

**VARIABLE HELIX SOLID
CARBIDE END MILLS**

**FOR TITANIUM AND
HIGH TENSILE ALLOYS**


VHIcarb
HIGH PERFORMANCE





Minicut International is a Canadian company specialized in the manufacturing of high performance cutting tools for the aerospace and metalworking industries. For over 40 years Minicut's reputation for engineering some of the most innovative and performance driven cutting tools has been unquestionable, making it a leading North American manufacturer in cutting tool technology.

Much of the success attained by Minicut in this highly technological and most competitive field of activity is its historical and continued commitment into research and product technology, resulting in the development of innovative, ultra-performing products that effectively machine titanium, stainless steel, aluminum and other exotic alloys. These advanced technologies have enabled Minicut to export its products to more than 30 countries worldwide.

Minicut International est une société Canadienne spécialisée dans la fabrication d'outils coupants de haute performance pour les industries Aéronautiques et Mécaniques. Depuis plus de 40 ans, la réputation de Minicut à été forgée pour ses développements technologiques, innovateurs et performants de ses produits. Faisant de Minicut un leader Nord Américain dans la technologie des outils coupants.

Les succès obtenus par Minicut International dans ce domaine hautement technologique et mondialement compétitif sont attribuables aux efforts soutenus en recherches, résultant au développements de produits ultra performants et innovateurs pouvant usiner efficacement le titan, aluminium, aciers inox et autres matériau exotiques.

Cette technologie avancée permet à Minicut International d'exporter ses produits dans plus de 30 pays à travers le monde.

Minicut International es una sociedad Canadiense especializada en la fabricacion de herramientas de corte de alta calidad y rendimiento superior para la industria aeronautica y mecanica. Durante mas de 40 anos, Minicut ha sabido crearse una reputacion enviable por el desarrollo tecnologico e innovaciones de sus productos. En Norte America, Minicut, es un lider reconocido en la tecnologia de fabricacion de herramientas de corte.

El successo de Minicut, en esta industria de alta tecnologia, es debido a la busqueda continua a la cual se dedica la compania. El resultado son utiles y herramientas ultra performantes e innovadores, capaces de mecanizar eficazmente el titanio, aluminio, acero inoxidable y otras materias exoticas.

Esta alta tecnologia permite a Minicut de exportar sus productos a mas de 30 paises a traves del mundo.

MINICUT International ist ein kanadisches Unternehmen das sich in der Herstellung hochqualifizierter Werkzeuge für die Luftraum und Werkzeugmaschinenindustrie spezialisiert hat. Über 40 Jahre ständige technologische Entwicklungen äusserst innovativer, hochleistungsvoller Schneidwerkzeuge machten MINICUT International zu einem der führenden Werkzeughersteller am nordamerikanischen Markt.

Eindeutigen Erfolg konnte MINICUT International auf diesem höchst technologischen und weltweit wettbewerbsumstrittenen Gebiet durch unermüdliche Forschung und Entwicklung von innovativen, ultra-leistungsfähigen Werkzeugen zur Bearbeitung von Titan, Inox, Aluminium und vielen andern, schwer zu bearbeitenden „Exoten“, verbuchen.

Die avantgardistische Technologie der MINICUT Produkte ermöglicht es, sie weltweit in über 30 Länder zu exportieren.

Minicut Intrnational è una società canadese specializzata nella costruzione di utensili da taglio High Performance specifica nel settore aeronautico e nell'industria metalmeccanica generale. Da oltre 40 anni, dall'esperienza acquisita, gli ingegneri della Minicut hanno messo a punto degli utensili volti a migliorare le prestazioni, riconosciute inequivocabilmente da tutti gli specialisti del settore facendo, di Minicut un leader nel nord America nella tecnologia degli utensili da taglio.

Il successo ottenuto da Minicut International nella tecnologia di taglio è risultato estremamente competitivo in campo internazionale. Gli enormi sforzi sostenuti nella ricerca hanno prodotto risultati di successo dando altissima resa produttiva, lavorando efficacemente il titanio, alluminio, acciai inossidabili ed altri materiali tra cui gli esotici.

Questa alta tecnologia ha permesso alla Minicut International di esportare con successo i suoi prodotti in più di 30 paesi in tutto il mondo.



High Performance, Variable Helix End Mills

The VHI CARB solid carbide end mills were specifically designed and developed for vibration-free machining of High Tensile Alloys in a range of machining applications. Its unique variable helix geometry minimizes tool deflection allowing for higher spindle speeds and feed rates, heavier cuts and more effective chip evacuation, resulting in reduced machining times, superior finish and lower manufacturing costs.



Features:

- *Vibration-free machining due to its unique flute design*
- *Friction free and smooth machining*
- *Achieves excellent surface finish at higher speeds*
- *One tool for both roughing and finishing applications, achieving maximum stock removal rates*
- *Achieves higher material removal rates in extreme conditions*
- *Greater tool life due to its unique geometry and state-of-the-art coating*
- *Designed for both slotting and profiling applications*


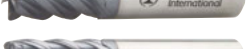


Outstanding Performance:




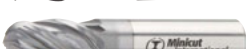
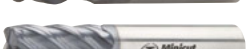
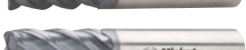
- *Stainless Steels*
- *Titanium*
- *High temperature Alloys*
- *Cast Iron*
- *Low Carbon Steels, >40 HRc*

For 50 years, Minicut has been a trusted brand within the machining industry. Regardless of your application, Minicut cutting tools will always exceed your expectations.

