆
5.9	3			1105SC03-0590	5.9	66	28	☆
6.0	3			1105SC03-0600	6.0	66	28	☆
	5			1101SC05-0600	6.0	93	57	☆
6.1	3			1105SC03-0610	6.1	70	31	☆
6.2	3			1105SC03-0620	6.2	70	31	☆
6.3	3			1105SC03-0630	6.3	70	31	☆
6.4	3			1105SC03-0640	6.4	70	31	☆
6.5	3			1105SC03-0650	6.5	70	31	☆
	5			1101SC05-0650	6.5	101	63	☆
6.6	3			1105SC03-0660	6.6	70	31	☆
6.7	3			1105SC03-0670	6.7	70	31	☆
6.8	3			1105SC03-0680	6.8	74	34	☆
	5			1101SC05-0680	6.8	109	69	☆
6.9	3			1105SC03-0690	6.9	74	34	☆
7.0	3			1105SC03-0700	7.0	74	34	☆
	5			1101SC05-0700	7.0	109	69	☆
7.1	3			1105SC03-0710	7.1	74	34	☆
7.2	3	1105SC03-0720	7.2	74	34	☆		
7.3	3	1105SC03-0730	7.3	74	34	☆		
7.4	3	1105SC03-0740	7.4	74	34	☆		

☆ Recommended grade (produce according to order)

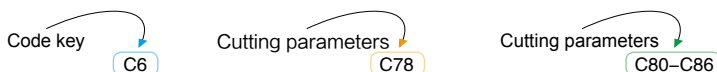
Drilling tools

SC series (twist drill)

Applicable material table

◎Very suitable ○Suitable

Grade	Workpiece material										
	Mild steel HB≤180	Carbon steel, Alloy steel	Pre-hardened steel, Hardened steel			Stainless steel	Cast iron	Nodular cast iron	Aluminum alloy	Copper alloy	Heat resistant alloy
			~40HRC	~50HRC	~60HRC						
YK20F						◎	○	◎			





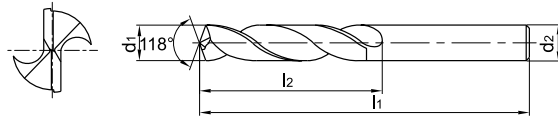
SC series

SC series (twist drill) for machining of cast iron, Al alloy



External coolant

Straight shank



- For materials with short chips such as cast iron, silicon-aluminum alloy, etc.
- Cutting edge and shank with same diameter.

Drill diameter d ₁ (h ₈)	Drilling depth (l/d)	Cooling mode	Shank type	Type	Basic dimension(mm)			Recommended grade
					Shank diameter	Overall length	Flute length	
					d ₂ (h ₇)	l ₁	l ₂	YK20F
7.5	3	External coolant	Straight shank	1105SC03-0750	7.5	74	34	☆
	5			1101SC05-0750	7.5	109	69	☆
7.6	3			1105SC03-0760	7.6	79	37	☆
7.7	3			1105SC03-0770	7.7	79	37	☆
7.8	3			1105SC03-0780	7.8	79	37	☆
	5			1101SC05-0780	7.8	117	75	☆
7.9	3			1105SC03-0790	7.9	79	37	☆
8.0	3			1105SC03-0800	8.0	79	37	☆
	5			1101SC05-0800	8.0	117	75	☆
8.1	3			1105SC03-0810	8.1	79	37	☆
8.2	3			1105SC03-0820	8.2	79	37	☆
8.3	3			1105SC03-0830	8.3	79	37	☆
8.4	3			1105SC03-0840	8.4	79	37	☆
8.5	3			1105SC03-0850	8.5	79	37	☆
	5			1101SC05-0850	8.5	117	75	☆
8.6	3			1105SC03-0860	8.6	84	40	☆
8.7	3			1105SC03-0870	8.7	84	40	☆
8.8	3			1105SC03-0880	8.8	84	40	☆
	5			1101SC05-0880	8.8	125	81	☆
8.9	3			1105SC03-0890	8.9	84	40	☆
9.0	3			1105SC03-0900	9.0	84	40	☆
	5			1101SC05-0900	9.0	125	81	☆
9.1	3			1105SC03-0910	9.1	84	40	☆
9.2	3			1105SC03-0920	9.2	84	40	☆
9.3	3	1105SC03-0930	9.3	84	40	☆		
9.4	3	1105SC03-0940	9.4	84	40	☆		
9.5	3	1105SC03-0950	9.5	84	40	☆		
	5	1101SC05-0950	9.5	125	81	☆		
9.6	3	1105SC03-0960	9.6	89	43	☆		
9.7	3	1105SC03-0970	9.7	89	43	☆		
9.8	3	1105SC03-0980	9.8	89	43	☆		
	5	1101SC05-0980	9.8	133	87	☆		
9.9	3	1105SC03-0990	9.9	89	43	☆		

