Rotabroach™

ELEMENT 40

Rotabroach

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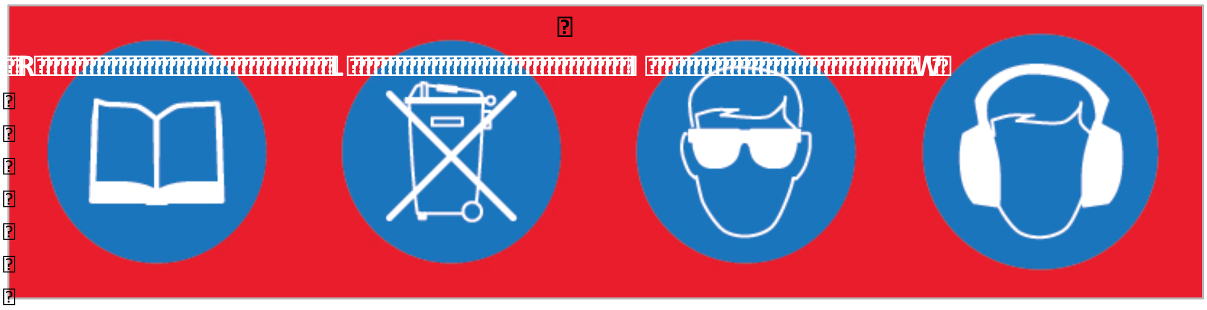

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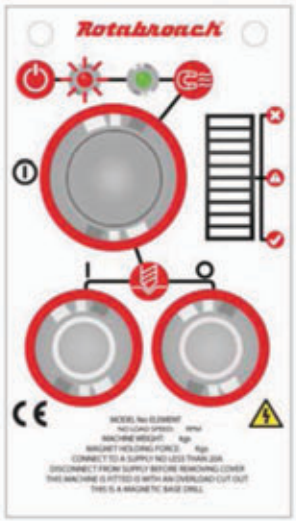
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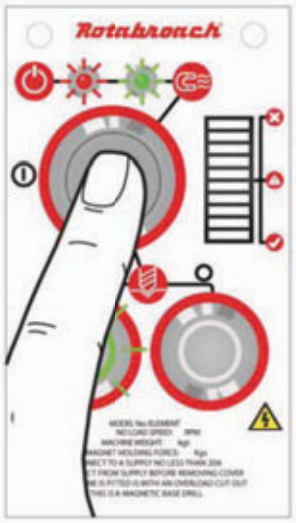
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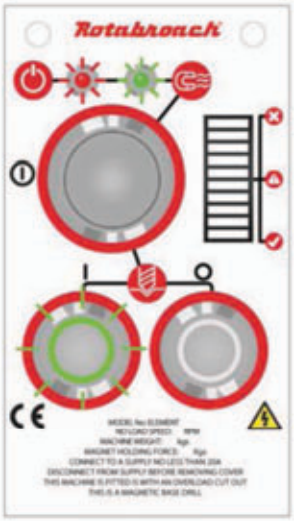
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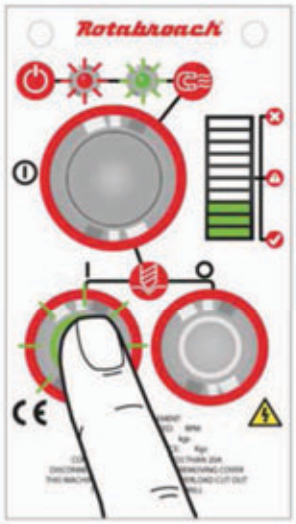
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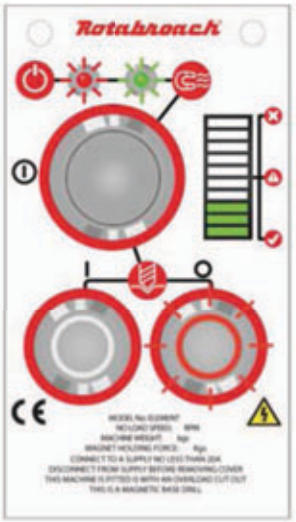
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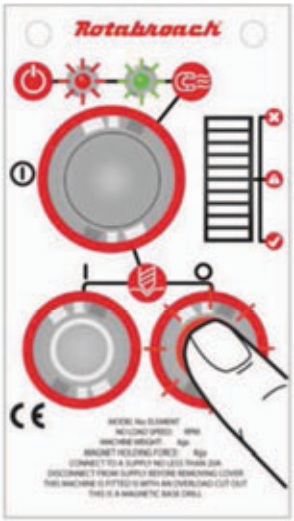
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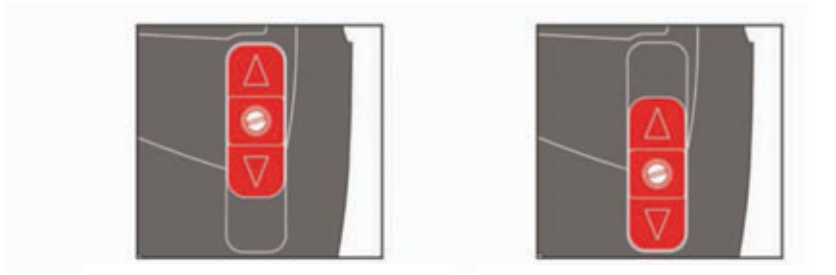

