



CID

Performance Tooling

NEW
Expanded
Offering



**Manufacturers of
High Performance Carbide Endmills**

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STAINLESS STEEL END MILLS



SS series tools are designed for stainless steel and high temperature alloys: waspalloy, inconels and other alloys. SS series tools are designed for pocketing and slotting where chip clearance is essential.

SS series TiAlN coated

CID PART #	FLUTE DIAM.	SHANK DIAM.	FLUTE LENGTH	OAL	# OF FLUTES	RADIUS
SS1250	1/8	1/8	1/2	1-1/2	3	.008 - .010
SS1562	5/32	3/16	9/16	2	3	.008 - .010
SS1875	3/16	3/16	9/16	2	3	.008 - .010
SS2187	7/32	1/4	3/4	2-1/2	3	.015 - .020
SS2500	1/4	1/4	3/4	2-1/2	3	.015 - .020
SS2812	9/32	5/16	13/16	2-1/2	3	.015 - .020
SS3125	5/16	5/16	13/16	2-1/2	3	.015 - .020
SS3437	11/32	3/8	1	2-1/2	3	.015 - .020
SS3750	3/8	3/8	1	2-1/2	3	.015 - .020
SS4375	7/16	7/16	1	2-3/4	3	.015 - .020
SS5000	1/2	1/2	1-1/4	3	3	.030 - .035
SS6250	5/8	5/8	1-5/8	3-1/2	3	.030 - .035
SS7500	3/4	3/4	1-5/8	4	3	.030 - .035
SS1000	1	1	2	4	3	.030 - .035



STB series TiAlN coated

CID PART #	FLUTE DIAM.	SHANK DIAM.	FLUTE LENGTH	OAL LENGTH	# OF FLUTES	RADIUS
STB1250	1/8	1/8	1/4	1-1/2	3	.008-.010
STB1562	5/32	3/16	5/16	2	3	.008-.010
STB1875	3/16	3/16	5/16	2	3	.008-.010
STB2187	7/32	1/4	3/8	2	3	.015-.020
STB2500	1/4	1/4	3/8	2	3	.015-.020
STB2812	9/32	5/16	7/16	2	3	.015-.020
STB3125	5/16	5/16	7/16	2	3	.015-.020
STB3437	11/32	3/8	1/2	2	3	.015-.020
STB3750	3/8	3/8	1/2	2	3	.015-.020
STB4375	7/16	7/16	9/16	2-1/2	3	.015-.020
STB5000	1/2	1/2	5/8	2-1/2	3	.030-.035
STB6250	5/8	5/8	3/4	3	3	.030-.035
STB7500	3/4	3/4	1	3	3	.030-.035
STB1000	1	1	1-1/4	3	3	.030-.035

BALL END MILLS COATED TICN

B series



B Series Endmills are designed Variable Helix. Benefits include: decreased chatter, increased tool life.

CID PART #	FLUTE DIAM.	SHANK DIAM.	FLUTE LENGTH	OAL LENGTH	# OF FLUTES
B1250V	1/8	1/8	1/2	1-1/2	4
B1250V	1/8	1/8	3/4	2-1/4	4
B1875V	3/16	3/16	5/8	2	4
B1875V	3/16	3/16	3/4	2-1/4	4
B2500V	1/4	1/4	3/4	2-1/2	4
B2500V	1/4	1/4	1-1/8	3	4
B2500V	1/4	1/4	1-1/2	4	4
B2500V	1/4	1/4	1-1/2	6	4
B3125V	5/16	5/16	13/16	2-1/2	4
B3125V	5/16	5/16	1-5/8	4	4
B3750V	3/8	3/8	1	2-1/2	4
B3750V	3/8	3/8	1-1/8	3	4
B3750V	3/8	3/8	3	6	4
B4375V	7/16	7/16	1	2-3/4	4
B4375V	7/16	7/16	3	6	4
B5000V	1/2	1/2	1	3	4
B5000V	1/2	1/2	2	4	4
B5000V	1/2	1/2	3	6	4
B6250V	5/8	5/8	1-1/4	3-1/2	4
B6250V	5/8	5/8	2	6	4
B7500V	3/4	3/4	1-1/2	4	4
B7500V	3/4	3/4	2	6	4
B7500V	3/4	3/4	3	6	4
B1000V	1	1	1-1/2	4	4
B1000V	1	1	2-1/4	5	4
B1000V	1	1	3	6	4

BSS series



Our BSS series also produces an enhanced surface finish in contour cutting. The special gashing along the flute face of the ball nose allows for rapid chip removal in plunge cutting. This is generally used in stainless steels and high temperature alloys.

