



INCREASING PRODUCTION, NOT COST

SOLID CARBIDE SPIRAL ROUTER BITS

- Tight tolerances •
- High quality carbide •
- Broad product offering •
- Large stocking quantities •
- Quick turn around •
- Competitively priced •

Propiedad de misenheimerinc.com



FEED & SPEED CHART

Feed Rate = RPM x Number of Flutes x Chip Load

RPM = Feed Rate / (Number Of Flutes x Chipload)

Chip Load = Feed Rate (Inches Per Minute) / (RPM x Number Of Flutes)

FEED RATE CHART USING SOLID CARBIDE ROUTERS IN WOOD

**Based on 1/2" Diameter Tool, Cutting 3/4" Stock at 18,000 RPM*

Information below should be used as a guideline – results may vary

Series Number	Wood Composites	Hardwoods	Softwoods
110	400	325	275
120	400	350	300
150	400	300	275
160	400	325	300
205	425	350	325
215	425	375	325
225	400	375	325
235	425	400	350
250	600	400	450
265	650	450	500
275	700	500	550
300	650	450	500
390	575	600	625
400	600	625	650
410	550	550	475
420	550	575	500
430	550	575	600
440	550	600	625
450	550	550	475
460	550	575	500
495	1000	800	850
500	1000	800	850

FEED RATE CHART USING SOLID CARBIDE ROUTERS IN PLASTICS

**Based on 1/4" Diameter Tool, Cutting 1/4" Stock at 18,000 RPM*

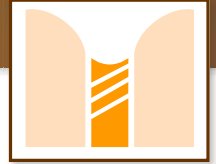
Information below should be used as a guideline – results may vary

Series #	Soft Plastics	Hard Plastics
130	250	225
140	275	250
170	275	250
180	300	275
540	350	300
550	300	275
560	225	200
570	250	200
590	250	225
610	275	250

All Figures Are Shown As IPM (Inches Per Minute)

All Figures Are Shown As IPM (Inches Per Minute)

NOTE: For smaller diameters than referenced in the charts above –Reduce feed rate.
For Larger diameters – Increase feed rate



100 SERIES Single Flute Down-Cut Spirals



Item Number	Cutting Edge Diameter	Cutting Edge Length	Shank	Overall Length
100-0560	1/4"	1"	1/4"	2-1/2"
100-0740	5/16"	1"	5/16"	3"
100-1000	3/8"	1"	3/8"	3"
100-1540	1/2"	1-3/8"	1/2"	3-1/2"

DESIGNED FOR SOLID WOODS, WOOD COMPOSITES, AND SOME PLASTICS. THIS BIT IS USED WHERE A DOWNWARD CHIP REMOVAL AND A GOOD FINISH ON TOP IS REQUIRED.

105 SERIES Single Flute Up-Cut Spirals



Item Number	Cutting Edge Diameter	Cutting Edge Length	Shank	Overall Length
105-0560	1/4"	1"	1/4"	2-1/2"
105-0740	5/16"	1"	5/16"	3"
105-1000	3/8"	1"	3/8"	3"
105-1540	1/2"	1-3/8"	1/2"	3-1/2"

DESIGNED FOR SOLID WOODS, WOOD COMPOSITES, AND SOME PLASTICS. THIS BIT IS USED WHERE AN UPWARD CHIP REMOVAL AND A GOOD FINISH ON BOTTOM IS REQUIRED.

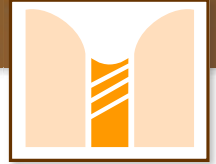


110 SERIES Two Flute Down-Cut Spirals



Item Number	Cutting Edge Diameter	Cutting Edge Length	Shank	Overall Length
110-0140	1/8"	1/2"	1/4"	2"
110-0160	5/32"	1/2"	1/4"	2"
110-0300	3/16"	5/8"	1/4"	2"
110-0320	3/16"	3/4"	1/4"	2"
110-0380	7/32"	3/4"	1/4"	2-1/2"
110-0540	1/4"	7/8"	1/4"	2-1/2"
110-0560	1/4"	1"	1/4"	2-1/2"
110-0600	1/4"	1-1/4"	1/4"	2-1/2"
110-0740	5/16"	1"	5/16"	3"
110-0780	5/16"	1-1/4"	5/16"	3"
110-1000	3/8"	1"	3/8"	3"
110-1020	3/8"	1-1/8"	3/8"	3"
110-1040	3/8"	1-1/4"	3/8"	3"
110-1060	3/8"	1-1/4"	1/2"	3"
110-1240	7/16"	1"	1/2"	3"
110-1260	7/16"	1-1/4"	1/2"	3"
110-1480	1/2"	1-1/4"	1/2"	3"
110-1580	1/2"	1-5/8"	1/2"	3-1/2"
110-1680	1/2"	2-1/8"	1/2"	4"
110-1800	17/32"	1"	1/2"	3"
110-1980	5/8"	1-5/8"	5/8"	3-1/2"
110-2020	5/8"	2"	5/8"	4"
110-2140	3/4"	1-1/2"	3/4"	4"
110-2160	3/4"	2"	3/4"	4"
110-2280	3/4"	3"	3/4"	6"
110-2300	3/4"	3-1/2"	3/4"	6"

DESIGNED FOR SOLID WOODS, WOOD COMPOSITES, AND SOME PLASTICS. THIS BIT IS USED WHERE A DOWNWARD CHIP REMOVAL IS REQUIRED. IT ALSO PROVIDES DOWNWARD PRESSURE ON MATERIAL AND LEAVES AN EXCELLENT FINISH ON THE TOP.