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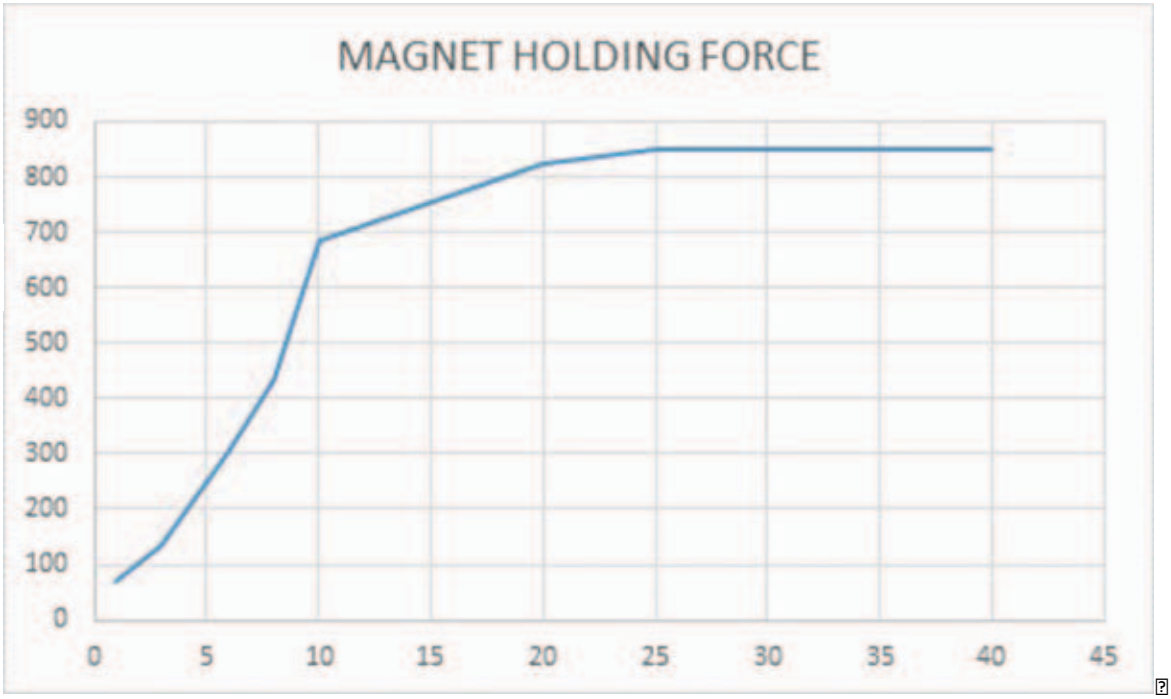
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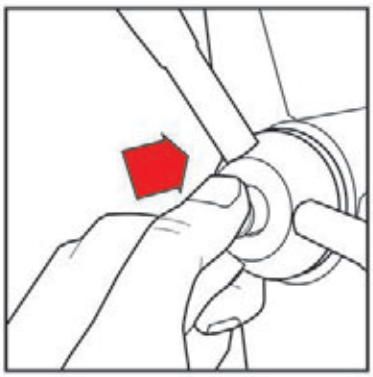