INCH SERIES

<i>New</i> LIST 6001		VHI carb - 4 flute, Stub length, corner radius	5
<i>New</i> LIST 6002		VHI carb - 4 flute, Stub length, square end	5
LIST 6000		VHI carb - 4 flute, regular length, corner radius	6
<i>New</i> LIST 7000		VHI carb - 4 flute, regular length, square end	6
<i>New</i> LIST 7001		VHI carb - 4 flute, long length, square end	7
<i>New</i> LIST 7002		VHI carb - 4 flute, long length, corner radius	7
LIST 6100		VHI carb - 4 flute, extended reach, corner radius	8
LIST 6200		VHI carb - 4 flute, regular length, ball end mill	8
LIST 6300		VHI carb - 5 flute, regular length, corner radius	9
<i>New</i> LIST 7300		VHI carb - 5 flute, regular length, square end	9
<i>New</i> LIST 7301		VHI carb - 5 flute, long length, square end	10
LIST 6400		VHI carb - 5 flute, extended reach, corner radius	10
Recommended cutting parameters, Inch Series			16

METRIC SERIES

<i>New</i> LIST 6001M		VHI carb - 4 flute, stub length corner, radius	11
<i>New</i> LIST 6002M		VHI carb - 4 flute, stub length, square end	11
LIST 6000M		VHI carb - 4 flute, corner radius	12
<i>New</i> LIST 7000M		VHI carb - 4 flute, end mill, square end	11
LIST 6100M		VHI carb - 4 flute, extended reach, corner radius	13
LIST 6200M		VHI carb - 4 flute, regular length, ball radius end mill	13
LIST 6300M		VHI carb - 5 flute, corner radius	14
<i>New</i> LIST 7300M		VHI carb - 5 flute, end mill, square end	14
LIST 6400M		VHI carb - 5 flute, extended reach, corner radius	15
Recommended cutting parameters Metric Series			17

New

LIST 6001



VHI carb - 4 flute, Stub length corner radius end mill

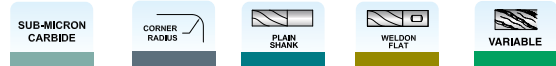
VARIABLE HELIX DESIGN

For Titanium and High Tensile Alloys

Higher speeds & metal removal rates, deeper cuts

Improved surface finish, New "Supreme" AlTiN coating

MINICUT EDP NUMBER		CORNER RADIUS	CUTTING DIA.	SHANK DIA.	LENGTH OF CUT	OVERALL LENGTH
WELDON FLAT	PLAIN					
-	6001 - 40600NF	.015	1/8	1/8	1/8	1-1/2
-	6001 - 40605NF	.015	5/32	3/16	3/16	2
-	6001 - 40610NF	.015	3/16	3/16	3/16	2
-	6001 - 40615NF	.020	7/32	1/4	1/4	2
-	6001 - 40620NF	.020	1/4	1/4	1/4	2
-	6001 - 40625NF	.020	5/16	5/16	5/16	2
6001 - 40630	6001 - 40630NF	.020	3/8	3/8	3/8	2
6001 - 40635	6001 - 40635NF	.020	7/16	7/16	7/16	2-1/2
6001 - 40640	6001 - 40640NF	.030	1/2	1/2	1/2	2-1/2
6001 - 40645	6001 - 40645NF	.040	5/8	5/8	5/8	3
6001 - 40650	6001 - 40650NF	.040	3/4	3/4	3/4	3
6001 - 40655	6001 - 40655NF	.040	1	1	1	4



New

LIST 6002



VHI carb - 4 flute, Stub length, square end

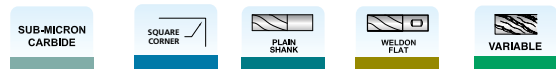
VARIABLE HELIX DESIGN

For Titanium and High Tensile Alloys

Higher speeds & metal removal rates, deeper cuts

Improved surface finish, New "Supreme" AlTiN coating

MINICUT EDP NUMBER		CUTTING DIA.	SHANK DIA.	LENGTH OF CUT	OVERALL LENGTH
WELDON FLAT	PLAIN				
-	6002 - 40660NF	1/8	1/8	1/8	1-1/2
-	6002 - 40665NF	5/32	3/16	3/16	2
-	6002 - 40670NF	3/16	3/16	3/16	2
-	6002 - 40675NF	7/32	1/4	1/4	2
-	6002 - 40680NF	1/4	1/4	1/4	2
-	6002 - 40685NF	5/16	5/16	5/16	2
6002 - 40690	6002 - 40690NF	3/8	3/8	3/8	2
6002 - 40695	6002 - 40695NF	7/16	7/16	7/16	2-1/2
6002 - 40700	6002 - 40700NF	1/2	1/2	1/2	2-1/2
6002 - 40705	6002 - 40705NF	5/8	5/8	5/8	3
6002 - 40710	6002 - 40710NF	3/4	3/4	3/4	3
6002 - 40715	6002 - 40715NF	1	1	1	4



LIST 6000



VHI carb - 4 flute, regular length corner radius end mill

VARIABLE HELIX DESIGN

For Titanium and High Tensile Alloys

Higher speeds & metal removal rates, deeper cuts

Improved surface finish, New "Supreme" AlTiN coating

MINICUT EDP NUMBER		CORNER RADIUS	CUTTING DIA.	SHANK DIA.	LENGTH OF CUT	OVERALL LENGTH
WELDON FLAT	PLAIN					
-	6000 - 4000NF	.015	1/8	1/8	3/8	1-1/2
-	6000 - 40005NF	.015	3/16	3/16	7/16	2
-	6000 - 40010NF	.020	1/4	1/4	1/2	2-1/2
-	6000 - 40015NF	.020	5/16	5/16	13/16	2-1/2
6000 - 40020	6000 - 40020NF	.020	3/8	3/8	1/2	2-1/2
6000 - 40025	6000 - 40025NF	.020	3/8	3/8	7/8	3
6000 - 40030	6000 - 40030NF	.020	7/16	7/16	1	2-3/4
6000 - 40035	6000 - 40035NF	.030	1/2	1/2	5/8	2-1/2
6000 - 40040	6000 - 40040NF	.030	1/2	1/2	1	3
6000 - 40045	6000 - 40045NF	.030	9/16	9/16	1-1/8	3-1/2
6000 - 40050	6000 - 40050NF	.040	5/8	5/8	3/4	3
6000 - 40055	6000 - 40055NF	.040	5/8	5/8	1-1/4	3-1/2
6000 - 40060	6000 - 40060NF	.040	3/4	3/4	7/8	3-1/2
6000 - 40065	6000 - 40065NF	.040	3/4	3/4	1-1/2	4
6000 - 40070	6000 - 40070NF	.040	1	1	1-1/2	4