120 SERIES Two Flute Up-Cut Spirals



Item Number	Cutting Edge Diameter	Cutting Edge Length	Shank	Overall Length
120-0140	1/8"	1/2"	1/4"	2"
120-0160	5/32"	1/2"	1/4"	2"
120-0300	3/16"	5/8"	1/4"	2"
120-0320	3/16"	3/4"	1/4"	2"
120-0380	7/32"	3/4"	1/4"	2-1/2"
120-0540	1/4"	7/8"	1/4"	2-1/2"
120-0560	1/4"	1"	1/4"	2-1/2"
120-0600	1/4"	1-1/4"	1/4"	2-1/2"
120-0740	5/16"	1"	5/16"	3"
120-0780	5/16"	1-1/4"	5/16"	3"
120-1000	3/8"	1"	3/8"	3"
120-1020	3/8"	1-1/8"	3/8"	3"
120-1040	3/8"	1-1/4"	3/8"	3"
120-1060	3/8"	1-1/4"	1/2"	3"
120-1240	7/16"	1"	1/2"	3"
120-1260	7/16"	1-1/4"	1/2"	3"
120-1480	1/2"	1-1/4"	1/2"	3"
120-1580	1/2"	1-5/8"	1/2"	3-1/2"
120-1680	1/2"	2-1/8"	1/2"	4"
120-1800	17/32"	1"	1/2"	3"
120-1980	5/8"	1-5/8"	5/8"	3-1/2"
120-2020	5/8"	2"	5/8"	4"
120-2140	3/4"	1-1/2"	3/4"	4"
120-2160	3/4"	2"	3/4"	4"
120-2280	3/4"	3"	3/4"	6"
120-2300	3/4"	3-1/2"	3/4"	6"

DESIGNED FOR SOLID WOODS, WOOD COMPOSITES, AND SOME PLASTICS. THIS BIT IS USED WHERE AN UPWARD CHIP REMOVAL IS REQUIRED. CHIP REMOVAL IS OPTIMIZED BUT ADEQUATE HOLD DOWN IS NEEDED.



111 SERIES **Two Flute MFC Grade Down-Cut Spirals**



Item Number	Cutting Edge Diameter	Cutting Edge Length	Shank	Overall Length
111-1000	3/8"	1"	3/8"	3"
111-1440	1/2"	1-1/4"	1/2"	3"
111-1580	1/2"	1-5/8"	1/2"	3-1/2"

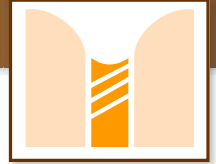
DESIGNED FOR MDF AND PRODUCTS WITH MELAMINE LAMINATE. DOWNWARD SPIRAL PROVIDES GOOD PART PRESSURE WITH EXCELLENT FINISH ON TOP.

121 SERIES **Two Flute MFC Grade Up-Cut Spiral**



Item Number	Cutting Edge Diameter	Cutting Edge Length	Shank	Overall Length
121-1000	3/8"	1"	3/8"	3"
121-1440	1/2"	1-1/4"	1/2"	3"
121-1580	1/2"	1-5/8"	1/2"	3-1/2"

DESIGNED FOR MDF AND PRODUCTS WITH MELAMINE LAMINATE. THIS BIT PULLS CHIPS AWAY FROM PART BUT REQUIRES GOOD HOLD DOWN PRESSURE. THIS TOOL LEAVES AN EXCELLENT FINISH ON THE BOTTOM.



130 SERIES

Two Flute Slow Spiral Down-Cut Spirals



Item Number	Cutting Edge Diameter	Cutting Edge Length	Shank	verall Length
130-0460	1/4"	3/8"	1/4"	2-1/2"
130-0520	1/4"	3/4"	1/4"	2-1/2"
130-0600	1/4"	1-1/4"	1/4"	2-1/2"
130-1000	3/8"	1"	3/8"	3"
130-1480	1/2"	1-1/4"	1/2"	3"
130-1580	1/2"	1-5/8"	1/2"	3-1/2"

DESIGNED FOR HARDWOODS, ACRYLICS, AND PHENOLICS. THIS BIT IS USED WHERE A DOWNWARD CHIP REMOVAL AND A GOOD FINISH ON TOP IS REQUIRED.

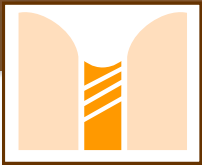
140 SERIES

Two Flute Slow Spiral Up-Cut Spirals



Item Number	Cutting Edge Diameter	Cutting Edge Length	Shank	Overall Length
140-0460	1/4"	3/8"	1/4"	2-1/2"
140-0520	1/4"	3/4"	1/4"	2-1/2"
140-0600	1/4"	1-1/4"	1/4"	2-1/2"
140-1000	3/8"	1"	3/8"	3"
140-1480	1/2"	1-1/4"	1/2"	3"
140-1580	1/2"	1-5/8"	1/2"	3-1/2"

DESIGNED FOR HARDWOODS, ACRYLICS, AND PHENOLICS. THIS BIT IS USED WHERE AN UPWARD CHIP REMOVAL AND A GOOD FINISH ON BOTTOM IS REQUIRED.



205 SERIES Two Flute Down-Cut Chipbreaker Spirals

Item Number	Cutting Edge Diameter	Cutting Edge Length	Shank	Overall Length
205-1040	3/8"	1-1/4"	3/8"	3"
205-1480	1/2"	1-1/4"	1/2"	3"
205-1580	1/2"	1-5/8"	1/2"	3-1/2"
205-1660	1/2"	2"	1/2"	4"
205-1980	5/8"	1-5/8"	5/8"	3-1/2"
205-2020	5/8"	2"	5/8"	4"
205-2140	3/4"	1-1/2"	3/4"	4"
205-2160	3/4"	2"	3/4"	4"



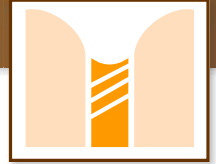
DESIGNED FOR HARDWOODS, PLYWOODS, AND DENSE MATERIALS. THIS BIT IS USED WHERE A DOWNWARD CHIP REMOVAL, SMOOTH CUT, HIGHER FEED RATES, AND A GOOD FINISH ON TOP IS REQUIRED.