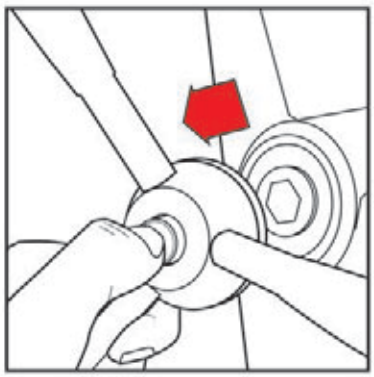

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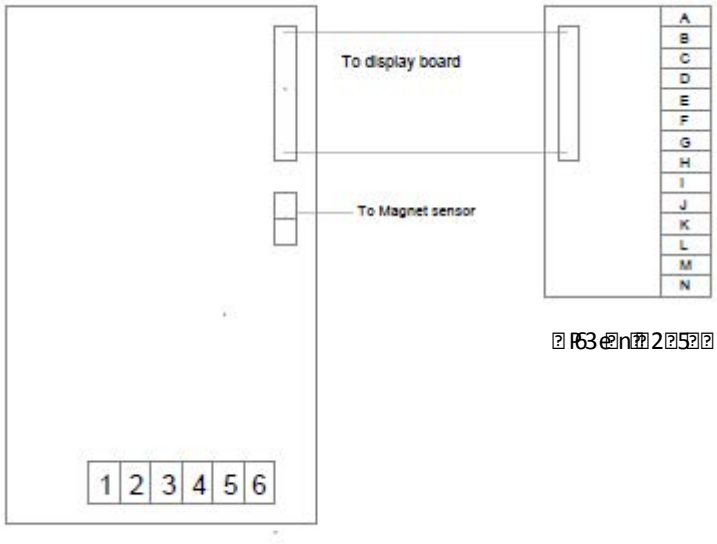

