

**DQ105 SERIES HSS, HSS-E & HSSCo8 COBALT DRILLS**

 RPM = rev./min.  
FEED = mm/rev.

ISO	VDI 3323	Material Description	Vc (m/min)	Parameter	Drill Diameter (mm)				
					2.0	3.0	4.0	6.0	8.0
P	1	Non-alloy steel	30	RPM FEED	4770 0.02-0.04	3180 0.03-0.05	2390 0.04-0.06	1590 0.05-0.08	1190 0.10-0.13
	2		25	RPM FEED	3980 0.02-0.04	2650 0.03-0.05	1990 0.04-0.06	1330 0.05-0.08	990 0.10-0.13
	3		20	RPM FEED	3180 0.02-0.04	2120 0.03-0.05	1590 0.04-0.06	1060 0.05-0.08	800 0.10-0.13
	4		20	RPM FEED	3180 0.01-0.02	2120 0.01-0.03	1590 0.02-0.04	1060 0.02-0.05	800 0.03-0.06
	5								
	6	Low alloy steel	25	RPM FEED	3980 0.02-0.04	2650 0.03-0.05	1990 0.04-0.06	1330 0.05-0.08	990 0.10-0.13
	7		20	RPM FEED	3180 0.02-0.04	2120 0.03-0.05	1590 0.04-0.06	1060 0.05-0.08	800 0.10-0.13
	8		20	RPM FEED	3180 0.01-0.02	2120 0.01-0.03	1590 0.02-0.04	1060 0.02-0.05	800 0.03-0.06
	9								
	10	High alloyed steel, and tool steel	15	RPM FEED	2390 0.02-0.04	1590 0.03-0.05	1190 0.04-0.06	800 0.05-0.08	600 0.10-0.13
	11								
M	12	Stainless steel	20	RPM FEED	3180 0.02-0.04	2120 0.03-0.05	1590 0.04-0.06	1060 0.05-0.08	800 0.10-0.13
	13		15	RPM FEED	2390 0.02-0.04	1590 0.03-0.05	1190 0.04-0.06	800 0.05-0.08	600 0.10-0.13
	14		10	RPM FEED	1590 0.01-0.02	1060 0.01-0.03	800 0.02-0.04	530 0.02-0.05	400 0.03-0.06
K	15	Grey cast iron	30	RPM FEED	4770 0.02-0.04	3180 0.03-0.05	2390 0.04-0.06	1590 0.05-0.08	1190 0.10-0.13
	16		25	RPM FEED	3980 0.01-0.02	2650 0.01-0.03	1990 0.02-0.04	1330 0.02-0.05	990 0.03-0.06
	17	Nodular cast iron	30	RPM FEED	4770 0.02-0.04	3180 0.03-0.05	2390 0.04-0.06	1590 0.05-0.08	1190 0.10-0.13
	18								
	19	Malleable cast iron	25	RPM FEED	3980 0.02-0.04	2650 0.03-0.05	1990 0.04-0.06	1330 0.05-0.08	990 0.10-0.13
	20								
N	21	Aluminum-wrought alloy	55	RPM FEED	8750 0.03-0.06	5840 0.05-0.09	4380 0.07-0.11	2920 0.12-0.16	2190 0.12-0.18
	22		55	RPM FEED	8750 0.03-0.06	5840 0.05-0.09	4380 0.07-0.11	2920 0.12-0.16	2190 0.12-0.18
	23		40	RPM FEED	6370 0.03-0.06	4240 0.05-0.09	3180 0.07-0.11	2120 0.12-0.16	1590 0.12-0.18
	24	Aluminum-cast, alloyed							
	25								
	26								
	27	Copper and Copper Alloys (Bronze / Brass)							
	28								
	29								
	30	Non Metallic Materials	20	RPM FEED	3180 0.02-0.04	2120 0.03-0.05	1590 0.04-0.06	1060 0.05-0.08	800 0.10-0.13
S	31	Heat Resistant Super Alloys							
	32								
	33								
	34								
	35								
	36	Titanium Alloys	10	RPM FEED	1590 0.01-0.03	1060 0.02-0.04	800 0.03-0.05	530 0.04-0.07	400 0.05-0.08
	37								
H	38	Hardened steel							
	39								
	40	Chilled Cast Iron							
	41	Hardened Cast Iron							

 RPM = rev./min.  
FEED = mm/rev.