215 SERIES Two Flute Up-Cut Chipbreaker Spirals

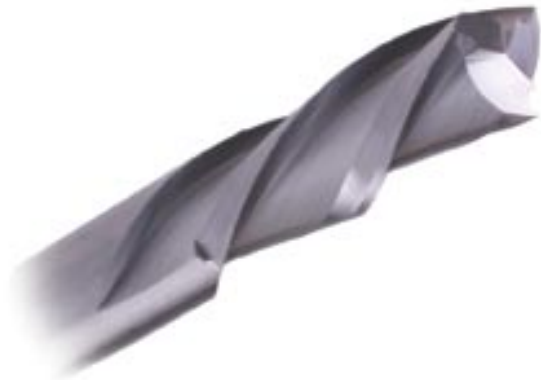
Item Number	Cutting Edge Diameter	Cutting Edge Length	Shank	Overall Length
215-1040	3/8"	1-1/4"	3/8"	3"
215-1480	1/2"	1-1/4"	1/2"	3"
215-1580	1/2"	1-5/8"	1/2"	3-1/2"
215-1660	1/2"	2"	1/2"	4"
215-1980	5/8"	1-5/8"	5/8"	3-1/2"
215-2020	5/8"	2"	5/8"	4"
215-2140	3/4"	1-1/2"	3/4"	4"
215-2160	3/4"	2"	3/4"	4"



DESIGNED FOR HARDWOODS, PLYWOODS, AND DENSE MATERIALS. THIS BIT IS USED WHERE AN UPWARD CHIP REMOVAL, SMOOTH CUT, HIGHER FEED RATES, AND A GOOD FINISH ON BOTTOM IS REQUIRED.



150 SERIES Three Flute Down-Cut Spirals



Item Number	Cutting Edge Diameter	Cutting Edge Length	Shank	Overall Length
150-0520	1/4"	3/4"	1/4"	2-1/2"
150-1040	3/8"	1-1/4"	3/8"	3"
150-1480	1/2"	1-1/4"	1/2"	3"
150-1580	1/2"	1-5/8"	1/2"	3-1/2"
150-1660	1/2"	2"	1/2"	4"
150-1980	5/8"	1-5/8"	5/8"	3-1/2"
150-2020	5/8"	2"	5/8"	4"
150-2140	3/4"	1-1/2"	3/4"	4"
150-2160	3/4"	2"	3/4"	4"
150-2280	3/4"	3"	3/4"	6"
150-2300	3/4"	3-1/2"	3/4"	6"

DESIGNED FOR NATURAL WOODS AND MAN MADE COMPOSITES. THIS BIT IS USED WHERE A DOWNWARD CHIP REMOVAL, HIGH FEED RATES, AND AN EXTREMELY SMOOTH FINISH ON TOP IS REQUIRED.

160 SERIES Three Flute Up-Cut Spirals

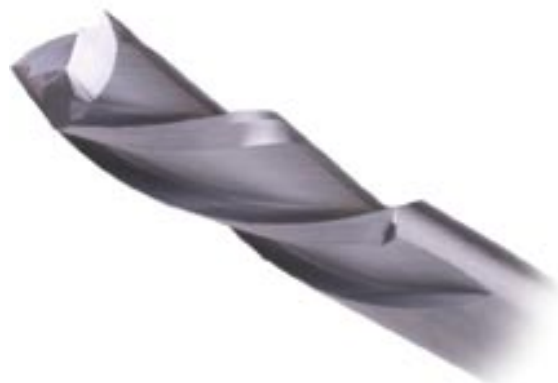


Item Number	Cutting Edge Diameter	Cutting Edge Length	Shank	Overall Length
160-0520	1/4"	3/4"	1/4"	2-1/2"
160-1040	3/8"	1-1/4"	3/8"	3"
160-1480	1/2"	1-1/4"	1/2"	3"
160-1580	1/2"	1-5/8"	1/2"	3-1/2"
160-1660	1/2"	2"	1/2"	4"
160-1980	5/8"	1-5/8"	5/8"	3-1/2"
160-2020	5/8"	2"	5/8"	4"
160-2140	3/4"	1-1/2"	3/4"	4"
160-2160	3/4"	2"	3/4"	4"
160-2280	3/4"	3"	3/4"	6"
160-2300	3/4"	3-1/2"	3/4"	6"

DESIGNED FOR NATURAL WOODS AND MAN MADE COMPOSITES. THIS BIT IS USED WHERE AN UPWARD CHIP REMOVAL, HIGH FEED RATES, AND A EXTREMELY SMOOTH FINISH ON BOTTOM IS REQUIRED.



151 SERIES **Three Flute MFC Grade Down-Cut Spirals**



Item Number	Cutting Edge Diameter	Cutting Edge Length	Shank	Overall Length
151-1000	3/8"	1"	3/8"	3"
151-1440	1/2"	1"	1/2"	3"
151-1580	1/2"	1-5/8"	1/2"	3-1/2"

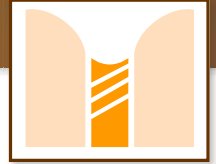
DESIGNED FOR MDF AND PRODUCTS WITH MELAMINE LAMINATE, WHERE FASTER FEED RATES CAN BE ACHIEVED. THIS BIT PROVIDES GOOD PART PRESSURE WITH EXCELLENT FINISH ON TOP.

161 SERIES **Three Flute MFC Grade Up-Cut Spirals**



Item Number	Cutting Edge Diameter	Cutting Edge Length	Shank	Overall Length
161-1000	3/8"	1"	3/8"	3"
161-1440	1/2"	1"	1/2"	3"
161-1580	1/2"	1-5/8"	1/2"	3-1/2"

DESIGNED FOR MDF AND PRODUCTS WITH MELAMINE LAMINATE, WHERE FASTER FEED RATES CAN BE ACHIEVED. THIS BIT PROVIDES GOOD CHIP REMOVAL AND LEAVES AN EXCELLENT FINISH ON BOTTOM.