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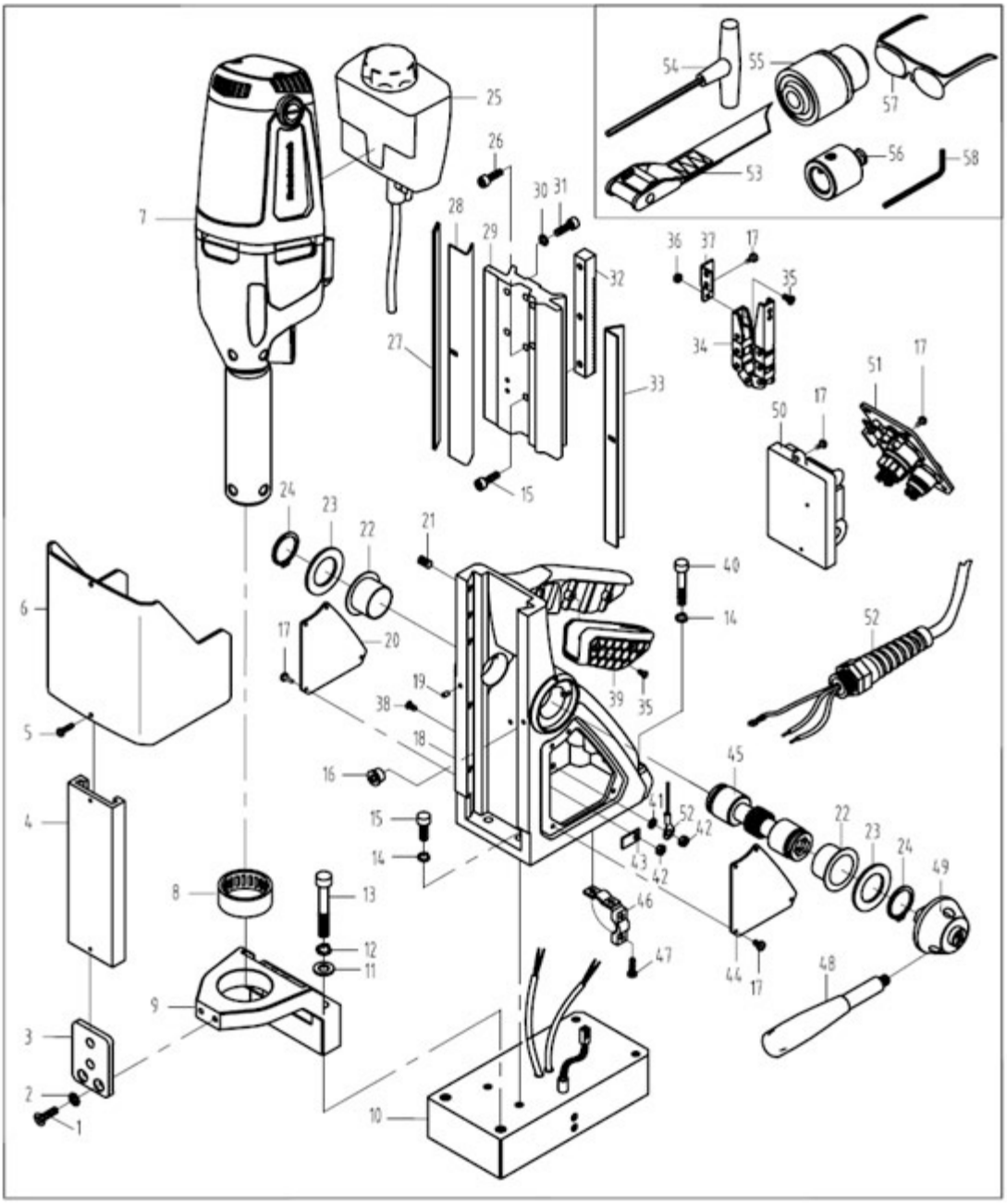
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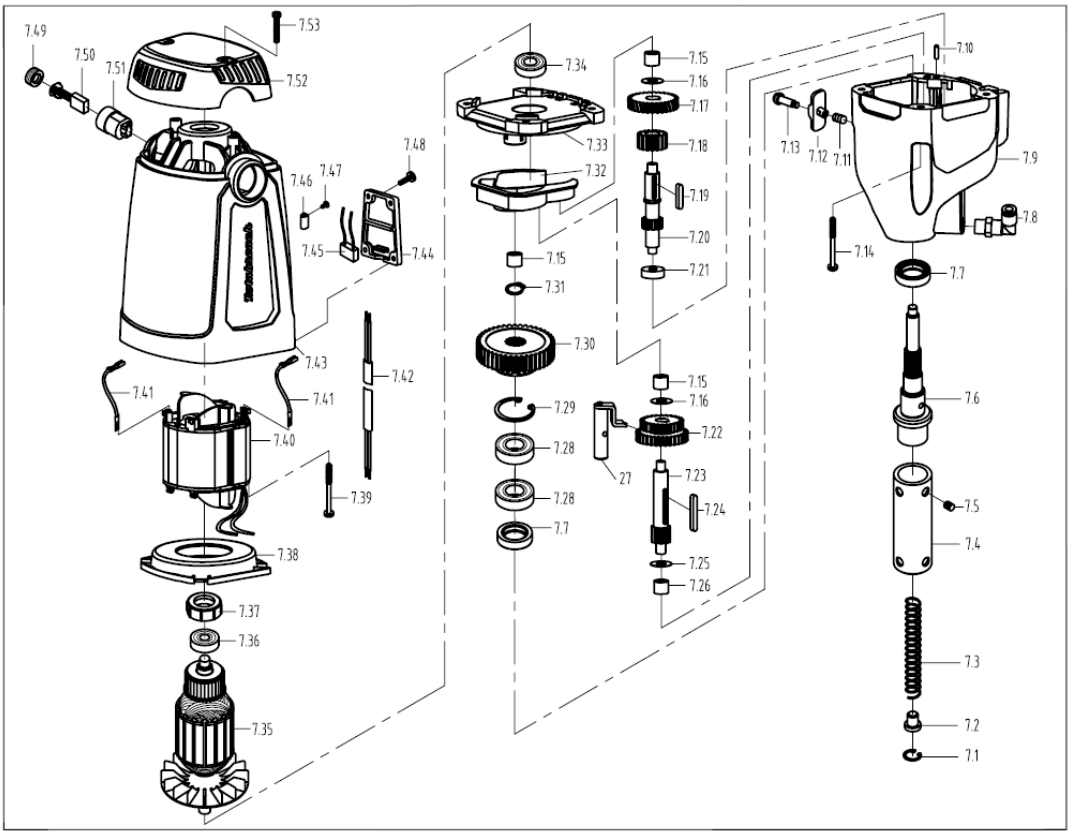
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Drhx□□	□□□kxWD□	□□□5□□I□e□	R□
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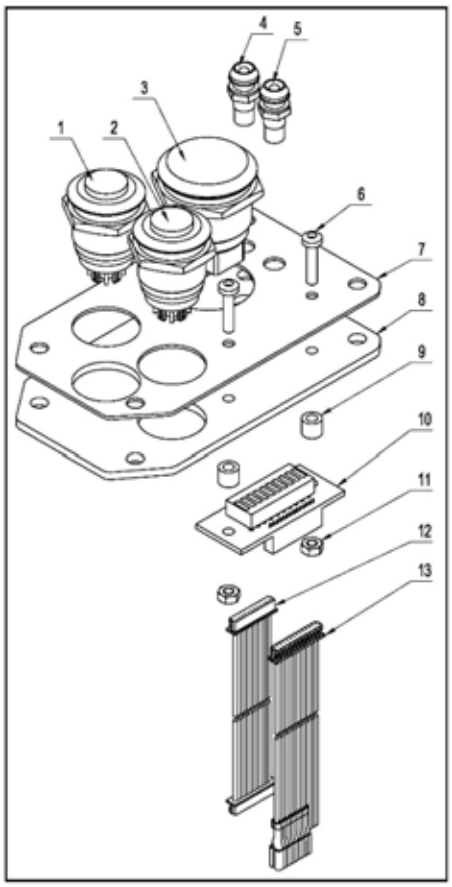

