

# MagicDrill® DRZ

## DRZ Hole Bottom Shape (Available for 2xD, 3xD, 4xD, 5xD type) (mm)

øD	A	B	C	øD	A	B	C	øD	A	B	C
13.0	2.1	4.4	0.4	21.5	3.1	7.7	0.6	33.0	5.7	10.8	0.8
13.5		4.7		22.0		7.9		34.0		11.3	
14.0		4.9		22.5		8.2		35.0		11.8	
14.5		5.2	23.0	8.4		36.0		12.3			
15.0		5.4	23.5	8.7		37.0		12.8			
15.5	5.7	0.5	24.0	8.9	38.0	13.3	0.9				
16.0	2.7	5.3	0.6	24.5	9.2	39.0		13.8			
16.5		5.6		25.0	9.4	40.0		14.3			
17.0		5.8		25.5	9.7	6.5	41.0	14.0	1.0		
17.5		6.1		26.0	9.9		42.0	14.5			
18.0		6.3		26.5	10.2		43.0	15.0			
18.5	6.6	0.7	27.0	9.5	44.0		15.5				
19.0	6.8		27.5	9.8	45.0		16.0				
19.5	7.1		28.0	10.0	46.0	16.5					
20.0	7.3		28.5	10.3	47.0	17.0					
20.5	7.6		29.0	10.5	48.0	17.5					
21.0	7.8	0.8	29.5	10.8	49.0	18.0	1.1				
* Above amount is standard value (Varies within ±0.1mm depending on workpiece materials and cutting conditions)				30.0	11.0	50.0		18.5			
				30.5	11.3	51.0		19.0			
				31.0	11.5	52.0		19.5			
				31.5	11.8	53.0		20.0			
				32.0	12.0	0.8	54.0	18.5	8.5	18.5	1.2
32.5	12.3	55.0	19.0								
		56.0	19.5								
				57.0	20.0						
				58.0	20.5						
				59.0	21.0						

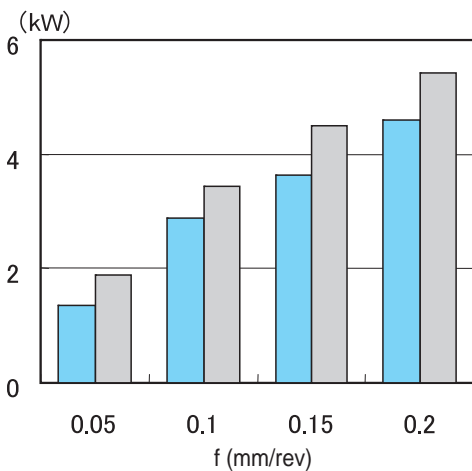
K

## Required Power

### ø20 Cutting Power Comparison

<span style="color: blue;">■</span> MagicDrill
<span style="color: gray;">■</span> Competitor A

$V_c = 100 \text{ m/min}$ , ( $n = 1600 \text{ min}^{-1}$ )  
 ø20 Drill  
 15CrMo5 Internal coolant supply



### Case Study

MagicDrill Dia.	ø16	ø27	ø50	ø50	
Machine	Competitor A	Competitor B	Competitor C	Competitor D	
Machine Power	AC 5.5 / 7.5 kW	AC 5.5 / 7.5 kW	AC 5.5 / 7.5 kW	AC 5.5 / 7.5 kW	
Cutting Conditions	$V_c$ (m/min)	150	130   150	120	110   157
	$f$ (mm/rev)	0.06	0.13	0.1	0.08   0.12
Workpiece Material	1.0040 - St42-2	1.7220 - 34CrMo4	1.7262 - 15CrMo5	1.0040 - St42-2	
Required Power (Load Meter values)	60%	80%   95%	100%	60%   100%	
Remarks	-	-	With conventional drill, limited up to ø40	-	

Formula for calculating required power (approximate value) ➡ R33

Drilling