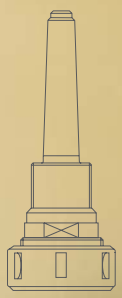
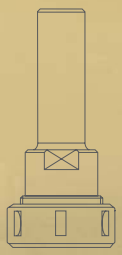
Morse Adapter



Straight Adapter

With ER Collet

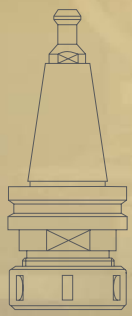


With Arbor

ISO Adapter

Pull Stud

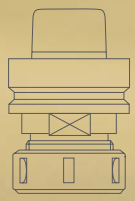
With ER Collet



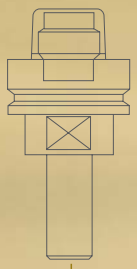
With Arbor

HSK Adapter

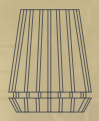
With ER Collet



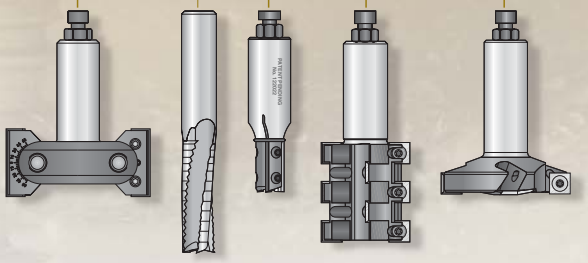
With Arbor

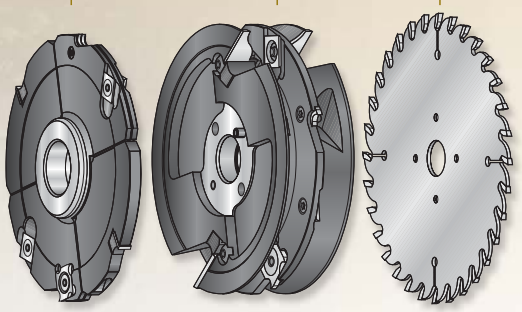


ER Collet 32,40



Straight Adapter





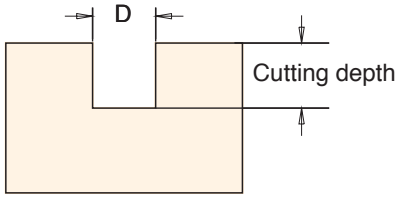
CNC

Feed rate chart for spiral tools on CNC machines

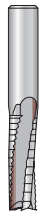
The following chart gives you the recommended feed rates for working with different spiral family groups on different wood types.
It is important to understand that these values are only recommendations, because of the dependency which we have between the cutting conditions and the non uniformity of the wood pieces. Wood fiber direction, wood type, wood humidity, clamping stiffness, machine stiffness etc. all these variables together or one by one can change the cutting condition totally.
It is recommended that in any new application you reach the recommended feed rate gradually and if the cutting quality is OK you can continue to increase the feed rate values.
Please remember the larger your chip per tip (high feed rate) the life time of the tool is increased.

Explanation of the charts.
Each chart is relating to one type of the different tool families on a different type of wood.
Each line on a chart is relating to the cutting diameter of the tool, if you cannot find the exact diameter, please relate it as a parallel line to the existing lines.
All the information on the charts require a rotation speed of 18,000 RPM changing the rotation speed has a proportionally straight relation to the feed rate. For example if your tool is rotating at 12,000 RPM you have to decrease the feed rate by the relation of 12,000/18,000.
Cutting depth or wood thickness is given with values which relate to the diameter For example cutting diameter is 10 mm and wood thickness is 20 mm so it becomes a cutting depth of 2xD.

How to get a feed rate value from the chart.
1. you have to pick the right chart according to the tool family and the wood type.
2. Locate your line on the chart according to the diameter size.
3. Evaluate your wood thickness according to the cutting diameter - is it equal to 1xD or 2xD or 1.5x D etc.
4. Find the right feed rate according to the wood thickness on the chart.



Selecting The Right Tool Family

	 Routing Spiral Z=3	 Chipbreaker Z=3	 Up Shear & Down Shear Z=2	 Up Shear & Down Shear Z=2 Solid Wood	 Up Shear & Down Shear Z=3	 Compression Z=1 Solid	 Compression Z=2
 particals boards laminate /unlaminate	✓✓✓ Excellent	✗ Not Recommended	✓✓✓ Excellent	✗ Not Recommended	✓✓✓ Excellent	✗ Not Recommended	✓✓✓ Excellent
 plywood laminate/ unlaminate	✓✓✓ Excellent	✗ Not Recommended	✓✓✓ Excellent	✗ Not Recommended	✓✓✓ Excellent	✗ Not Recommended	✓✓✓ Excellent
 hard wood	✓✓✓ Excellent	✓✓✓ Excellent	✓ Fair	✓✓✓ Excellent	✓✓ Good	✓✓✓ Excellent	✓✓ Good
 soft wood	✓✓✓ Excellent	✓✓✓ Excellent	✓✓ Good	✓✓✓ Excellent	✓✓ Good	✓✓✓ Excellent	✓ Fair

