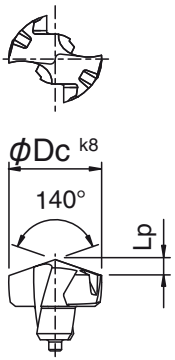


MagicDrill® Insert for DRC

Insert		Description	Dimension (mm)		PVD Coated Carbide	Applicable Toolholder ⚙️K7~K9, K12~K14								
			øDc	Lp	PR0315									
	 k8 tolerance <table><tr><th>øDc</th><th>k8(mm)</th></tr><tr><td>7.94 ↓ 10.00</td><td>+0.022 0</td></tr><tr><td>10.10 ↓ 18.00</td><td>+0.027 0</td></tr><tr><td>18.10 ↓ 20.99</td><td>+0.033 0</td></tr></table> k8 is the dimension tolerance of the insert. It is not the dimension tolerance of the cutting diameter.	øDc	k8(mm)	7.94 ↓ 10.00	+0.022 0	10.10 ↓ 18.00	+0.027 0	18.10 ↓ 20.99	+0.033 0	DC 1900M-SC	19.00	3.46	●	SS20-DRC190M-○ SF25-DRC190M-○
		øDc	k8(mm)											
		7.94 ↓ 10.00	+0.022 0											
		10.10 ↓ 18.00	+0.027 0											
		18.10 ↓ 20.99	+0.033 0											
		1910M-SC	19.10	3.47	●									
		1920M-SC	19.20	3.49	●									
		1930M-SC	19.30	3.51	●									
		1940M-SC	19.40	3.53	●									
		1950M-SC	19.50	3.55	●									
		1960M-SC	19.60	3.56	●									
	1970M-SC	19.70	3.58	●										
	1980M-SC	19.80	3.60	●										
	1990M-SC	19.90	3.62	●										
	DC 2000M-SC	20.00	3.64	●	SS25-DRC200M-○ SF25-DRC200M-○									
	2010M-SC	20.10	3.66	●										
	2020M-SC	20.20	3.67	●										
	2030M-SC	20.30	3.69	●										
	2040M-SC	20.40	3.71	●										
	2050M-SC	20.50	3.73	●										
	2060M-SC	20.60	3.75	●										
	2070M-SC	20.70	3.77	●										
2080M-SC	20.80	3.78	●											
2090M-SC	20.90	3.80	●											
2099M-SC	20.99	3.82	●											

