



PATENT PENDING

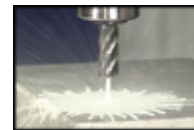
The XD4 has an improved Variable Pitch/Variable Helix design which eliminates the harmonics that cause vibration and chatter, and also has the Patent Pending *RampMill* end for increased Ramping ability. As a result, it can be used with Controlled Engagement toolpaths, as well as for everything from full slotting, to light and heavy roughing. By ramping at 5-9 times greater angles than an endmill, the *RampMill* can enter material by helically ramping holes nearly as fast as they can be drilled. In conjunction with a controlled engagement toolpath and trochoidal paths, it achieves the highest Material Removal Rate (MRR) possible by a solid carbide tool and the Patent Pending coolant hole extends tool life exponentially. By making entry into the middle of the pocket, retract cutter path (air time) is greatly reduced and peak MRR is achieved, drastically reducing cycle times.

- Combination Of The Improved Variable Pitch/Helix Rougher And The RampMill Design.
- Eliminates Chatter And Ramps At 5-9 Times Greater Angles Than An Endmill.
- Outperforms All Other Tools In The New Controlled Engagement Toolpaths.
- Large Number Of Patent Pending Features All Engineered Specifically For Controlled Engagement Toolpaths.
- RampMill End Geometry Allows For Ramping At 5-8 Degrees In Steels, Stainless Steels, And Exotics.
- Core Designed For Optimum Strength To Handle The Highest Tool Loads.
- Truncated Radius Adds Corner Strength While Avoiding The Wear Points Of A traditional Radius.
- Center Coolant Hole Delivers Coolant Or Air To Blast Chips Away, Eliminating Re-Cutting And Skyrocketing Tool Life.



#### How To Build Your 16 Digit Part Number

First6	Middle6	End Geo	Coolant Hole	Coating	=	Part # to Order
XD0375	48I001	T6	0	M		XD037548I001T60M



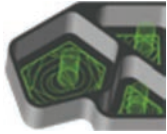
First 6 GEO & DIA#	Middle 6 FL,LOC, & LBS#	End Geometry					Stk/Std Roughing *T.Rad	Pick 1		Pick 1 Coating
		DIA	FL#	LOC	LBS	OAL		None	Center	
XD0375	48I001	0.375	4	0.500	0	2.000	T6 (.030)	0	C	M
	4BU003	0.375	4	0.750	0	2.500				
	4CA003	0.375	4	0.875	0	2.500				
	4CS005	0.375	4	1.000	0	3.000				
	4DG005	0.375	4	1.250	0	3.000				
	4E6007	0.375	4	1.500	0	3.500				
	4EW007	0.375	4	1.750	0	3.500				
	4FK009	0.375	4	2.000	0	4.000				
	4GS009	0.375	4	2.500	0	4.000				
XD0437	48I004	0.437	4	0.500	0	2.750	TC (.060)	0	C	M
	4A6004	0.437	4	0.625	0	2.750				
	4CA004	0.437	4	0.875	0	2.750				
	4CS004	0.437	4	1.000	0	2.750				
	4DG004	0.437	4	1.250	0	2.750				
	4E6007	0.437	4	1.500	0	3.500				
	4EW009	0.437	4	1.750	0	4.000				
	4FK009	0.437	4	2.000	0	4.000				
	4HY00E	0.437	4	3.000	0	5.000				
XD0500	4A6003	0.500	4	0.625	0	2.500	TC (.060)	0	C	M
	4CS005	0.500	4	1.000	0	3.000				
	4DG005	0.500	4	1.250	0	3.000				
	4E6007	0.500	4	1.500	0	3.500				
	4EW009	0.500	4	1.750	0	4.000				
	4FK009	0.500	4	2.000	0	4.000				
	4G6009	0.500	4	2.250	0	4.000				
	4GS00B	0.500	4	2.500	0	4.500				
	4HY00E	0.500	4	3.000	0	5.000				
XD0625	4BU005	0.625	4	0.750	0	3.000	TC (.060)	0	C	M
	4DG007	0.625	4	1.250	0	3.500				
	4EI007	0.625	4	1.625	0	3.500				
	4FK009	0.625	4	2.000	0	4.000				
	4G600B	0.625	4	2.250	0	4.500				
	4GS00E	0.625	4	2.500	0	5.000				
	4HY00E	0.625	4	3.000	0	5.000				
	4II00G	0.625	4	3.250	0	5.500				

\* These tools are stocked with a patent pending truncated roughing radius, which is not suitable for finished radius tolerances.