☆ Recommended grade (produce according to order)



Drill diameter d ₁ (h ₈)	Drilling depth (l/d)	Cooling mode	Shank type	Type	Basic dimension(mm)			Recommended grade
					Shank diameter	Overall length	Flute length	YK20F
					d ₂ (h ₇)	l ₁	l ₂	
10.0	3	External coolant	Straight shank	1105SC03-1000	10.0	89	43	☆
	5			1101SC05-1000	10.0	133	87	☆
10.1	3			1105SC03-1010	10.1	89	43	☆
10.2	3			1105SC03-1020	10.2	89	43	☆
10.4	3			1105SC03-1040	10.4	89	43	☆
10.5	3			1105SC03-1050	10.5	89	43	☆
	5			1101SC05-1050	10.5	133	87	☆
10.7	3			1105SC03-1070	10.7	95	47	☆
10.8	3			1105SC03-1080	10.8	95	47	☆
	5			1101SC05-1080	10.8	142	94	☆
11.0	3			1105SC03-1100	11.0	95	47	☆
	5			1101SC05-1100	11.0	142	94	☆
11.5	3			1105SC03-1150	11.5	95	47	☆
	5			1101SC05-1150	11.5	142	94	☆
12.0	3			1105SC03-1200	12.0	102	51	☆
	5			1101SC05-1200	12.0	151	101	☆
12.5	3			1105SC03-1250	12.5	102	51	☆
	5			1101SC05-1250	12.5	151	101	☆
12.8	3			1105SC03-1280	12.8	102	51	☆
13.0	3			1105SC03-1300	13.0	102	51	☆
	5			1101SC05-1300	13.0	151	101	☆
13.1	3			1105SC03-1310	13.1	102	51	☆
13.5	3			1105SC03-1350	13.5	107	54	☆
	5			1101SC05-1350	13.5	160	108	☆
14.0	3			1105SC03-1400	14.0	107	54	☆
	5			1101SC05-1400	14.0	160	108	☆
14.3	3			1105SC03-1430	14.3	111	56	☆
14.5	3			1105SC03-1450	14.5	111	56	☆
	5			1101SC05-1450	14.5	169	114	☆
15.0	3			1105SC03-1500	15.0	111	56	☆
	5			1101SC05-1500	15.0	169	114	☆
15.5	5			1101SC05-1550	15.5	178	120	☆
16.0	3	1105SC03-1600	16.0	115	58	☆		
	5	1101SC05-1600	16.0	178	120	☆		

☆ Recommended grade (produce according to order)

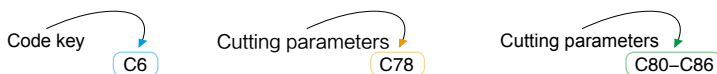
Drilling tools

SC series (twist drill)

Applicable material table

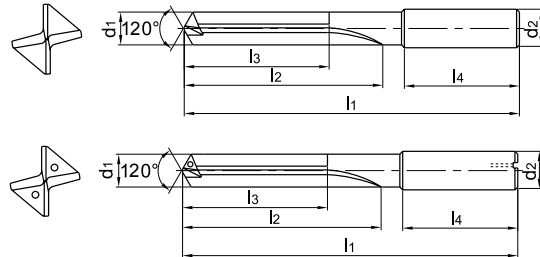
◎ Very suitable ○ Suitable

Grade	Workpiece material										
	Mild steel HB≤180	Carbon steel, Alloy steel	Pre-hardened steel, Hardened steel			Stainless steel	Cast iron	Nodular cast iron	Aluminum alloy	Copper alloy	Heat resistant alloy
			~40HRC	~50HRC	~60HRC						
YK20F							◎	○	◎		





PC series(straight flute drill) for machining of cast iron , Al alloy



- For materials with short chips such as cast iron, silicon-aluminum alloy, etc.
- Excellent self centering capability, able to machine with high efficiency, the hole precision up to H7.
- High positional accuracy, high linearity and good surface finish can be obtained in the hole drilled.