New

LIST 7000



VHI carb - 4 flute, regular length, square end

VARIABLE HELIX DESIGN

For Titanium and High Tensile Alloys, Higher speeds & metal removal rates, deeper cuts, Improved surface finish, New "Supreme" AlTiN coating

MINICUT EDP NUMBER		CUTTING DIA.	SHANK DIA.	LENGTH OF CUT	OVERALL LENGTH
WELDON FLAT	PLAIN				
-	7000 - 40001NF	1/8	1/8	3/8	1-1/2
-	7000 - 40006NF	3/16	3/16	7/16	2
-	7000 - 40011NF	1/4	1/4	1/2	2-1/2
-	7000 - 40016NF	5/16	5/16	13/16	2-1/2
7000 - 40021	7000 - 40021NF	3/8	3/8	1/2	2-1/2
7000 - 40026	7000 - 40026NF	3/8	3/8	7/8	3
7000 - 40031	7000 - 40031NF	7/16	7/16	1	2-3/4
7000 - 40036	7000 - 40036NF	1/2	1/2	5/8	2-1/2
7000 - 40041	7000 - 40041NF	1/2	1/2	1	3
7000 - 40046	7000 - 40046NF	9/16	9/16	1-1/8	3-1/2
7000 - 40051	7000 - 40051NF	5/8	5/8	3/4	3
7000 - 40056	7000 - 40056NF	5/8	5/8	1-1/4	3-1/2
7000 - 40061	7000 - 40061NF	3/4	3/4	7/8	3-1/2
7000 - 40066	7000 - 40066NF	3/4	3/4	1-1/2	4
7000 - 40071	7000 - 40071NF	1	1	1-1/2	4



New

LIST 7001



VHI carb - 4 flute, long length, square end

VARIABLE HELIX DESIGN

For Titanium and High Tensile Alloys, higher speeds & metal removal rates, deeper cuts, improved surface finish, new "Supreme" AlTiN coating

MINICUT EDP NUMBER		CUTTING DIA.	SHANK DIA.	LENGTH OF CUT	OVERALL LENGTH
WELDON FLAT	PLAIN				
-	7001 - 5000NF	1/4	1/4	3/4	2-1/2
-	7001 - 50005NF	1/4	1/4	1-1/4	3-1/4
-	7001 - 50010NF	1/4	1/4	1-3/4	4
7001 - 50015	7001 - 50015NF	3/8	3/8	1-1/2	4
7001 - 50020	7001 - 50020NF	3/8	3/8	2-1/2	4
7001 - 50025	7001 - 50025NF	7/16	7/16	1-1/2	4
7001 - 50035	7001 - 50035NF	1/2	1/2	1-1/4	3
7001 - 50040	7001 - 50040NF	1/2	1/2	1-1/2	4
7001 - 50045	7001 - 50045NF	1/2	1/2	2	4
7001 - 50050	7001 - 50050NF	1/2	1/2	2-1/2	4-1/2
7001 - 50055	7001 - 50055NF	5/8	5/8	1-5/8	4
7001 - 50060	7001 - 50060NF	3/4	3/4	2-1/4	5
7001 - 50065	7001 - 50065NF	3/4	3/4	3-1/4	6
7001 - 50070	7001 - 50070NF	3/4	3/4	4-1/4	7
7001 - 50075	7001 - 50075NF	1	1	2-1/4	5
7001 - 50080	7001 - 50080NF	1	1	3	6
7001 - 50085	7001 - 50085NF	1	1	4	7

New

LIST 7002



VHI carb - 4 flute, long length, corner radius

VARIABLE HELIX DESIGN

For Titanium and High Tensile Alloys, higher speeds & metal removal rates, deeper cuts, improved surface finish, new "Supreme" AlTiN coating

MINICUT EDP NUMBER		CORNER RADIUS	CUTTING DIA.	SHANK DIA.	LENGTH OF CUT	OVERALL LENGTH
WELDON FLAT	PLAIN					
-	7002 - 50075NF	.020	1/4	1/4	3/4	2-1/2
-	7002 - 50080NF	.020	1/4	1/4	1-1/4	3-1/4
-	7002 - 50085NF	.020	1/4	1/4	1-3/4	4
7002 - 50090	7002 - 50090NF	.020	3/8	3/8	1-1/2	4
7002 - 50095	7002 - 50095NF	.020	3/8	3/8	2-1/2	4
7002 - 50100	7002 - 50100NF	.020	7/16	7/16	1-1/2	4
7002 - 50105	7002 - 50105NF	.030	1/2	1/2	1-1/4	3
7002 - 50110	7002 - 50110NF	.030	1/2	1/2	1-1/2	4
7002 - 50115	7002 - 50115NF	.030	1/2	1/2	2	4
7002 - 50120	7002 - 50120NF	.030	1/2	1/2	2-1/2	4-1/2
7002 - 50125	7002 - 50125NF	.040	5/8	5/8	1-5/8	4
7002 - 50130	7002 - 50130NF	.040	3/4	3/4	2-1/4	5
7002 - 50135	7002 - 50135NF	.040	3/4	3/4	3-1/4	6
7002 - 50140	7002 - 50140NF	.040	3/4	3/4	4-1/4	7
7002 - 50145	7002 - 50145NF	.040	1	1	2-1/4	5
7002 - 50150	7002 - 50150NF	.040	1	1	3	6
7002 - 50155	7002 - 50155NF	.040	1	1	4	7



LIST 6100



VHI carb - 4 flute, extended reach corner radius end mill

VARIABLE HELIX DESIGN

For Titanium and High Tensile Alloys

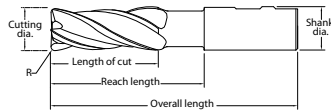
Higher speeds & metal removal rates, deeper cuts