VDI 3323	Parameter	Drill Diameter (mm)					
		10.0	13.0	16.0	18.0	20.0	30.0
1	RPM	950	730	600	530	480	320
	FEED	0.11-0.15	0.11-0.17	0.12-0.18	0.14-0.20	0.19-0.25	0.22-0.28
2	RPM	800	610	500	440	400	270
	FEED	0.11-0.15	0.11-0.17	0.12-0.18	0.14-0.20	0.19-0.25	0.22-0.28
3	RPM	640	490	400	350	320	210
	FEED	0.11-0.15	0.11-0.17	0.12-0.18	0.14-0.20	0.19-0.25	0.22-0.28
4	RPM	640	490	400	350	320	210
	FEED	0.03-0.06	0.04-0.10	0.06-0.12	0.08-0.14	0.10-0.16	0.12-0.18
5							
6	RPM	800	610	500	440	400	270
	FEED	0.11-0.15	0.11-0.17	0.12-0.18	0.14-0.20	0.19-0.25	0.22-0.28
7	RPM	640	490	400	350	320	210
	FEED	0.11-0.15	0.11-0.17	0.12-0.18	0.14-0.20	0.19-0.25	0.22-0.28
8	RPM	640	490	400	350	320	210
	FEED	0.03-0.06	0.04-0.10	0.06-0.12	0.08-0.14	0.10-0.16	0.12-0.18
9							
10	RPM	480	370	300	270	240	160
	FEED	0.11-0.15	0.11-0.17	0.12-0.18	0.14-0.20	0.19-0.25	0.22-0.28
11							
12	RPM	640	490	400	350	320	210
	FEED	0.11-0.15	0.11-0.17	0.12-0.18	0.14-0.20	0.19-0.25	0.22-0.28
13	RPM	480	370	300	270	240	160
	FEED	0.11-0.15	0.11-0.17	0.12-0.18	0.14-0.20	0.19-0.25	0.22-0.28
14	RPM	320	240	200	180	160	110
	FEED	0.03-0.06	0.04-0.10	0.06-0.12	0.08-0.14	0.10-0.16	0.12-0.18
15	RPM	950	730	600	530	480	320
	FEED	0.11-0.15	0.11-0.17	0.12-0.18	0.14-0.20	0.19-0.25	0.22-0.28
16	RPM	800	610	500	440	400	270
	FEED	0.03-0.06	0.04-0.10	0.06-0.12	0.08-0.14	0.10-0.16	0.12-0.18
17	RPM	950	730	600	530	480	320
	FEED	0.11-0.15	0.11-0.17	0.12-0.18	0.14-0.20	0.19-0.25	0.22-0.28
18							
19	RPM	800	610	500	440	400	270
	FEED	0.11-0.15	0.11-0.17	0.12-0.18	0.14-0.20	0.19-0.25	0.22-0.28
20							
21	RPM	1750	1350	1090	970	880	580
	FEED	0.14-0.20	0.16-0.22	0.18-0.24	0.20-0.28	0.20-0.30	0.28-0.38
	RPM	1750	1350	1090	970	880	580
	FEED	0.14-0.20	0.16-0.22	0.18-0.24	0.20-0.28	0.20-0.30	0.28-0.38
23	RPM	1270	980	800	710	640	420
	FEED	0.14-0.20	0.16-0.22	0.18-0.24	0.20-0.28	0.20-0.30	0.28-0.38
24							
25							
26							
27							
28							
29	RPM	640	490	400	350	320	210
30	FEED	0.11-0.15	0.11-0.17	0.12-0.18	0.14-0.20	0.19-0.25	0.22-0.28
31							
32							
33							
34							
35							
36	RPM	320	240	200	180	160	110
	FEED	0.05-0.09	0.06-0.10	0.05-0.11	0.06-0.12	0.09-0.13	0.12-0.18
37							
38							
39							
40							
41							