170 SERIES

Three Flute Slow Spiral Down-Cut Spirals

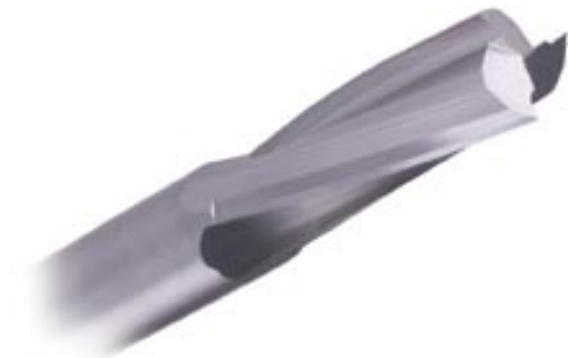


Item Number	Cutting Edge Diameter	Cutting Edge Length	Shank	Overall Length
170-1040	3/8"	1-1/4"	3/8"	3"
170-1480	1/2"	1-1/4"	1/2"	3"
170-1580	1/2"	1-5/8"	1/2"	3-1/2"
170-1620	1/2"	1-3/4"	1/2"	4"
170-2160	3/4"	2"	3/4"	4"

DESIGNED FOR DENSE HARDWOODS, SOLID SURFACE, AND HARD PLASTICS. THIS BIT IS USED WHERE A DOWNWARD CHIP REMOVAL AND EXCELLENT FINISH ON TOP IS REQUIRED. FASTER FEED RATES CAN BE ACHIEVED WITH THIS TOOL.

180 SERIES

Three Flute Slow Spiral Up-Cut Spirals



Item Number	Cutting Edge Diameter	Cutting Edge Length	Shank	Overall Length
180-1040	3/8"	1-1/4"	3/8"	3"
180-1480	1/2"	1-1/4"	1/2"	3"
180-1580	1/2"	1-5/8"	1/2"	3-1/2"
180-1620	1/2"	1-3/4"	1/2"	4"
180-2160	3/4"	2"	3/4"	4"

DESIGNED FOR DENSE HARDWOODS, SOLID SURFACE, AND HARD PLASTICS. THIS BIT IS USED WHERE AN UPWARD CHIP REMOVAL AND EXCELLENT FINISH ON BOTTOM IS REQUIRED. FASTER FEED RATES CAN BE ACHIEVED WITH THIS TOOL.



225 SERIES Three Flute Down-Cut Chipbreaker Spirals

Item Number	Cutting Edge Diameter	Cutting Edge Length	Shank	Overall Length
225-1040	3/8"	1-1/4"	3/8"	3"
225-1480	1/2"	1-1/4"	1/2"	3"
225-1580	1/2"	1-5/8"	1/2"	3-1/2"
225-1660	1/2"	2"	1/2"	4"
225-1980	5/8"	1-5/8"	5/8"	3-1/2"
225-2020	5/8"	2"	5/8"	4"
225-2140	3/4"	1-1/2"	3/4"	4"
225-2160	3/4"	2"	3/4"	4"



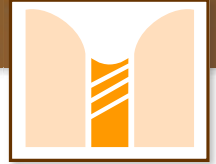
DESIGNED FOR PLYWOOD, HARDWOODS, AND DENSE MATERIALS. THIS BIT IS USED WHERE A DOWNWARD CHIP REMOVAL AND A GOOD FINISH ON TOP ARE REQUIRED. FASTER FEED RATES CAN BE ACHIEVED WITH THIS TOOL.

235 SERIES Three Flute Up-Cut Chipbreaker Spirals

Item Number	Cutting Edge Diameter	Cutting Edge Length	Shank	Overall Length
235-1040	3/8"	1-1/4"	3/8"	3"
235-1480	1/2"	1-1/4"	1/2"	3"
235-1580	1/2"	1-5/8"	1/2"	3-1/2"
235-1660	1/2"	2"	1/2"	4"
235-1980	5/8"	1-5/8"	5/8"	3-1/2"
235-2020	5/8"	2"	5/8"	4"
235-2140	3/4"	1-1/2"	3/4"	4"
235-2160	3/4"	2"	3/4"	4"



DESIGNED FOR PLYWOOD, HARDWOODS, AND DENSE MATERIALS. THIS BIT IS USED WHERE AN UPWARD CHIP REMOVAL AND A GOOD FINISH ON BOTTOM IS REQUIRED. FASTER FEED RATES CAN BE ACHIEVED WITH THIS TOOL.



250 SERIES

Single Flute Compression Spirals



Item Number	Cutting Edge Diameter	Cutting Edge Length	Shank	Overall Length
250-0540	1/4"	7/8"	1/4"	2-1/2"
250-1000	3/8"	1"	3/8"	3"
250-1480	1/2"	1-1/4"	1/2"	3"
250-1580	1/2"	1-5/8"	1/2"	3-1/2"
250-2020	5/8"	2"	5/8"	4"
250-2160	3/4"	2"	3/4"	4"

DESIGNED FOR DOUBLE SIDED LAMINATED OR VENEERED MATERIAL. THIS BIT IS USED WHERE AN EXCELLENT FINISH ON TOP AND BOTTOM AND LOWER FEED RATE IS REQUIRED.

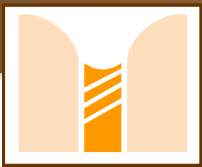
255 SERIES

Single Flute Mortise Compression Spirals



Item Number	Cutting Edge Diameter	Cutting Edge Length	Shank	Overall Length
255-0560	1/4"	1"	1/4"	2-1/2"
255-1040	3/8"	1-1/4"	3/8"	3"
255-1540	1/2"	1-3/8"	1/2"	3-1/2"
255-1580	1/2"	1-5/8"	1/2"	3-1/2"

DESIGNED FOR DOUBLE SIDED LAMINATED OR VENEERED MATERIAL. THIS BIT IS USED WHERE AN EXCELLENT FINISH WITH SHORT UP-CUT TO ALLOW MORTISE CUT WITH DOWN-CUT IS REQUIRED.