Improved surface finish

New "Supreme" AlTiN coating

Ball Nose Available on Request

MINICUT EDP NUMBER		CORNER RADIUS	CUTTING DIA.	SHANK DIA.	LENGTH OF CUT	REACH LENGTH	OVERALL LENGTH
WELDON FLAT	PLAIN						
-	6100 - 40075NF	.020	1/4	1/4	3/8	1-1/4	4
6100 - 40080	6100 - 40080NF	.020	3/8	3/8	1/2	1-7/8	4
6100 - 40085	6100 - 40085NF	.030	1/2	1/2	5/8	2-1/4	4
6100 - 40090	6100 - 40090NF	.040	5/8	5/8	3/4	2-1/4	4
6100 - 40095	6100 - 40095NF	.040	5/8	5/8	3/4	3-1/4	5
6100 - 40100	6100 - 40100NF	.040	3/4	3/4	1	2-1/4	4
6100 - 40105	6100 - 40105NF	.040	3/4	3/4	1	3-1/4	6
6100 - 40110	6100 - 40110NF	.040	1	1	1-1/8	2-1/4	4-1/2
6100 - 40115	6100 - 40115NF	.040	1	1	1-1/8	3-1/4	6
6100 - 40120	6100 - 40120NF	.040	1	1	1-1/8	4-1/4	7



LIST 6200



VHI carb - 4 flute, regular length, ball end mill

VARIABLE HELIX DESIGN

For Titanium and High Tensile Alloys

Higher speeds & metal removal rates, deeper cuts

Improved surface finish

New "Supreme" AlTiN coating

MINICUT EDP NUMBER		CUTTING DIA.	SHANK DIA.	LENGTH OF CUT	OVERALL LENGTH
WELDON FLAT	PLAIN				
-	6200 - 40125NF	1/8	1/8	3/8	1-1/2
-	6200 - 40130NF	5/32	3/16	7/16	2
-	6200 - 40135NF	3/16	3/16	7/16	2
-	6200 - 40140NF	1/4	1/4	1/2	2-1/2
-	6200 - 40145NF	5/16	5/16	13/16	2-1/2
6200 - 40150	6200 - 40150NF	3/8	3/8	7/8	2-1/2
6200 - 40155	6200 - 40155NF	1/2	1/2	1	3
6200 - 40160	6200 - 40160NF	5/8	5/8	1-1/4	3-1/2
6200 - 40165	6200 - 40165NF	3/4	3/4	1-1/2	4
6200 - 40170	6200 - 40170NF	1	1	1-1/2	4



LIST 6300



VHI carb - 5 flute, regular length, corner radius end mill

VARIABLE HELIX DESIGN

For Titanium and High Tensile Alloys

Higher speeds & metal removal rates, deeper cuts

Improved surface finish, New "Supreme" AlTiN coating

Ball Nose Available on Request

MINICUT EDP NUMBER		CORNER RADIUS	CUTTING DIA.	SHANK DIA.	LENGTH OF CUT	OVERALL LENGTH
WELDON FLAT	PLAIN					
-	6300 - 40175NF	.020	1/4	1/4	1/2	2-1/2
-	6300 - 40180NF	.020	5/16	5/16	13/16	2-1/2
6300 - 40185	6300 - 40185NF	.020	3/8	3/8	1/2	2-1/2
6300 - 40190	6300 - 40190NF	.020	3/8	3/8	7/8	3
6300 - 40195	6300 - 40195NF	.030	1/2	1/2	5/8	2-1/2
6300 - 40200	6300 - 40200NF	.030	1/2	1/2	1	3
6300 - 40205	6300 - 40205NF	.030	9/16	9/16	1-1/8	3-1/2
6300 - 40210	6300 - 40210NF	.040	5/8	5/8	3/4	3
6300 - 40215	6300 - 40215NF	.040	5/8	5/8	1-1/4	3-1/2
6300 - 40220	6300 - 40220NF	.040	3/4	3/4	7/8	3-1/2
6300 - 40225	6300 - 40225NF	.040	3/4	3/4	1-1/2	4
6300 - 40230	6300 - 40230NF	.040	1	1	1-1/2	4



New

LIST 7300



VHI carb - 5 flute, regular length, square end

VARIABLE HELIX DESIGN

For Titanium and High Tensile Alloys

Higher speeds & metal removal rates, deeper cuts

Improved surface finish, New "Supreme" AlTiN coating

Ball Nose Available on Request

MINICUT EDP NUMBER		CUTTING DIA.	SHANK DIA.	LENGTH OF CUT	OVERALL LENGTH
WELDON FLAT	PLAIN				
-	7300 - 40176NF	1/4	1/4	1/2	2-1/2
-	7300 - 40181NF	5/16	5/16	13/16	2-1/2
7300 - 40186	7300 - 40186NF	3/8	3/8	1/2	2-1/2
7300 - 40191	7300 - 40191NF	3/8	3/8	7/8	3
7300 - 40196	7300 - 40196NF	1/2	1/2	5/8	2-1/2
7300 - 40201	7300 - 40201NF	1/2	1/2	1	3
7300 - 40206	7300 - 40206NF	9/16	9/16	1-1/8	3-1/2
7300 - 40211	7300 - 40211NF	5/8	5/8	3/4	3
7300 - 40216	7300 - 40216NF	5/8	5/8	1-1/4	3-1/2
7300 - 40221	7300 - 40221NF	3/4	3/4	7/8	3-1/2
7300 - 40226	7300 - 40226NF	3/4	3/4	1-1/2	4
7300 - 40231	7300 - 40231NF	1	1	1-1/2	4