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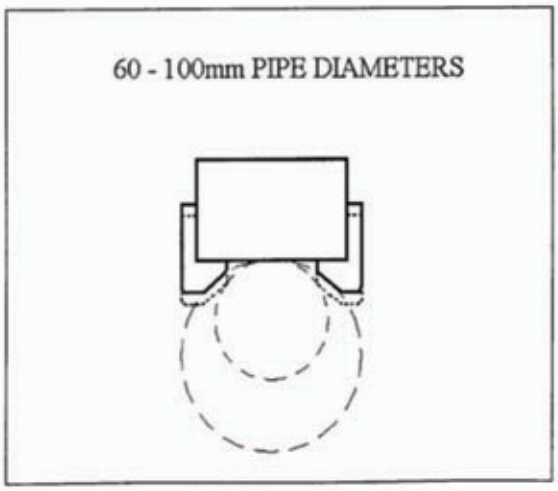

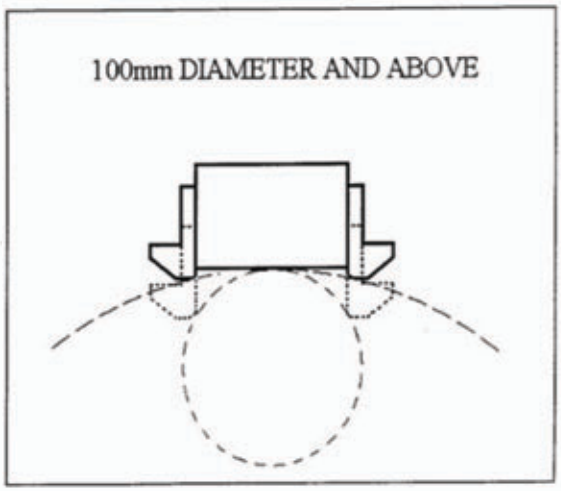

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machine.

Magnetic base – before every operation the magnetic base should be checked to make sure that the base is flat and there is no damage present. An uneven magnet base will cause the magnet not to hold as efficiently and may cause injury to the operator.

