

**Edge of Arlington Saw & Tool, Inc.**

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**Item #DRB-208, Amana Tool CNC Polycrystalline Diamond (PCD) Tipped Compression Up/Down Shear R/H Direction 1/2" Dia x 1 3/8" CH x 1/2" Shank Router Bit (Industrial) \$210.28**

Thank you for shopping with us!

Diamond is the hardest naturally-occurring material on the earth. Polycrystalline Diamond (PCD) tooling is manufactured in a high-temperature and high-pressure laboratory that fuses diamond particles onto a carbide substrate, which allows the diamond to be brazed onto a tool body.

If you're looking for the ultimate in tooling, you've found it. Our diamond router bits will cut a wide variety of tough, abrasive materials. The cutting edge lasts up to 100 times longer than carbide; in the long-run, PCD is the most economical choice. Diamond-tipped compression with carbide plunge point router bits for grooving, jointing & rabbeting in composites, MDF (both raw or with melamine), laminate, plastic, wood, veneers, and more. Up/Down-shear for double-sided material.

**Excellent for Cutting:**

- Fiberglass Reinforced Composites
- Lightweight composites
- Custom composite materials
- Fiber-reinforced urethane
- Fiber-reinforced structural foam floors
- And More . . .

**Benefits of Diamond Technology**

- Improved cycle times by enabling high material removal rates
- Faster speeds and feeds compared to conventional cutting tools
- Improved workpiece quality with tight dimensional control
- Optimized machine tool efficiency by increasing production capacity
- Consistently good component surface finish
- Can be reground up to 5 to 7 times
- Wear rate is much less than the carbide-tipped tools



**DIAMOND TECHNOLOGY**  
Polycrystalline Diamond (PCD)



**PCD\* CNC Up/Down Shear Compression Router Bit Speed and Feed Chart**



Tool No.	Diameter Inch/mm	No. Teeth	Chip Load Per Tooth Inch (mm)/min	RPM	Feed Rate Inch (mm)/min
DRB-200	1/2" (12.7mm)	1+1	.008" (0.20mm)	18,000	140" (3,600mm)
DRB-208	1/2" (12.7mm)	1+1	.008" (0.20mm)	18,000	140" (3,600mm)
DRB-212	5/8" (15.9mm)	1+1	.008" (0.20mm)	18,000	140" (3,600mm)
DRB-216	5/8" (15.9mm)	1+1	.008" (0.20mm)	18,000	140" (3,600mm)
DRB-224	3/4" (19.1mm)	1+1	.01" (0.25mm)	18,000	180" (4,500mm)

Multipliers for different materials:  
0.8% = MDF with or without Coating  
1.1% = Chipboard with or without Coating  
0.7% = Cross grain veneer

Simple Machining Calculations:  
To find **RPM**: SFM x 3.82 / diameter of tool  
To find **SFM**: 0.262 x diameter of tool x RPM  
To find **Feed Rate**: RPM x # of flutes x chip load  
To find **Chip Load** =  $\frac{\text{Feed Rate}}{\text{RPM} \times \# \text{ of Flutes}}$

\* Polycrystalline Diamond

SPECIFICATIONS	
<b>Manufacturer</b>	Amana Tool
<b>Diameter</b>	1/2 in
<b>Flute Geometry</b>	Upcut/Downcut
<b>Flute</b>	1+1
<b>Length</b>	1 3/4 in Shank Length
<b>Overall Length</b>	3 3/4 in
<b>Rotation</b>	Right
<b>RPM</b>	30,000
<b>Shank</b>	1/2 in
<b>Style</b>	Compression with carbide plunge point