New

LIST 7301



VHI carb - 5 flute, long length, square end

VARIABLE HELIX DESIGN

For Titanium and High Tensile Alloys

Higher speeds & metal removal rates, deeper cuts

Improved surface finish, New "Supreme" AlTiN coating

Ball Nose Available on Request

MINICUT EDP NUMBER		CUTTING DIA.	SHANK DIA.	LENGTH OF CUT	OVERALL LENGTH
WELDON FLAT	PLAIN				
-	7301 - 50001NF	1/4	1/4	3/4	2-1/2
-	7301 - 50006NF	1/4	1/4	1-1/4	3-1/4
-	7301 - 50011NF	1/4	1/4	1-3/4	4
7301 - 50016	7301 - 50016NF	3/8	3/8	1-1/2	4
7301 - 50021	7301 - 50021NF	3/8	3/8	2-1/2	4
7301 - 50026	7301 - 50026NF	7/16	7/16	1-1/2	4
7301 - 50036	7301 - 50036NF	1/2	1/2	1-1/4	3
7301 - 50041	7301 - 50041NF	1/2	1/2	1-1/2	4
7301 - 50046	7301 - 50046NF	1/2	1/2	2	4
7301 - 50051	7301 - 50051NF	1/2	1/2	2-1/2	4-1/2
7301 - 50056	7301 - 50056NF	5/8	5/8	1-5/8	4
7301 - 50061	7301 - 50061NF	3/4	3/4	2-1/4	5
7301 - 50066	7301 - 50066NF	3/4	3/4	3-1/4	6
7301 - 50071	7301 - 50071NF	3/4	3/4	4-1/4	7
7301 - 50076	7301 - 50076NF	1	1	2-1/4	5
7301 - 50081	7301 - 50081NF	1	1	3	6
7301 - 50086	7301 - 50086NF	1	1	4	7



LIST 6400



VHI carb - 5 flute, extended reach corner radius end mill

VARIABLE HELIX DESIGN

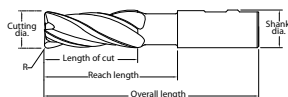
For Titanium and High Tensile Alloys

Higher speeds & metal removal rates, deeper cuts

Improved surface finish, New "Supreme" AlTiN coating

Ball Nose Available on Request

MINICUT EDP NUMBER		CORNER RADIUS	CUTTING DIA.	SHANK DIA.	LENGTH OF CUT	REACH LENGTH	OVERALL LENGTH
WELDON FLAT	PLAIN						
6400 - 40235	6400 - 40235NF	.020	3/8	3/8	1/2	1-7/8	4
6400 - 40240	6400 - 40240NF	.030	1/2	1/2	5/8	2-1/4	4
6400 - 40245	6400 - 40245NF	.040	5/8	5/8	3/4	2-1/4	4
6400 - 40250	6400 - 40250NF	.040	5/8	5/8	3/4	3-1/4	5
6400 - 40255	6400 - 40255NF	.040	3/4	3/4	1	2-1/4	4
6400 - 40260	6400 - 40260NF	.040	3/4	3/4	1	3-1/4	6
6400 - 40265	6400 - 40265NF	.040	1	1	1-1/8	2-1/4	4-1/2
6400 - 40270	6400 - 40270NF	.040	1	1	1-1/8	3-1/4	6
6400 - 40275	6400 - 40275NF	.040	1	1	1-1/8	4-1/4	7



METRIC SERIES

New

LIST 6001M



VHI carb - 4 flute, stub length corner radius end mill

VARIABLE HELIX DESIGN

For Titanium and High Tensile Alloys

Higher speeds & metal removal rates, deeper cuts

Improved surface finish, New "Supreme" AlTiN coating

MINICUT EDP NUMBER		CORNER RADIUS	CUTTING DIA.	SHANK DIA.	LENGTH OF CUT	OVERALL LENGTH
WELDON FLAT	PLAIN					
6001M - 40800	6001M - 40800NF	0.3	4	6	8	54
6001M - 40805	6001M - 40805NF	0.3	5	6	10	54
6001M - 40810	6001M - 40810NF	0.5	6	6	10	54
6001M - 40815	6001M - 40815NF	0.5	8	8	12	58
6001M - 40820	6001M - 40820NF	0.5	10	10	14	66
6001M - 40825	6001M - 40825NF	0.7	12	12	16	73
6001M - 40830	6001M - 40830NF	0.7	14	14	18	75
6001M - 40835	6001M - 40835NF	1.0	16	16	22	82
6001M - 40840	6001M - 40840NF	1.0	18	18	24	84
6001M - 40845	6001M - 40845NF	1.0	20	20	26	92



New

LIST 6002M



VHI carb - 4 flute, stub length, square end

VARIABLE HELIX DESIGN

For Titanium and High Tensile Alloys

Higher speeds & metal removal rates, deeper cuts

Improved surface finish

New "Supreme" AlTiN coating

MINICUT EDP NUMBER		CUTTING DIA.	SHANK DIA.	LENGTH OF CUT	OVERALL LENGTH
WELDON FLAT	PLAIN				
6002M - 40900	6002M - 40900NF	4	6	8	54
6002M - 40905	6002M - 40905NF	5	6	10	54
6002M - 40910	6002M - 40910NF	6	6	10	54
6002M - 40915	6002M - 40915NF	8	8	12	58
6002M - 40920	6002M - 40920NF	10	10	14	66
6002M - 40925	6002M - 40925NF	12	12	16	73
6002M - 40930	6002M - 40930NF	14	14	18	75
6002M - 40935	6002M - 40935NF	16	16	22	82
6002M - 40940	6002M - 40940NF	18	18	24	84
6002M - 40945	6002M - 40945NF	20	20	26	92



LIST 6000M



VHI carb - 4 flute, corner radius end mill

VARIABLE HELIX DESIGN

For Titanium and High Tensile Alloys

Higher speeds & metal removal rates, deeper cuts

Improved surface finish, New "Supreme" AlTiN coating

MINICUT EDP NUMBER		CORNER RADIUS	CUTTING DIA.	SHANK DIA.	LENGTH OF CUT	OVERALL LENGTH
WELDON FLAT	PLAIN					
6000M - 40280	6000M - 40280NF	0.3	3	6	8	57
6000M - 40285	6000M - 40285NF	0.3	4	6	11	57
6000M - 40290	6000M - 40290NF	0.3	5	6	13	57
6000M - 40295	6000M - 40295NF	0.5	6	6	13	57
6000M - 40300	6000M - 40300NF	0.5	8	8	19	63
6000M - 40310	6000M - 40310NF	0.5	10	10	22	72
6000M - 40320	6000M - 40320NF	0.7	12	12	26	83
6000M - 40325	6000M - 40325NF	0.7	14	14	26	83
6000M - 40335	6000M - 40335NF	1.0	16	16	32	92
6000M - 40340	6000M - 40340NF	1.0	18	18	32	92
6000M - 40350	6000M - 40350NF	1.0	20	20	38	104
6000M - 40355	6000M - 40355NF	1.0	25	25	38	104