Adjustment of slide and bearing bracket alignment.
An essential requirement of the machine is that the slide can move in a smooth and controlled manner, free of lateral movement and vibration.
This situation can be maintained by periodic adjustment of the slide and is accomplished in the following manner:

1. Place the machine in an upright position and, by means of the capstan, raise the slide to its highest position. Clean the brass gib strips and apply a small amount of light machine oil to the wear surfaces.
2. Now lower the slide back to its lowest position. Bring the slide into the center of the dovetail slide housing and loosen screws thus allowing free movement of the arbor support bracket.
3. Commencing with the middle screws, gently feed in all the screws until slight resistance is encountered.
4. Operate the slide up and down a few times to test the movement and make any further necessary adjustments. Try to ensure that all the screws are exerting a uniform pressure on the slide from top to bottom. A perfectly adjusted slide will operate freely up and down without any sideways movement.
5. Now raise the slide to its highest position. Slightly undo the arbor bearing bracket and, using fingers only, tighten the screws.
6. Place the machine on a steel plate, connect to power supply and switch on the magnet. Start up the motor. If the arbor is incorrectly aligned, the arbor support bracket will be seen to oscillate. Make any necessary further adjustments to the bracket to ensure correct alignment of the spindle and finally tighten the screws using a spanner. Lastly tighten the arbor bearing bracket.

Check machines grease.
The gearbox grease should be checked once a month to ensure all moving components are covered to prevent wear. The grease should be changed at least once a year to ensure you gain the best from your machine.

Check Armature of the machine.

This should be checked at least once a month to check that there are no visual signs of damage to the body or to the commutator. Some signs of wear will be seen on the commutator over a period of time but this is normal (this is the part that comes into contact with the brushes) however, if there are any signs of abnormal damage the part should be replaced.

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Material	Material Hardness	Cutter
Mild and free cutting steels	<700N/mm²	RAP or RAPL
Mild and free cutting steels	<850N/mm²	SRCV or SRCVL
Steel angle and joists	<700N/mm²	RAP or RAPL
Steel angle and joists	<850N/mm²	SRCV or SRCVL
Plate and sheet steel	<700N/mm²	RAP or RAPL
Plate and sheet steel	<850N/mm²	SRCV or SRCVL
Aluminium	<750Nmm²	RAP or RAPL
Aluminium	<850N/mm²	SRCV or SRCVL
Brass	<700N/mm²	RAP or RAPL
Brass	<850N/mm²	SRCV or SRCVL
Cast iron	<700N/mm²	RAP or RAPL
Cast iron	<850N/mm²	SRCV or SRCVL
Stainless steel	<700N/mm²	RAP or RAPL
Stainless steel	<850N/mm²	SRCV or SRCVL
Stainless steel	>850N/mm²	CWC to CWCX
Rail track	>850N/mm²	SCRWC or SCRWCL
Tool steel	>850N/mm²	CWC to CWCX
Die Steel	>850N/mm²	CWC to CWCX

The data listed below is for reference purposes only, and indicate potential starting conditions. It is the responsibility of the site operation manager to determine correct application requirements.

Material to be cut	Cutting surface speed Meters/min	Cutter diameter/Material/RPM relationship													
		13		14		18		22		30		50		65	
	Lower - Upper	L	U	L	U	L	U	L	U	L	U	L	U	L	U
Aluminium	60 - 90	1469	2203	1364	2046	1061	1591	868	1302	637	955	382	573	294	441
Brass & Bronze	40 - 50	979	1224	909	1137	707	884	579	723	424	530	255	318	196	245
Iron: cast(soft)	30 - 50	734	1224	682	1137	530	884	434	723	318	530	191	318	147	245
cast(hard)	15 - 21	367	514	341	477	265	371	217	304	159	223	95	134	73	103
cast(malleable)	15 - 30	367	734	341	682	265	530	217	434	159	318	95	191	73	147
Steel: mild	24 - 30	588	734	546	682	424	530	347	434	255	318	153	191	118	147
high tensile	3 - 5	73	122	68	114	53	88	43	72	32	53	19	32	15	24
stainless (free cutting)	15 - 18	367	441	341	409	265	318	217	260	159	191	95	115	73	88
stainless (heat resisting)	6 - 13	26	318	136	296	106	230	87	188	64	138	38	83	29	64

These are only starting points. They will vary with application and work piece condition.

Material or Application Type	Feed Per Tooth (mm)
Thin Walled Workpieces Oblique Entry / Curved Surfaces Semi-Circles / Fragile Setups	.0254 / .0508 (.0762 FPT with Work Hardening Materials)
Soft / Gummy Materials	.1016 / .127
Typical / Average Applications	.0762 / .1016
Deep Holes	.1016 / .127

Difficult-to-machine materials will require reduced feed rates.

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