K

Recommended Cutting Conditions

Workpiece Material	Hardness (HB)	Cutting Conditions		Cutting Dia øDc (mm)							Remarks
		Cutting Speed Vc (m/min)	Spindle Revolution n (min ⁻¹)	ø8	ø10	ø12	ø14	ø16	ø18	ø20	
			f (mm/rev)								
Low Carbon Steel	125	120 - 180	n (min ⁻¹)	4,780 - 7,170	3,820 - 5,730	3,180 - 4,780	2,730 - 4,090	2,390 - 3,580	2,120 - 3,180	1,910 - 2,870	Coolant
			f (mm/rev)	0.11 - 0.20	0.13 - 0.24	0.14 - 0.28	0.17 - 0.32	0.19 - 0.35	0.23 - 0.38	0.25 - 0.41	
Carbon Steel	190	100 - 150	n (min ⁻¹)	3,980 - 5,970	3,180 - 4,780	2,650 - 3,980	2,270 - 3,410	1,990 - 2,990	1,770 - 2,650	1,590 - 2,390	
			f (mm/rev)	0.13 - 0.24	0.15 - 0.29	0.17 - 0.33	0.19 - 0.36	0.22 - 0.41	0.25 - 0.46	0.28 - 0.48	
	250	80 - 120	n (min ⁻¹)	3,180 - 4,780	2,550 - 3,820	2,120 - 3,180	1,820 - 2,730	1,590 - 2,390	1,420 - 2,120	1,270 - 1,910	
			f (mm/rev)	0.13 - 0.21	0.15 - 0.25	0.18 - 0.31	0.21 - 0.39	0.23 - 0.45	0.25 - 0.53	0.28 - 0.61	
	300	50 - 75	n (min ⁻¹)	1,990 - 2,990	1,590 - 2,390	1,330 - 1,990	1,140 - 1,710	1,000 - 1,490	880 - 1,330	800 - 1,190	
			f (mm/rev)	0.11 - 0.19	0.12 - 0.23	0.16 - 0.28	0.21 - 0.32	0.23 - 0.35	0.25 - 0.41	0.28 - 0.41	
Alloy Steel	180	70 - 95	n (min ⁻¹)	2,790 - 3,780	2,230 - 3,030	1,860 - 2,520	1,590 - 2,160	1,390 - 1,890	1,240 - 1,680	1,110 - 1,510	
			f (mm/rev)	0.15 - 0.28	0.16 - 0.35	0.21 - 0.37	0.23 - 0.46	0.25 - 0.46	0.25 - 0.51	0.30 - 0.51	
	275	70 - 95	n (min ⁻¹)	2,790 - 3,780	2,230 - 3,030	1,860 - 2,520	1,590 - 2,160	1,390 - 1,890	1,240 - 1,680	1,110 - 1,510	
			f (mm/rev)	0.11 - 0.21	0.14 - 0.25	0.19 - 0.30	0.21 - 0.33	0.23 - 0.37	0.28 - 0.43	0.28 - 0.46	
	300	60 - 90	n (min ⁻¹)	2,390 - 3,580	1,910 - 2,870	1,590 - 2,390	1,360 - 2,050	1,190 - 1,790	1,060 - 1,590	960 - 1,430	
			f (mm/rev)	0.11 - 0.19	0.12 - 0.23	0.16 - 0.26	0.18 - 0.31	0.21 - 0.33	0.23 - 0.36	0.25 - 0.38	
350	50 - 75	n (min ⁻¹)	1,990 - 2,990	1,590 - 2,390	1,330 - 1,990	1,140 - 1,710	1,000 - 1,490	880 - 1,330	800 - 1,190		
		f (mm/rev)	0.11 - 0.20	0.12 - 0.23	0.16 - 0.25	0.17 - 0.29	0.18 - 0.32	0.20 - 0.36	0.23 - 0.38		
Stainless Steel	220	60 - 80	n (min ⁻¹)	2,390 - 3,180	1,910 - 2,550	1,590 - 2,120	1,360 - 1,820	1,190 - 1,590	1,060 - 1,420	960 - 1,270	
			f (mm/rev)	0.11 - 0.19	0.12 - 0.23	0.16 - 0.26	0.18 - 0.31	0.21 - 0.33	0.23 - 0.36	0.25 - 0.38	
	300	50 - 70	n (min ⁻¹)	1,990 - 2,790	1,590 - 2,230	1,330 - 1,860	1,140 - 1,590	1,000 - 1,390	880 - 1,240	800 - 1,110	
			f (mm/rev)	0.11 - 0.20	0.12 - 0.23	0.16 - 0.25	0.17 - 0.29	0.18 - 0.32	0.20 - 0.36	0.23 - 0.38	
Gray Cast Iron	180	120 - 170	n (min ⁻¹)	4,780 - 6,770	3,820 - 5,410	3,180 - 4,510	2,730 - 3,870	2,390 - 3,380	2,120 - 3,010	1,910 - 2,710	
			f (mm/rev)	0.17 - 0.32	0.20 - 0.37	0.23 - 0.43	0.27 - 0.48	0.30 - 0.55	0.33 - 0.61	0.33 - 0.61	
	260	90 - 120	n (min ⁻¹)	3,580 - 4,780	2,870 - 3,820	2,390 - 3,180	2,050 - 2,730	1,790 - 2,390	1,590 - 2,120	1,430 - 1,910	
			f (mm/rev)	0.14 - 0.25	0.16 - 0.31	0.19 - 0.35	0.23 - 0.42	0.26 - 0.47	0.28 - 0.53	0.30 - 0.58	
Nodular Cast Iron	160	60 - 90	n (min ⁻¹)	2,390 - 3,580	1,910 - 2,870	1,590 - 2,390	1,360 - 2,050	1,190 - 1,790	1,060 - 1,590	960 - 1,430	
			f (mm/rev)	0.14 - 0.25	0.16 - 0.30	0.19 - 0.35	0.22 - 0.40	0.24 - 0.45	0.28 - 0.51	0.28 - 0.56	
	250	40 - 65	n (min ⁻¹)	1,590 - 2,590	1,270 - 2,070	1,060 - 1,730	910 - 1,480	800 - 1,290	710 - 1,150	640 - 1,040	
			f (mm/rev)	0.10 - 0.19	0.12 - 0.22	0.14 - 0.25	0.16 - 0.31	0.19 - 0.35	0.23 - 0.51	0.25 - 0.53	

* Internal coolant is recommended. In case of external coolant, cutting depth must be 3xD or less.

* The longer drilling depth gets (3D→5D→8D), the lower of recommended feed rate should be set for f.

DC Inserts are sold
in 1 piece boxes

● : Std. Item ○ : Check Availability R : Std. Item (R-hand Only) L : Std. Item (L-hand Only)

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