SUB-MICRON CARBIDE

4-FLUTES

CORNER RADIUS

PLAIN SHANK

WELDON FLAT

VARIABLE

New

LIST 7000M



VHI carb - 4 flute, end mill, square end

VARIABLE HELIX DESIGN

For Titanium and High Tensile Alloys, Higher speeds & metal removal rates, deeper cuts, Improved surface finish, New "Supreme" AlTiN coating

MINICUT EDP NUMBER		CUTTING DIA.	SHANK DIA.	LENGTH OF CUT	OVERALL LENGTH
WELDON FLAT	PLAIN				
7000M - 40281	7000M - 40281NF	3	6	8	57
7000M - 40286	7000M - 40286NF	4	6	11	57
7000M - 40291	7000M - 40291NF	5	6	13	57
7000M - 40296	7000M - 40296NF	6	6	13	57
7000M - 40301	7000M - 40301NF	8	8	19	63
7000M - 40311	7000M - 40311NF	10	10	22	72
7000M - 40321	7000M - 40321NF	12	12	26	83
7000M - 40326	7000M - 40326NF	14	14	26	83
7000M - 40336	7000M - 40336NF	16	16	32	92
7000M - 40341	7000M - 40341NF	18	18	32	92
7000M - 40351	7000M - 40351NF	20	20	38	104
7000M - 40356	7000M - 40356NF	25	25	38	104

SUB-MICRON CARBIDE

4-FLUTES

SQUARE CORNER

PLAIN SHANK

WELDON FLAT

VARIABLE

METRIC SERIES

LIST 6100M

VH1 carb - 4 flute, extended reach corner radius end mill



VARIABLE HELIX DESIGN

For Titanium and High Tensile Alloys

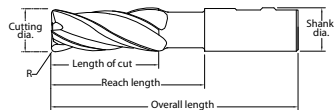
Higher speeds & metal removal rates, deeper cuts

Improved surface finish

New "Supreme" AlTiN coating

Ball Nose Available on Request

MINICUT EDP NUMBER		CORNER RADIUS	CUTTING DIA.	SHANK DIA.	LENGTH OF CUT	REACH LENGTH	OVERALL LENGTH
WELDON FLAT	PLAIN						
6100M - 40360	6100M - 40360NF	0.5	10	10	14	48	100
6100M - 40365	6100M - 40365NF	0.7	12	12	16	57	100
6100M - 40370	6100M - 40370NF	1.0	16	16	20	57	104
6100M - 40375	6100M - 40375NF	1.0	16	16	20	75	125
6100M - 40380	6100M - 40380NF	1.0	20	20	26	57	104
6100M - 40385	6100M - 40385NF	1.0	20	20	30	83	150
6100M - 40390	6100M - 40390NF	1.0	25	25	30	57	115
6100M - 40395	6100M - 40395NF	1.0	25	25	30	83	150
6100M - 40400	6100M - 40400NF	1.0	25	25	30	108	160



SUB-MICRON CARBIDE

4-FLUTES

CORNER RADIUS

PLAN SHANK

WELDON FLAT

VARIABLE

LIST 6200M

VH1 carb - 4 flute, regular length, ball end mill



VARIABLE HELIX DESIGN

For Titanium and High Tensile Alloys

Higher speeds & metal removal rates, deeper cuts

Improved surface finish

New "Supreme" AlTiN coating

MINICUT EDP NUMBER		CUTTING DIA.	SHANK DIA.	LENGTH OF CUT	OVERALL LENGTH
WELDON FLAT	PLAIN				
6200M - 40405	6200M - 40405NF	3	6	8	57
6200M - 40410	6200M - 40410NF	4	6	11	57
6200M - 40415	6200M - 40415NF	5	6	13	57
6200M - 40420	6200M - 40420NF	6	6	13	57
6200M - 40425	6200M - 40425NF	8	8	19	63
6200M - 40430	6200M - 40430NF	10	10	22	72
6200M - 40435	6200M - 40435NF	12	12	26	83
6200M - 40440	6200M - 40440NF	16	16	32	92
6200M - 40445	6200M - 40445NF	20	20	38	104
6200M - 40450	6200M - 40450NF	25	25	38	104

SUB-MICRON CARBIDE

4-FLUTES

BALL END

PLAN SHANK

WELDON FLAT

VARIABLE

LIST 6300M



VHI carb - 5 flute, corner radius end mill

VARIABLE HELIX DESIGN

For Titanium and High Tensile Alloys

Higher speeds & metal removal rates, deeper cuts

Improved surface finish, New "Supreme" AlTiN coating

Ball Nose Available on Request

MINICUT EDP NUMBER		CORNER RADIUS	CUTTING DIA.	SHANK DIA.	LENGTH OF CUT	OVERALL LENGTH
WELDON FLAT	PLAIN					
6300M - 40455	6300M - 40455NF	0.5	6	6	13	57
6300M - 40460	6300M - 40460NF	0.5	8	8	19	63
6300M - 40465	6300M - 40465NF	0.5	10	10	14	66
6300M - 40470	6300M - 40470NF	0.5	10	10	22	72
6300M - 40475	6300M - 40475NF	0.7	12	12	16	73
6300M - 40480	6300M - 40480NF	0.7	12	12	26	83
6300M - 40485	6300M - 40485NF	0.7	14	14	26	83
6300M - 40490	6300M - 40490NF	1.0	16	16	22	82
6300M - 40495	6300M - 40495NF	1.0	16	16	32	92
6300M - 40500	6300M - 40500NF	1.0	18	18	32	92
6300M - 40505	6300M - 40505NF	1.0	20	20	26	92
6300M - 40510	6300M - 40510NF	1.0	20	20	38	104
6300M - 40515	6300M - 40515NF	1.0	25	25	38	104