265 SERIES Two Flute Compression Spirals

Item Number	Cutting Edge Diameter	Cutting Edge Length	Shank	Overall Length
265-0540	1/4"	7/8"	1/4"	2-1/2"
265-0560	1/4"	1"	1/4"	2-1/2"
265-0620	1/4"	1-1/4"	1/4"	3"
265-1040	3/8"	1-1/4"	3/8"	3"
265-1460	1/2"	1-1/8"	1/2"	3"
265-1480	1/2"	1-1/4"	1/2"	3"
265-1520	1/2"	1-3/8"	1/2"	3"
265-1540	1/2"	1-3/8"	1/2"	3-1/2"
265-1580	1/2"	1-5/8"	1/2"	3-1/2"
265-1640	1/2"	1-7/8"	1/2"	4"
265-1680	1/2"	2-1/8"	1/2"	4"
265-1980	5/8"	1-5/8"	5/8"	3-1/2"
265-2020	5/8"	2"	5/8"	4"
265-2160	3/4"	2"	3/4"	4"
265-2220	3/4"	2-1/2"	3/4"	5"



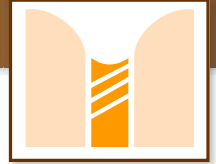
DESIGNED FOR DOUBLE SIDED LAMINATED OR VENEERED MATERIAL. THIS BIT IS USED WHERE AN EXCELLENT FINISH ON TOP AND BOTTOM AND STANDARD FEED RATE IS REQUIRED.

280 SERIES Two Flute Mortise Compression Spirals

Item Number	Cutting Edge Diameter	Cutting Edge Length	Shank	Overall Length
280-0540	1/4"	1"	1/4"	2-1/2"
280-1040	3/8"	1-1/4"	3/8"	3"
280-1460	1/2"	1-1/4"	1/2"	3"
280-1540	1/2"	1-3/8"	1/2"	3-1/2"
280-1580	1/2"	1-5/8"	1/2"	3-1/2"



DESIGNED FOR DOUBLE SIDED LAMINATED OR VENEERED MATERIAL. THIS BIT IS USED WHERE AN EXCELLENT FINISH WITH SHORT UP-CUT TO ALLOW MORTISE CUT WHERE DOWN-CUT IS REQUIRED.



340 SERIES

Two Flute MFC Grade Compression Spirals



Item Number	Cutting Edge Diameter	Cutting Edge Length	Shank	Overall Length
340-1040	3/8"	1-1/4"	3/8"	3"
340-1460	1/2"	1-1/8"	1/2"	3"
340-1480	1/2"	1-1/4"	1/2"	3"
340-1540	1/2"	1-3/8"	1/2"	3-1/2"
340-1580	1/2"	1-5/8"	1/2"	3-1/2"

DESIGNED FOR MDF AND PRODUCTS WITH MELAMINE LAMINATE. THIS BIT IS USED WHERE AN EXCELLENT FINISH ON TOP AND BOTTOM AND STANDARD FEED RATE IS REQUIRED.

345 SERIES

Two Flute MFC Grade Mortise Compression Spirals



Item Number	Cutting Edge Diameter	Cutting Edge Length	Shank	Overall Length
345-1040	3/8"	1-1/4"	3/8"	3"
345-1480	1/2"	1-1/4"	1/2"	3"
345-1540	1/2"	1-3/8"	1/2"	3-1/2"
345-1580	1/2"	1-5/8"	1/2"	3-1/2"
345-2160	3/4"	2"	3/4"	4"

DESIGNED FOR MDF AND PRODUCTS WITH MELAMINE LAMINATE. THIS BIT IS USED WHERE AN EXCELLENT FINISH ON TOP AND BOTTOM WITH SHORT UP-CUT TO ALLOW MORTISE CUT WITH DOWN-CUT IS REQUIRED.



300 SERIES **Two Flute Chipbreaker Compression Spirals**

Item Number	Cutting Edge Diameter	Cutting Edge Length	Shank	Overall Length
300-1040	3/8"	1-1/4"	3/8"	3"
300-1460	1/2"	1-1/8"	1/2"	3"
300-1480	1/2"	1-1/4"	1/2"	3"
300-1640	1/2"	1-7/8"	1/2"	4"
300-1980	5/8"	1-5/8"	5/8"	3-1/2"
300-2020	5/8"	2"	5/8"	4"
300-2160	3/4"	2"	3/4"	4"



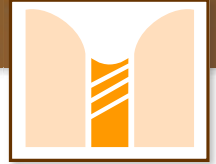
DESIGNED FOR PLYWOOD, SOLID WOOD, AND MDF. THIS BIT IS USED WHERE EXCELLENT FINISH AND HIGHER FEED RATE IS REQUIRED.

320 SERIES **Two Flute Roughing Compression Spirals**

Item Number	Cutting Edge Diameter	Cutting Edge Length	Shank	Overall Length
320-1460	1/2"	1-1/8"	1/2"	3"
320-1480	1/2"	1-1/4"	1/2"	3"
320-1640	1/2"	1-7/8"	1/2"	4"
320-2020	5/8"	2"	5/8"	4"
320-2160	3/4"	2"	3/4"	4"

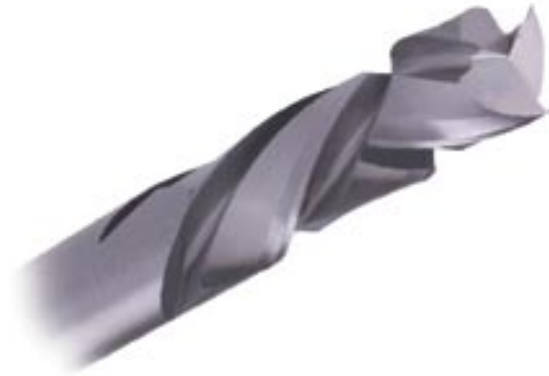


DESIGNED FOR PLYWOOD, SOLID WOOD, AND MDF WHERE FINISH IS NOT IMPORTANT BUT HIGH FEED RATES AND EXTENDED LIFE ARE REQUIRED.



275 SERIES

Three Flute Compression Spirals



Item Number	Cutting Edge Diameter	Cutting Edge Length	Shank	Overall Length
275-1040	3/8"	1-1/4"	3/8"	3"
275-1480	1/2"	1-1/4"	1/2"	3"
275-1520	1/2"	1-3/8"	1/2"	3"
275-1580	1/2"	1-5/8"	1/2"	3-1/2"
275-2020	5/8"	2"	5/8"	4"
275-2160	3/4"	2"	3/4"	4"

DESIGNED FOR MDF AND PRODUCTS WITH MELAMINE LAMINATE. THIS BIT IS USED WHERE AN EXCELLENT FINISH ON TOP AND BOTTOM AND HIGHER FEED RATE IS REQUIRED.

