











Cutter Diameter	Structural Steel <500Nm (S275, S355) Based on mm/R Feed of 0.10	Structural Steel <1000Nm Based on mm/R Feed of 0.10	Stainless Steel INOX Based on mm/R Feed of 0.13	Cast Iron-Grey	Aluminium
Diameter Ø	RPM Range	RPM Range	RPM Range	RPM Range	RPM Range
7/16" - 3/4"	1265-850	850-580	530-350	925-615	2200-1560
49/64" - 1"	840-650	550-410	345-255	610-440	1480-1140
1 1/16" - 1 1/4"	545-460	410-315	250-200	430-335	1125-890
1 5/16" - 1 9/16"	460-395	315-265	195-170	330-280	885-730
1 5/8" - 1 13/16"	405-340	265-250	165-140	280-235	720-620
1 7/8" - 2 1/16"	335-300	250-195	135-120	235-205	615-545
2 1/8" - 2 3/8"	295-265	195-180	120-105	200-180	540-475
2 7/16" - 2 3/4"	260-230	180-140	105-90	180-160	475-415
2 13/16" - 3 3/16"	230-200	140-130	90-70	160-145	410-365
3 1/4" - 3 3/4"	195-180	130-115	70-65	140-125	350-325
3 13/16" - 3 15/16"	180-160	115-100	60-55	125-110	320-280
4" - 4 3/8"	160-140	100-90	55-50	110-100	280-250
4 1/2" - 4 7/8"	140-120	90-85	50-48	100-90	250-235
5" - 5 3/8"	120-110	85-75	48-45	90-80	230-205
5 13/16" - 6"	110-100	70-65	45-40	80-75	205-190

**Best Practice Advice**

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

<b>1</b> 	Centre punch or pilot drill the surface for accurate hole start.	<b>7</b> 	Regularly check that Magnet Drill slides, handles, arbors and movable parts have not vibrated loose over time.
<b>2</b> 	Follow guidelines to set correct RPM speed. Incorrect RPM can lead to poor life or tool breakage.	<b>8</b> 	Ensure a debris free surface of sufficient steel thickness for strong magnet hold when Magnet Drilling.
<b>3</b> 	Apply firm, steady feed pressure throughout the cut, applying the feed very slowly and cautiously during the start of the cut.	<b>9</b> 	For drilling holes in steel thicker than 1" it is recommended to ventilate the hole frequently to clear the swarf.
<b>4</b> 	Avoid lateral movement or tilting which can cause damage to the cutter.	<b>10</b> 	When drilling multiple layers of steel CarbideMax Stack Laminate cutters are designed with a special tooth geometry to avoid stuck slugs.
<b>5</b> 	Ensure regular application of quality cooling lubricant, especially when drilling thick or hardened materials.	<b>11</b> 	Selecting the correct machine will often result in better life from the consumables and a quicker completion of the task.
<b>6</b> 	Hardened or heat-affected materials may require higher torque, reduced RPM and feed rates and extra coolant.		

**Quick Guide**

<b>1</b>	Adjust RPM to match the material hardness
<b>2</b>	Slowly and cautiously begin cutting before increasing pressure
<b>3</b>	For best results and swarf clearance always select a cutter longer than the material thickness
<b>4</b>	For hard materials and wear plates like Hardox use Ultra coated cutters. See page 63