New

LIST 7300M



VHI carb - 5 flute, end mill, square end

VARIABLE HELIX DESIGN

For Titanium and High Tensile Alloys

Higher speeds & metal removal rates, deeper cuts

Improved surface finish, New "Supreme" AlTiN coating

Ball Nose Available on Request

MINICUT EDP NUMBER		CUTTING DIA.	SHANK DIA.	LENGTH OF CUT	OVERALL LENGTH
WELDON FLAT	PLAIN				
7300M - 40456	7300M - 40456NF	6	6	13	57
7300M - 40461	7300M - 40461NF	8	8	19	63
7300M - 40466	7300M - 40466NF	10	10	14	66
7300M - 40471	7300M - 40471NF	10	10	22	72
7300M - 40476	7300M - 40476NF	12	12	16	73
7300M - 40481	7300M - 40481NF	12	12	26	83
7300M - 40486	7300M - 40486NF	14	14	26	83
7300M - 40491	7300M - 40491NF	16	16	22	82
7300M - 40496	7300M - 40496NF	16	16	32	92
7300M - 40501	7300M - 40501NF	18	18	32	92
7300M - 40506	7300M - 40506NF	20	20	26	92
7300M - 40511	7300M - 40511NF	20	20	38	104
7300M - 40516	7300M - 40516NF	25	25	38	104



LIST 6400M

VH1 carb - 5 flute, extended reach corner radius end mill

VARIABLE HELIX DESIGN

For Titanium and High Tensile Alloys

Higher speeds & metal removal rates, deeper cuts

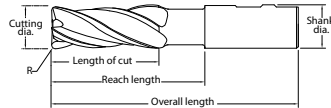
Improved surface finish

New "Supreme" AlTiN coating

Ball Nose Available on Request



MINICUT EDP NUMBER		CORNER RADIUS	CUTTING DIA.	SHANK DIA.	LENGTH OF CUT	REACH LENGTH	OVERALL LENGTH
WELDON FLAT	PLAIN						
6400M - 40520	6400M - 40520NF	.05	10	10	14	48	100
6400M - 40525	6400M - 40525NF	.07	12	12	16	57	100
6400M - 40530	6400M - 40530NF	1.0	16	16	20	57	104
6400M - 40535	6400M - 40535NF	1.0	16	16	20	75	125
6400M - 40540	6400M - 40540NF	1.0	20	20	26	57	104
6400M - 40545	6400M - 40545NF	1.0	20	20	30	83	150
6400M - 40550	6400M - 40550NF	1.0	25	25	30	57	115
6400M - 40555	6400M - 40555NF	1.0	25	25	30	83	150
6400M - 40560	6400M - 40560NF	1.0	25	25	30	108	160



Recommended Cutting Parameters VHlcarb 4 Flute End Mills

MATERIAL	ALLOY STEELS CAST IRON			STAINLESS STEELS 300 SERIES			TITANIUM			INCONEL SERIES		
	<32Rc			304 - 316 - 15/5 - 17/4			6Al4V			625 - 718		
SPEED	508 SFM			344 SFM			262 SFM			98 SFM		
Ø	RPM	CPT	FEED	RPM	CPT	FEED	RPM	CPT	FEED	RPM	CPT	FEED
1/8	15520	0.0006	38.4	10510	0.0006	25.3	8010	0.0006	17.8	2990	0.0003	4.0
3/16	10350	0.0009	38.4	7010	0.0009	25.3	5340	0.0008	17.8	2000	0.0005	4.0
1/4	7760	0.0012	38.4	5260	0.0012	24.7	4000	0.0011	17.7	1500	0.0007	4.0
5/16	6210	0.0015	37.6	4200	0.0014	24.0	3200	0.0014	17.7	1200	0.0008	4.0
3/8	5170	0.0018	36.8	3500	0.0017	23.4	2670	0.0016	17.1	1000	0.0010	3.8
7/16	4440	0.0021	36.5	3000	0.0019	22.7	2290	0.0018	16.3	860	0.0011	3.8
1/2	3880	0.0023	36.2	2630	0.0021	22.1	2000	0.0020	15.6	750	0.0013	3.8
9/16	3450	0.0026	35.4	2340	0.0023	21.6	1780	0.0021	15.0	670	0.0014	3.8
5/8	3100	0.0028	35.3	2100	0.0025	20.8	1600	0.0022	14.2	600	0.0016	3.8
3/4	2590	0.0034	34.9	1750	0.0029	20.2	1330	0.0027	14.2	500	0.0018	3.7
1	1940	0.0044	34.4	1310	0.0037	19.5	1000	0.0034	13.5	370	0.0024	3.5

Recommended Cutting Parameters VHlcarb 5 Flute End Mills

MATERIAL	ALLOY STEELS CAST IRON			STAINLESS STEELS 300 SERIES			TITANIUM			INCONEL SERIES		
	<32Rc			304 - 316 - 15/5 - 17/4			6Al4V			625 - 718		
SPEED	508 SFM			344 SFM			262 SFM			98 SFM		
Ø	RPM	CPT	FEED	RPM	CPT	FEED	RPM	CPT	FEED	RPM	CPT	FEED
1/8	15520	0.0006	48.0	10510	0.0006	31.6	8010	0.0006	22.2	2990	0.0003	5.0
3/16	10350	0.0009	48.0	7010	0.0009	31.6	5340	0.0008	22.2	2000	0.0005	5.0
1/4	7760	0.0012	48.0	5260	0.0012	30.8	4000	0.0011	22.2	1500	0.0007	5.0
5/16	6210	0.0015	47.0	4200	0.0014	30.0	3200	0.0014	22.2	1200	0.0008	5.0
3/8	5170	0.0018	46.0	3500	0.0017	29.3	2670	0.0016	21.4	1000	0.0010	4.8
7/16	4440	0.0021	45.6	3000	0.0019	28.4	2290	0.0018	20.4	860	0.0011	4.8
1/2	3880	0.0023	45.3	2630	0.0021	27.7	2000	0.0020	19.6	750	0.0013	4.8
9/16	3450	0.0026	44.2	2340	0.0023	27.0	1780	0.0021	18.7	670	0.0014	4.8
5/8	3100	0.0028	44.1	2100	0.0025	26.0	1600	0.0022	17.8	600	0.0016	4.8
3/4	2590	0.0034	43.6	1750	0.0029	25.3	1330	0.0027	17.7	500	0.0018	4.6
1	1940	0.0044	43.0	1310	0.0037	24.4	1000	0.0034	16.8	370	0.0024	4.4