290 SERIES

Three Flute Mortise Compression Spirals



Item Number	Cutting Edge Diameter	Cutting Edge Length	Shank	Overall Length
290-1040	3/8"	1-1/4"	3/8"	3"
290-1480	1/2"	1-1/4"	1/2"	3"
290-1520	1/2"	1-3/8"	1/2"	3"
290-1580	1/2"	1-5/8"	1/2"	3-1/2"
290-2020	5/8"	2"	5/8"	4"

DESIGNED FOR MDF AND PRODUCTS WITH MELAMINE LAMINATE. THIS BIT IS USED WHERE AN EXCELLENT FINISH WITH SHORT UP-CUT TO ALLOW MORTISE CUT WITH DOWN-CUT IS REQUIRED.



360 SERIES Three Flute MFC Grade Compression Spirals

Item Number	Cutting Edge Diameter	Cutting Edge Length	Shank	Overall Length
360-1040	3/8"	1-1/4"	3/8"	3"
360-1480	1/2"	1-1/4"	1/2"	3"
360-1540	1/2"	1-3/8"	1/2"	3-1/2"
360-1580	1/2"	1-5/8"	1/2"	3-1/2"
360-2020	5/8"	2"	5/8"	4"



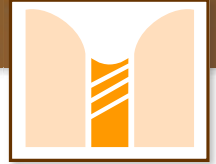
DESIGNED FOR MDF AND PRODUCTS WITH MELAMINE LAMINATE. THIS BIT IS USED WHERE AN EXCELLENT FINISH ON TOP AND BOTTOM AND HIGHER FEED RATES ARE REQUIRED.

365 SERIES Three Flute MFC Grade Mortise Compression Spirals

Item Number	Cutting Edge Diameter	Cutting Edge Length	Shank	Overall Length
365-1040	3/8"	1-1/4"	3/8"	3"
365-1480	1/2"	1-1/4"	1/2"	3"
365-1540	1/2"	1-3/8"	1/2"	3-1/2"
365-1580	1/2"	1-5/8"	1/2"	3-1/2"
365-2020	5/8"	2"	5/8"	4"



DESIGNED FOR MDF AND PRODUCTS WITH MELAMINE LAMINATE. THIS BIT IS USED WHERE AN EXCELLENT FINISH WITH SHORT UP-CUT TO ALLOW MORTISE CUT WITH DOWN-CUT IS REQUIRED.



310 SERIES

Three Flute Chipbreaker Compression Spirals



Item Number	Cutting Edge Diameter	Cutting Edge Length	Shank	Overall Length
310-1040	3/8"	1-1/4"	3/8"	3"
310-1480	1/2"	1-1/4"	1/2"	3"
310-1580	1/2"	1-5/8"	1/2"	3-1/2"
310-2020	5/8"	2"	5/8"	4"
310-2160	3/4"	2"	3/4"	4"

DESIGNED FOR PLYWOOD AND SOLID WOOD. THIS BIT IS USED WHERE EXCELLENT FINISH AND VERY HIGH FEED RATES ARE REQUIRED.

330 SERIES

Three Flute Roughing Compression Spirals



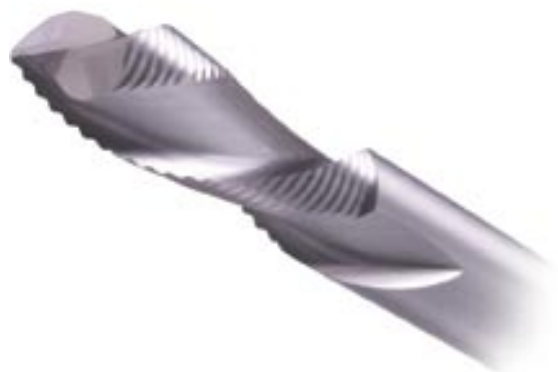
Item Number	Cutting Edge Diameter	Cutting Edge Length	Shank	Overall Length
330-1040	3/8"	1-1/4"	3/8"	3"
330-1480	1/2"	1-1/4"	1/2"	3"
330-1580	1/2"	1-5/8"	1/2"	3-1/2"
330-2020	5/8"	2"	5/8"	4"
330-2160	3/4"	2"	3/4"	4"

DESIGNED FOR PLYWOOD, SOLID WOOD, AND MDF WHERE FINISH IS NOT IMPORTANT BUT VERY HIGH FEED RATES AND EXTENDED LIFE ARE REQUIRED.



390 SERIES Two Flute Down-Cut Rougher

Item Number	Cutting Edge Diameter	Cutting Edge Length	Shank	Overall Length
390-1040	3/8"	1-1/4"	3/8"	3"
390-1480	1/2"	1-1/4"	1/2"	3"
390-1500	1/2"	1-1/4"	1/2"	3-1/2"
390-1580	1/2"	1-5/8"	1/2"	3-1/2"
390-1680	1/2"	2-1/8"	1/2"	4"
390-2020	5/8"	2"	5/8"	4"
390-2160	3/4"	2"	3/4"	4"



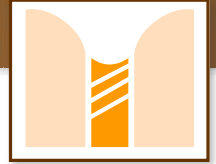
DESIGNED FOR SOLID WOODS, PLYWOODS, AND WOOD COMPOSITES. THIS BIT IS USED FOR FAST ROUTING OR HOGGING WITH HIGH FEED RATES. DOWN-CUT TOOL PROVIDES BETTER HOLD DOWN.

400 SERIES Two Flute Up-Cut Rougher

Item Number	Cutting Edge Diameter	Cutting Edge Length	Shank	Overall Length
400-1040	3/8"	1-1/4"	3/8"	3"
400-1480	1/2"	1-1/4"	1/2"	3"
400-1500	1/2"	1-1/4"	1/2"	3-1/2"
400-1580	1/2"	1-5/8"	1/2"	3-1/2"
400-1680	1/2"	2-1/8"	1/2"	4"
400-2020	5/8"	2"	5/8"	4"
400-2160	3/4"	2"	3/4"	4"



DESIGNED FOR SOLID WOODS, PLYWOOD, AND WOOD COMPOSITES. THIS BIT IS USED FOR FAST ROUTING OR HOGGING WITH HIGH FEED RATES. UP-CUT TOOL PROVIDES BETTER CHIP REMOVAL.