## XD4 & XD4CH SERIES Continued



PATENT PENDING



### How To Build Your 16 Digit Part Number

First6	Middle6	End Geo	Coolant Hole	Coating		Part # to Order
<b>XD0750</b>	<b>4BU005</b>	<b>TC</b>	<b>0</b>	<b>M</b>	=	<b>XD07504BU005TCOM</b>



GEO & DIA#	FL,LOC, & LBS#	DIA	FL#	LOC	LBS	OAL	Stk/Std Roughing *T.Rad	Coolant Hole		Coating MDC
								None	Center	
<b>XD0750</b>	<b>4BU005</b>	0.750	4	0.750	0	3.000	<b>TC (.060)</b>	<b>0</b>	<b>C</b>	<b>M</b>
	<b>4CS007</b>	0.750	4	1.000	0	3.500				
	<b>4DG007</b>	0.750	4	1.250	0	3.500				
	<b>4E6007</b>	0.750	4	1.500	0	3.500				
	<b>4EW009</b>	0.750	4	1.750	0	4.000				
	<b>4G600B</b>	0.750	4	2.250	0	4.500				
	<b>4GS00E</b>	0.750	4	2.500	0	5.000				
	<b>4HC00E</b>	0.750	4	2.750	0	5.000				
	<b>4HY00E</b>	0.750	4	3.000	0	5.000				
	<b>4II00G</b>	0.750	4	3.250	0	5.500				
	<b>4J400I</b>	0.750	4	3.500	0	6.000				
<b>4KA00I</b>	0.750	4	4.000	0	6.000					
<b>4LG00L</b>	0.750	4	4.500	0	7.000					
<b>XD0875</b>	<b>4EI009</b>	0.875	4	1.625	0	4.000	<b>TC (.060)</b>	<b>0</b>	<b>C</b>	<b>M</b>
	<b>4H200E</b>	0.875	4	2.625	0	5.000				
	<b>4HY00E</b>	0.875	4	3.000	0	5.000				
	<b>4JQ00I</b>	0.875	4	3.750	0	6.000				
<b>XD1000</b>	<b>4E6009</b>	1.000	4	1.500	0	4.000	<b>TC (.060)</b>	<b>0</b>	<b>C</b>	<b>M</b>
	<b>4FK00B</b>	1.000	4	2.000	0	4.500				
	<b>4GG00E</b>	1.000	4	2.375	0	5.000				
	<b>4H200E</b>	1.000	4	2.625	0	5.000				
	<b>4HY00I</b>	1.000	4	3.000	0	6.000				
	<b>4IU00I</b>	1.000	4	3.375	0	6.000				
	<b>4JE00I</b>	1.000	4	3.625	0	6.000				
	<b>4KK00L</b>	1.000	4	4.125	0	7.000				
	<b>4LG00L</b>	1.000	4	4.500	0	7.000				
	<b>4MM00N</b>	1.000	4	5.000	0	7.500				
<b>XD1250</b>	<b>4E6009</b>	1.250	4	1.500	0	4.000	<b>TC (.060)</b>	<b>0</b>	<b>C</b>	<b>M</b>
	<b>4G600B</b>	1.250	4	2.250	0	4.500				
	<b>4HY00I</b>	1.250	4	3.000	0	6.000				
	<b>4JE00I</b>	1.250	4	3.625	0	6.000				
	<b>4L600N</b>	1.250	4	4.375	0	7.500				
	<b>4MY00N</b>	1.250	4	5.125	0	7.500				
	<b>4Q000R</b>	1.250	4	6.000	0	9.000				
	<b>4R300R</b>	1.250	4	6.500	0	9.000				

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