Speeds and Feeds are based on:
 Profiling - $a_p = 1.5 \times D$ $a_e = 0.25 \times D$
 Slotting - $a_p = 0.6 \times D$

Recommended Cutting Parameters VHlcarb 4 Flute End Mills

MATERIAL	ALLOY STEELS CAST IRON			STAINLESS STEELS SERIES			TITANIUM			INCONEL SERIES		
	<32Rc			304 - 316 - 15/5 - 17/4			6Al4V			625 - 718		
SPEED	155 M/MIN			105 M/MIN			80 M/MIN			30 M/MIN		
Ø	RPM	CPT	FEED	RPM	CPT	FEED	RPM	CPT	FEED	RPM	CPT	FEED
3	16450	0.015	960	11140	0.014	634	8490	0.013	441	3180	0.008	100
4	12330	0.019	960	8360	0.019	634	6370	0.017	441	2390	0.010	100
5	9870	0.024	960	6680	0.024	633	5090	0.022	441	1910	0.013	100
6	8220	0.029	952	5570	0.028	618	4240	0.024	412	1590	0.016	100
8	6170	0.039	952	4180	0.036	602	3180	0.032	412	1190	0.020	96
10	4930	0.048	944	3340	0.044	587	2550	0.039	399	950	0.025	96
12	4110	0.057	944	2790	0.051	572	2120	0.047	397	800	0.030	96
14	3520	0.065	920	2390	0.058	555	1820	0.054	391	680	0.035	96
16	3080	0.075	920	2090	0.062	515	1590	0.059	377	600	0.040	96
18	2740	0.084	920	1860	0.067	501	1410	0.065	369	530	0.045	96
20	2470	0.085	840	1670	0.074	494	1270	0.070	355	480	0.048	93
25	1970	0.107	840	1340	0.093	496	1020	0.083	341	380	0.058	88

Recommended Cutting Parameters VHlcarb 5 Flute End Mills

MATERIAL	ALLOY STEELS CAST IRON			STAINLESS STEELS SERIES			TITANIUM			INCONEL SERIES		
	<32Rc			304 - 316 - 15/5 - 17/4			6Al4V			625 - 718		
SPEED	155 M/MIN			105 M/MIN			80 M/MIN			30 M/MIN		
Ø	RPM	CPT	FEED	RPM	CPT	FEED	RPM	CPT	FEED	RPM	CPT	FEED
3	16450	0.015	1200	11140	0.014	792	8490	0.013	551	3180	0.008	125
4	12330	0.019	1200	8360	0.019	792	6370	0.017	552	2390	0.010	125
5	9870	0.024	1200	6680	0.024	792	5090	0.022	551	1910	0.013	125
6	8220	0.029	1190	5570	0.028	773	4240	0.024	516	1590	0.016	125
8	6170	0.039	1190	4180	0.036	753	3180	0.032	515	1190	0.020	120
10	4930	0.048	1180	3340	0.044	733	2550	0.039	499	950	0.025	120
12	4110	0.057	1180	2790	0.051	715	2120	0.047	497	800	0.030	120
14	3520	0.065	1150	2390	0.058	694	1820	0.054	488	680	0.035	120
16	3080	0.075	1150	2090	0.062	644	1590	0.059	471	600	0.040	120
18	2740	0.084	1150	1860	0.067	627	1410	0.065	461	530	0.045	120
20	2470	0.085	1050	1670	0.074	618	1270	0.070	444	480	0.048	116
25	1970	0.107	1050	1340	0.093	320	1020	0.083	426	380	0.058	110

Speeds and Feeds are based on:

Profiling - $a_p = 1.5 \times D$ $a_e = 0.25 \times D$

Slotting - $a_p = 0.6 \times D$

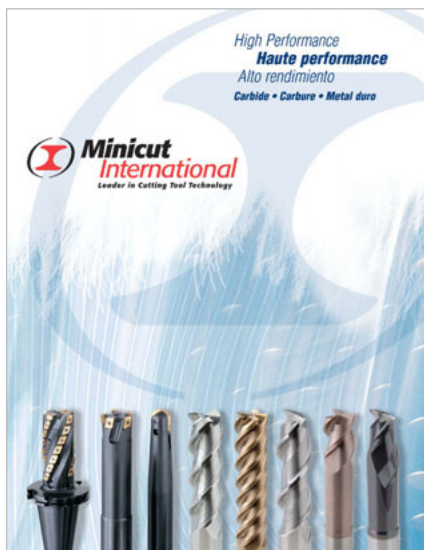
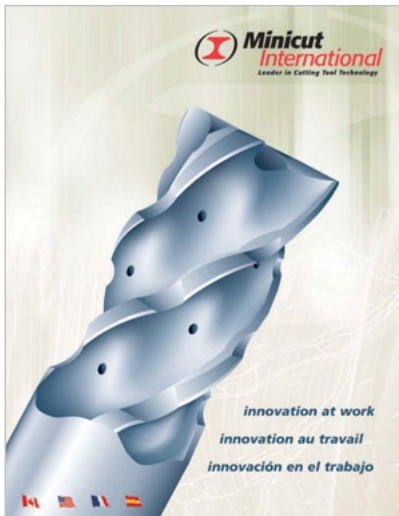


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