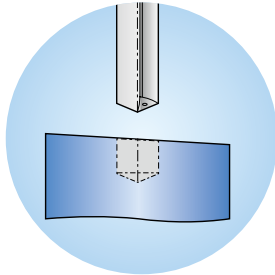
Drill diameter d ₁ (m7)	Drilling depth (l/d)	Cooling mode	Shank type	Type	Basic dimension(mm)					Recommended grade
					Shank diameter	Overall length	Flute length	Recommended drilling depth	Shank length	
					d ₂ (h6)	l ₁	l ₂	l ₃	l ₄	
4.0	5	External coolant	Straight shank	1576PC05-0400	6.0	74	36	29	36	☆
4.2	5			1576PC05-0420	6.0	74	36	29	36	☆
5.0	5	Internal coolant		1576PC05-0500	6.0	82	44	35	36	☆
	15			1579PC15C-0500	6.0	145	105	96	36	☆
6.0	5	External coolant		1576PC05-0600	6.0	82	44	35	36	☆
	15			1579PC15C-0600	6.0	145	105	96	36	☆
6.75	5	External coolant		1576PC05-0675	8.0	91	53	43	36	☆
7.0	5			1576PC05-0700	8.0	91	53	43	36	☆
8.0	5	External coolant		1576PC05-0800	8.0	91	53	43	36	☆
	15			1579PC15C-0800	8.0	180	137	127	36	☆
8.5	5	External coolant		1576PC05-0850	10.0	103	61	49	40	☆
	5			1576PC05-0900	10.0	103	61	49	40	☆
9.0	15	Internal coolant		1579PC15C-0900	10.0	217	170	158	40	☆
	5			External coolant	1576PC05-1000	10.0	103	61	49	40
10.0	15	Internal coolant			1579PC15C-1000	10.0	217	170	158	40
	5			External coolant	1576PC05-1025	12.0	118	71	56	45
10.25	5	External coolant			1576PC05-1100	12.0	118	71	56	45
	5			Internal coolant	1579PC15C-1100	12.0	258	205	190	45
11.0	15	External coolant			1576PC05-1200	12.0	118	71	56	45
	5			Internal coolant	1579PC15C-1200	12.0	258	205	190	45
12.0	15	External coolant	1576PC05-1300		14.0	124	77	60	45	☆
	5		Internal coolant	1576PC05-1400	14.0	124	77	60	45	☆
13.0	15	External coolant		1579PC15C-1400	14.0	290	236	219	45	☆
	5		Internal coolant	1576PC05-1500	16.0	133	83	63	48	☆
14.0	5	External coolant		1576PC05-1550	16.0	133	83	63	48	☆
15.0	5		Internal coolant							
15.5	5	External coolant								

☆ Recommended grade (produce according to order)

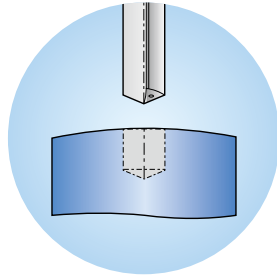


Drill diameter d ₁ (m7)	Drilling depth (l/d)	Cooling mode	Shank type	Type	Basic dimension(mm)					Recommended grade
					Shank diameter	Overall length	Flute length	Recommended drilling depth	Shank length	
					d ₂ (h6)	l ₁	l ₂	l ₃	l ₄	YK20F
16.0	5	External coolant	Straight shank	1576PC05-1600	16.0	133	83	63	48	☆
17.0	5			1576PC05-1700	18.0	143	93	71	48	☆
17.5	5			1576PC05-1750	18.0	143	93	71	48	☆
18.0	5			1576PC05-1800	18.0	143	93	71	48	☆
19.5	5			1576PC05-1950	20.0	153	101	77	50	☆
20.0	5			1576PC05-2000	20.0	153	101	77	50	☆

☆ Recommended grade (produce according to order)



Inclined face drilling



Curved face drilling

When drilling inclined face or curved face, feed rate should be reduced as recommended.

Inclined angle α	Max. feed rate
1°	80%
2°	50%
3°	30%

100% feed rate

Surface with a large inclined angle should be pre-treated. Face milling should be conducted before drilling.

$\alpha > \alpha_{max}$

Applicable material table

⊙ Very suitable ○ Suitable

Grade	Workpiece material										
	Mild steel HB≤180	Carbon steel, Alloy steel	Pre-hardened steel, Hardened steel			Stainless steel	Cast iron	Nodular cast iron	Aluminum alloy	Copper alloy	Heat resistant alloy
YK20F			~40HRC	~50HRC	~60HRC		⊙	○	⊙		

