



Revolutions per minute- RPM (Rotary)

Diameter	Structural Steel <500 Mpa (S275, S355) <small>Based on mm/R Feed of 0.10</small>	Structural Steel <1000 Mpa <small>Based on mm/R Feed of 0.10</small>	Stainless Steel INOX <small>Based on mm/R Feed of 0.13</small>	Cast Iron-Grey	Aluminium
	RPM Range				
12-19 mm	1265-850	850-580	530-350	925-615	2200-1560
20-25 mm	840-650	550-410	345-255	610-440	1480-1140
26-32 mm	545-460	410-315	250-200	430-335	1125-890
33-39 mm	460-395	315-265	195-170	330-280	885-730
40-46 mm	405-340	265-250	165-140	280-235	720-620
47-53 mm	335-300	250-195	135-120	235-205	615-545
54-60 mm	295-265	195-180	120-105	200-180	540-475
61-70 mm	260-230	180-140	105-90	180-160	475-415
71-80 mm	230-200	140-130	90-70	160-145	410-365
81-90 mm	195-180	130-115	70-65	140-125	350-325
91-100 mm	180-160	115-100	60-55	125-110	320-280
101-112 mm	160-140	100-90	55-50	110-100	280-250
113-124 mm	140-120	90-85	50-48	100-90	250-235
125-136 mm	120-110	85-75	48-45	90-80	230-205
137-150 mm	110-100	70-65	45-40	80-75	205-190
151 - 174mm	70 - 80	50 - 60	45 - 40	55 - 65	145 - 155
175 - 200mm	60 - 70	40 - 50	25 - 30	45 - 55	120 - 140

BEST PRACTICE ADVICE

GUIDELINE PARAMETERS ONLY - Actual parameters may vary depending on operating conditions

1. Centre punch or pilot drill the surface for accurate hole start
2. Follow guidelines to set correct RPM speed. Incorrect RPM can lead to poor life or tool breakage
3. Apply firm, steady feed pressure throughout the cut, applying the feed very slowly and cautiously during the first 1mm of cut
4. Avoid lateral movement or tilting which can cause damage to the cutter
5. Ensure regular application of quality cooling lubricant, especially when drilling thick or hardened materials
6. Hardened or heat-affected materials may require higher torque, reduced RPM and feed rates and extra coolant
7. Regularly check that Magnet Drill slides, handles, arbors and movable parts have not vibrated loose over time
8. Ensure a debris free surface of sufficient steel thickness for strong magnet hold when Magnet Drilling
9. For drilling holes in steel thicker than 25mm it is recommended to ventilate the hole frequently to clear the swarf
10. Selecting the correct machine will often result in better life from the consumables and a quicker completion of the task

QUICK GUIDE

- Adjust RPM to match the material
- Slowly and cautiously begin cutting before increasing pressure
- For best results & swarf clearance always select a cutter longer than the material thickness
- For hard materials & wear plates like Hardox use Ultra coated cutters. See page 80 & 83

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