



### Recommended cutting parameters

#### SC series centering drill(external coolant)

#### Centering drilling

Workpiece material	Cast iron		Nodular cast iron		Silicon aluminium alloy				Aluminum alloy	
	60~120m/min		50~100m/min		Si ≤ 10%		Si > 10%		120~200m/min	
Cutting speed	60~120m/min		50~100m/min		100~180m/min		80~140m/min		120~200m/min	
Diameter (mm)	Rotating speed (min <sup>-1</sup> )	Feed rate (mm/r)	Rotating speed (min <sup>-1</sup> )	Feed rate (mm/r)	Rotating speed (min <sup>-1</sup> )	Feed rate (mm/r)	Rotating speed (min <sup>-1</sup> )	Feed rate (mm/r)	Rotating speed (min <sup>-1</sup> )	Feed rate (mm/r)
5	6400	0.09~0.14	5100	0.09~0.14	9000	0.12~0.25	7600	0.12~0.25	10000	0.12~0.25
6	5300	0.12~0.16	4200	0.12~0.16	7400	0.14~0.28	6400	0.14~0.28	8500	0.14~0.28
8	4000	0.13~0.20	3200	0.13~0.20	5600	0.18~0.32	4800	0.18~0.32	6400	0.18~0.32
10	3200	0.17~0.25	2500	0.17~0.25	4500	0.22~0.36	3800	0.22~0.36	5000	0.22~0.36
12	2700	0.20~0.30	2100	0.20~0.30	3700	0.25~0.40	3200	0.25~0.40	4200	0.25~0.40
14	2400	0.22~0.32	1800	0.22~0.32	3200	0.27~0.44	2700	0.27~0.44	3600	0.27~0.44
16	2000	0.24~0.34	1600	0.24~0.34	2800	0.32~0.48	2400	0.32~0.48	3200	0.32~0.48
20	1600	0.28~0.40	1300	0.28~0.40	2300	0.40~0.60	1900	0.40~0.60	2550	0.40~0.60

1. The cutting datas above are suitable for centering drilling machining.
2. When the tool is used for the first time, please do a test cutting with 90% of the cutting speed or 85% of the feed rate stated above. As cutting conditions become stable, gradually increase the cutting speed and feed rate.
3. The cutting conditions above are applicable for drilling with emulsion.
4. When centering on bevels and toroidal surfaces, please reduce the feed speed.
5. When clamping drill, please use a collet without any defect or dust, and keep the radial run-out of drill under 0.02mm.

#### Chamfering

Workpiece material	Cast iron		Nodular cast iron		Silicon aluminium alloy				Aluminum alloy	
	90~180m/min		70~150m/min		Si ≤ 10%		Si > 10%		180~300m/min	
Cutting speed	90~180m/min		70~150m/min		150~270m/min		120~210m/min		180~300m/min	
Diameter (mm)	Rotating speed (min <sup>-1</sup> )	Feed rate (mm/r)	Rotating speed (min <sup>-1</sup> )	Feed rate (mm/r)	Rotating speed (min <sup>-1</sup> )	Feed rate (mm/r)	Rotating speed (min <sup>-1</sup> )	Feed rate (mm/r)	Rotating speed (min <sup>-1</sup> )	Feed rate (mm/r)
5	9600	0.09~0.20	7600	0.09~0.20	13500	0.12~0.30	11500	0.12~0.30	15000	0.12~0.30
6	8000	0.12~0.22	6400	0.12~0.22	11100	0.14~0.34	9600	0.14~0.34	12700	0.14~0.34
8	6000	0.13~0.28	4800	0.13~0.28	8400	0.18~0.40	7200	0.18~0.40	9600	0.18~0.40
10	4800	0.17~0.32	3800	0.17~0.32	6800	0.22~0.44	5700	0.22~0.44	7600	0.22~0.44
12	4000	0.20~0.38	3200	0.20~0.38	5600	0.25~0.50	4800	0.25~0.50	6400	0.25~0.50
14	3600	0.22~0.42	2700	0.22~0.42	4800	0.27~0.56	4000	0.27~0.56	5400	0.27~0.56
16	3000	0.24~0.46	2400	0.24~0.46	4200	0.32~0.60	3600	0.32~0.60	4800	0.32~0.60
20	2400	0.28~0.58	1900	0.28~0.58	3500	0.40~0.76	2850	0.40~0.76	3800	0.40~0.76

1. When the tool is used for the first time, please do a test cutting with 90% of the cutting speed or 85% of the feed rate stated above. As cutting conditions become stable, gradually increase the cutting speed and feed rate.
2. The cutting datas above are suitable for chamfering machining.
3. The cutting conditions above are applicable for drilling with emulsion.
4. When clamping drill, please use a collet without any defect or dust, and keep the radial run-out of drill under 0.02mm.