CNC

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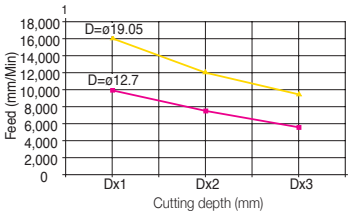
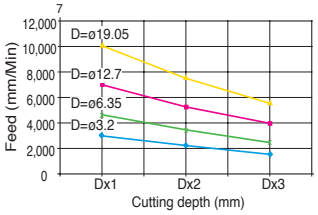
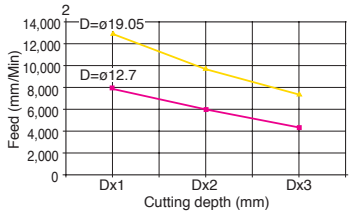
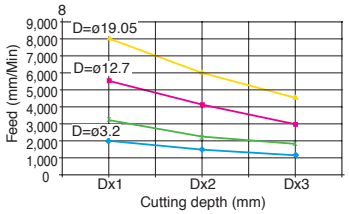
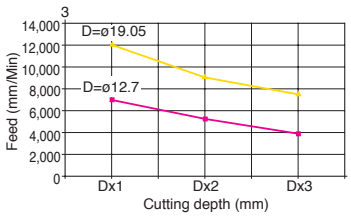
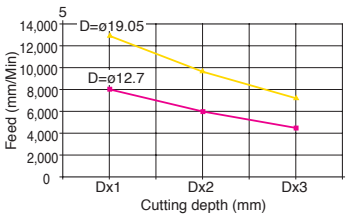
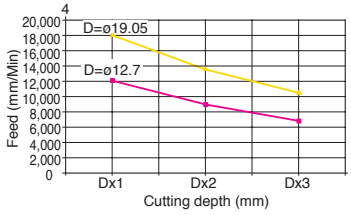
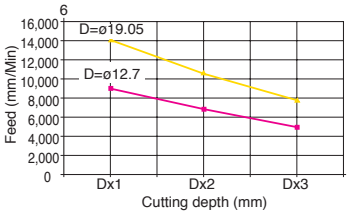
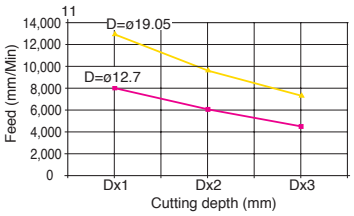
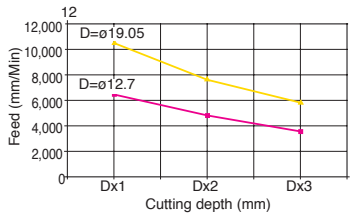
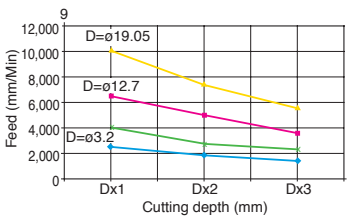
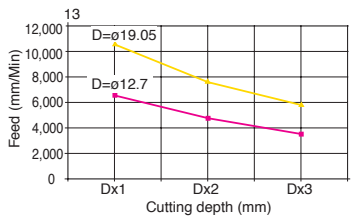
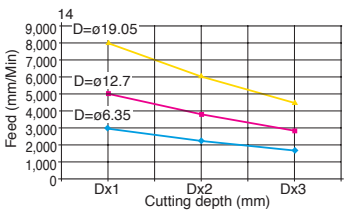
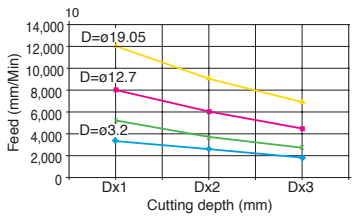
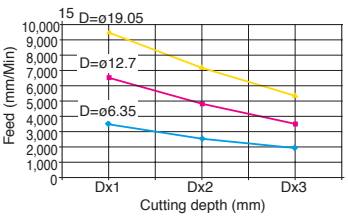
	 Routing Spiral Z=3	 Chipbreaker Z=3	 Up Shear & Down Shear Z=2
 particle boards laminate /unlaminate			
 plywood laminate/ unlaminate			
 hard wood			
 soft wood			

CNC

	 Up Shear & Down Shear Z=2 Solid Wood	 Up Shear & Down Shear Z=3	 Compression Z=1 Solid
 particle boards laminate /unlaminate			
 plywood laminate/ unlaminate			
 hard wood			
 soft wood			

CNC

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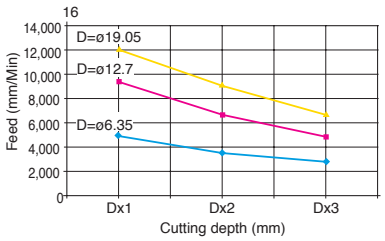
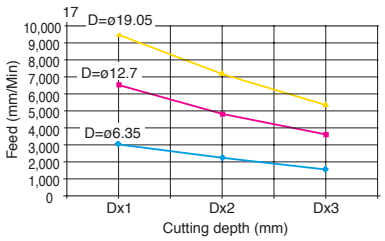
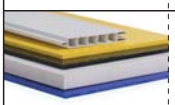
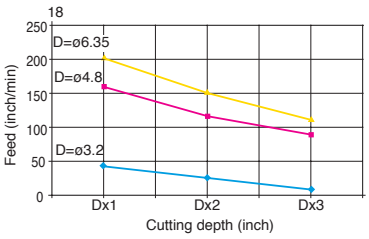
	Compression Z=2	Super finish up cut 0 solid Z=1
 particle boards laminate /unlaminate		
 plywood laminate/ unlaminate		
 Plastic		
 Aluminum