410 SERIES Three Flute Down-Cut Rougher



Item Number	Cutting Edge Diameter	Cutting Edge Length	Shank	Overall Length
410-0980	3/8"	1"	3/8"	2-1/2"
410-1000	3/8"	1"	3/8"	3"
410-1040	3/8"	1-1/4"	3/8"	3"
410-1480	1/2"	1-1/4"	1/2"	3"
410-1580	1/2"	1-5/8"	1/2"	3-1/2"
410-1640	1/2"	1-7/8"	1/2"	4"
410-1680	1/2"	2-1/8"	1/2"	4"
410-2020	5/8"	2"	5/8"	4"
410-2160	3/4"	2"	3/4"	4"

DESIGNED FOR SOLID WOODS AND WOOD COMPOSITES. THIS BIT IS USED FOR FAST ROUTING OR HOGGING WITH VERY HIGH FEED RATES. DOWN-CUT TOOL PROVIDES BETTER HOLD DOWN.

420 SERIES Three Flute Up-Cut Rougher



Item Number	Cutting Edge Diameter	Cutting Edge Length	Shank	Overall Length
420-0980	3/8"	1"	3/8"	2-1/2"
420-1000	3/8"	1"	3/8"	3"
420-1040	3/8"	1-1/4"	3/8"	3"
420-1480	1/2"	1-1/4"	1/2"	3"
420-1580	1/2"	1-5/8"	1/2"	3-1/2"
420-1640	1/2"	1-7/8"	1/2"	4"
420-1680	1/2"	2-1/8"	1/2"	4"
420-2020	5/8"	2"	5/8"	4"
420-2160	3/4"	2"	3/4"	4"

DESIGNED FOR SOLID WOODS AND WOOD COMPOSITES. THIS BIT IS USED FOR FAST ROUTING OR HOGGING WITH VERY HIGH FEED RATES. UP-CUT TOOL PROVIDES BETTER CHIP REMOVAL.



450 SERIES

Three Flute Slow Spiral Down-Cut Rougher



Item Number	Cutting Edge Diameter	Cutting Edge Length	Shank	Overall Length
450-1000	3/8"	1"	3/8"	3"
450-1540	1/2"	1-3/8"	1/2"	3-1/2"
450-1580	1/2"	1-5/8"	1/2"	3-1/2"
450-1620	1/2"	1-3/4"	1/2"	4"
450-2020	5/8"	2"	5/8"	4"
450-2160	3/4"	2"	3/4"	4"

DESIGNED FOR SOLID WOODS AND WOOD COMPOSITES. THIS BIT IS USED FOR FAST ROUTING OR HOGGING WITH VERY HIGH FEED RATES. DOWN-CUT TOOL PROVIDES BETTER HOLD DOWN. SLOW SPIRAL DESIGN REQUIRES LESS HORSEPOWER.

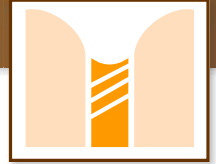
460 SERIES

Three Flute Slow Spiral Up-Cut Rougher



Item Number	Cutting Edge Diameter	Cutting Edge Length	Shank	Overall Length
460-1000	3/8"	1"	3/8"	3"
460-1540	1/2"	1-3/8"	1/2"	3-1/2"
460-1580	1/2"	1-5/8"	1/2"	3-1/2"
460-1640	1/2"	1-7/8"	1/2"	4"
460-2020	5/8"	2"	5/8"	4"
460-2160	3/4"	2"	3/4"	4"

DESIGNED FOR SOLID WOODS AND WOOD COMPOSITES. THIS BIT IS USED FOR FAST ROUTING OR HOGGING WITH VERY HIGH FEED RATES. UP-CUT TOOL PROVIDES BETTER CHIP REMOVAL. SLOW SPIRAL DESIGN REQUIRES LESS HORSEPOWER.



495 SERIES

Four Flute Finish/Rougher Down-Cut Spiral



Item Number	Cutting Edge Diameter	Cutting Edge Length	Shank	Overall Length
495-1480	1/2"	1-1/4"	1/2"	3"
495-1580	1/2"	1-5/8"	1/2"	3-1/2"
495-2020	5/8"	2"	5/8"	4"
495-2160	3/4"	2"	3/4"	4"

DESIGNED FOR SOLID WOODS, WOOD COMPOSITES, AND SOME PLASTICS. THIS BIT IS USED WHERE A DOWNWARD CHIP REMOVAL, SUPERIOR FINISH ON TOP, AND EXTREMELY FAST FEED RATES ARE REQUIRED.

500 SERIES

Four Flute Finish/Rougher Up-Cut Spiral



Item Number	Cutting Edge Diameter	Cutting Edge Length	Shank	Overall Length
500-1480	1/2"	1-1/4"	1/2"	3"
500-1580	1/2"	1-5/8"	1/2"	3-1/2"
500-2020	5/8"	2"	5/8"	4"
500-2160	3/4"	2"	3/4"	4"

DESIGNED FOR SOLID WOODS, WOOD COMPOSITES, AND SOME PLASTICS. THIS BIT IS USED WHERE AN UPWARD CHIP REMOVAL, SUPERIOR FINISH ON BOTTOM, AND EXTREMELY FAST FEED RATES ARE REQUIRED.



510 SERIES Single Flute Straight Z Flute

Item Number	Cutting Edge Diameter	Cutting Edge Length	Shank	Overall Length
510-0140	1/8"	1/2"	1/4"	2"
510-0300	3/16"	5/8"	1/4"	2"
510-0320	3/16"	3/4"	1/4"	2"
510-0540	1/4"	7/8"	1/4"	2-1/2"
510-0560	1/4"	1"	1/4"	2-1/2"
510-1000	3/8"	1"	3/8"	3"
510-1440	1/2"	1"	1/2"	3"
510-1620	1/2"	1-3/4"	1/2"	4"



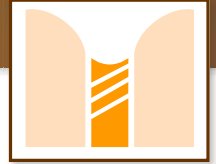
DESIGNED FOR SOLID WOODS, WOOD COMPOSITES, ACRYLICS, PLASTICS, AND SOLID SURFACE.
THIS BIT IS USED TO PROVIDE FAST, FREE CUTTING AND LONG EDGE LIFE.

520 SERIES Two Flute Straight Z Flute

Item Number	Cutting Edge Diameter	Cutting Edge Length	Shank	Overall Length
520-0140	1/8"	1/2"	1/4"	2"
520-0180	5/32"	3/8"	1/4"	2"
520-0300	3/16"	5/8"	1/4"	2"
520-0320	3/16"	3/4"	1/4"	2"
520-0540	1/4"	7/8"	1/4"	2-1/2"
520-0620	1/4"	1-1/4"	1/4"	3"
520-1000	3/8"	1"	3/8"	3"
520-1440	1/2"	1"	1/2"	3"
520-1580	1/2"	1-5/8"	1/2"	3-1/2"
520-1620	1/2"	1-3/4"	1/2"	4"



DESIGNED FOR SOLID WOODS, WOOD COMPOSITES, ACRYLICS, PLASTICS, AND SOLID SURFACE.
THIS BIT IS USED TO PROVIDE FAST, FREE CUTTING AND LONG EDGE LIFE IN HARDER MATERIALS.



540 SERIES Single Flute Straight O Flute



Item Number	Cutting Edge Diameter	Cutting Edge Length	Shank	Overall Length
540-0140	1/8"	1/2"	1/4"	2"
540-0300	3/16"	5/8"	1/4"	2"
540-0480	1/4"	1/2"	1/4"	2-1/2"
540-0560	1/4"	1"	1/4"	2-1/2"
540-0620	1/4"	1-1/4"	1/4"	3"
540-0940	3/8"	7/8"	3/8"	2-1/2"
540-1000	3/8"	1"	3/8"	3"
520-1440	1/2"	1"	1/2"	3"
520-1580	1/2"	1-5/8"	1/2"	3-1/2"

DESIGNED FOR SOFT PLASTICS. THIS BIT IS USED WHERE A GOOD FINISH IS REQUIRED WITHOUT CHIPPING OR TEARING THE PLASTIC.

550 SERIES Two Flute Straight O Flute



Item Number	Cutting Edge Diameter	Cutting Edge Length	Shank	Overall Length
550-0140	1/8"	1/2"	1/4"	2"
550-0300	3/16"	5/8"	1/4"	2"
550-0480	1/4"	1/2"	1/4"	2-1/2"
550-0560	1/4"	1"	1/4"	2-1/2"
550-0620	1/4"	1-1/4"	1/4"	3"
550-0940	3/8"	7/8"	3/8"	2-1/2"
550-1000	3/8"	1"	3/8"	3"
550-1440	1/2"	1"	1/2"	3"
550-1580	1/2"	1-5/8"	1/2"	3-1/2"

DESIGNED FOR MEDIUM PLASTICS. THIS BIT IS USED WHERE A GOOD FINISH IS REQUIRED WITHOUT CHIPPING OR TEARING THE PLASTIC.



560 SERIES Single Flute Down-Cut 0 Flute



Item Number	Cutting Edge Diameter	Cutting Edge Length	Shank	Overall Length
560-0140	1/8"	1/2"	1/4"	2"
560-0300	3/16"	5/8"	1/4"	2"
560-0540	1/4"	7/8"	1/4"	2-1/2"
560-1020	3/8"	1-1/8"	3/8"	3"
560-1460	1/2"	1-1/8"	1/2"	3"

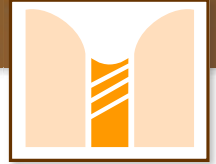
DESIGNED FOR SOFT AND HARD PLASTICS. THIS BIT IS USED WHERE A DOWNWARD CHIP REMOVAL AND A GOOD FINISH ON TOP IS REQUIRED. DOWN-CUT TOOL PROVIDES BETTER HOLD DOWN.

570 SERIES Single Flute Up-Cut 0 Flute



Item Number	Cutting Edge Diameter	Cutting Edge Length	Shank	Overall Length
570-0140	1/8"	1/2"	1/4"	2"
570-0300	3/16"	5/8"	1/4"	2"
570-0540	1/4"	7/8"	1/4"	2-1/2"
570-1020	3/8"	1-1/8"	3/8"	3"
570-1460	1/2"	1-1/8"	1/2"	3"

DESIGNED FOR SOFT AND HARD PLASTICS. THIS BIT IS USED WHERE AN UPWARD CHIP REMOVAL IS REQUIRED.



590 SERIES

Two Flute Down-Cut 0 Flute



Item Number	Cutting Edge Diameter	Cutting Edge Length	Shank	Overall Length
590-0560	1/4"	1"	1/4"	2-1/2"
590-0620	1/4"	1-1/4"	1/4"	3"
590-0740	5/16"	1"	5/16"	3"
590-1000	3/8"	1"	3/8"	3"
590-1580	1/2"	1-5/8"	1/2"	3-1/2"

DESIGNED FOR HARDER PLASTICS AND ALUMINUM. THIS BIT IS USED WHERE A DOWNWARD CHIP REMOVAL AND A GOOD FINISH ON TOP IS REQUIRED. DOWN-CUT TOOL PROVIDES BETTER HOLD DOWN.

610 SERIES

Two Flute Up-Cut 0 Flute



Item Number	Cutting Edge Diameter	Cutting Edge Length	Shank	Overall Length
610-0560	1/4"	1"	1/4"	2-1/2"
610-0620	1/4"	1-1/4"	1/4"	3"
610-0740	5/16"	1"	5/16"	3"
610-1000	3/8"	1"	3/8"	3"
610-1580	1/2"	1-5/8"	1/2"	3-1/2"

DESIGNED FOR HARDER PLASTICS AND ALUMINUM. THIS BIT IS USED WHERE AN UPWARD CHIP REMOVAL IS REQUIRED.