CID PART #	FLUTE DIAM.	SHANK DIAM.	FLUTE LENGTH	OAL LENGTH	# OF FLUTES
BSS1250	1/8	1/8	1/2	1-1/2	3
BSS1562	5/32	3/16	9/16	2	3
BSS1875	3/16	3/16	9/16	2	3
BSS2187	7/32	1/4	3/4	2-1/2	3
BSS2500	1/4	1/4	3/4	2-1/2	3
BSS2812	9/32	5/16	13/16	2-1/2	3
BSS3125	5/16	5/16	13/16	2-1/2	3
BSS3437	11/32	3/8	1	2-1/2	3
BSS3750	3/8	3/8	1	2-1/2	3
BSS4375	7/16	7/16	1	2-3/4	3
BSS5000	1/2	1/2	1-1/4	3	3
BSS6250	5/8	5/8	1-5/8	3-1/2	3
BSS7500	3/4	3/4	1-5/8	4	3
BSS1000	1	1	2	4	3

SS4 Matrix Ball - TiAlN coated



CID PART #	FLUTE DIAM.	SHANK DIAM.	FLUTE LENGTH	OAL LENGTH	# OF FLUTES
SS4-B1875	3/16	3/16	9/16	2	4
SS4-B2500	1/4	1/4	3/4	2-1/2	4
SS4-B3125	5/16	5/16	13/16	2-1/2	4
SS4-B3750	3/8	3/8	1	2-1/2	4
SS4-B4375	7/16	7/16	1	2-3/4	4
SS4-B5000	1/2	1/2	1	3	4
SS4-B6250	5/8	5/8	1-1/4	3-1/2	4
SS4-B7500	3/4	3/4	1-1/2	4	4
SS4-B1000	1	1	1-1/2	4	4

STANDARD 4 FLUTE END MILLS



STD series are designed Variable Helix. Benefits include: decreased chatter, increased tool life.

STD series TiAlN Coat

CID PART #	FLUTE DIAM.	SHANK DIAM.	FLUTE LENGTH	OAL LENGTH	# OF FLUTES
STD0313V	1/32	1/8	1/8	1-1/2	4
STD0625V	1/16	1/8	3/16	1-1/2	4
STD0938V	3/32	1/8	3/8	1-1/2	4
STD1250V	1/8	1/8	1/2	1-1/2	4
STD1250V-1	1/8	1/8	1	3	4
STD1562V	5/32	3/16	9/16	2	4
STD1875V	3/16	3/16	5/8	2	4
STD1875V-1	3/16	3/16	1-1/8	3	4
STD1875V-2	3/16	3/16	1-1/8	4	4
STD2187V	7/32	1/4	5/8	2-1/2	4
STD2500V	1/4	1/4	3/4	2-1/2	4
STD2500V-1	1/4	1/4	1-1/2	4	4
STD2500V-2	1/4	1/4	1-1/2	6	4
STD2812V	9/32	5/16	3/4	2-1/2	4
STD3125V	5/16	5/16	13/16	2-1/2	4
STD3125V-1	5/16	5/16	1-5/8	4	4
STD3125V-2	5/16	5/16	1-1/2	6	4
STD3437V	11/32	3/8	7/8	2-1/2	4
STD3594V	23/64	3/8	7/8	2-1/2	4
STD3750V	3/8	3/8	7/8	2-1/2	4
STD3750V-1	3/8	3/8	2	4	4
STD3750V-2	3/8	3/8	3	6	4
STD3906V	25/64	7/16	1	2-3/4	4
STD4062V	13/32	7/16	1	2-3/4	4
STD4218V	27/64	7/16	1	2-3/4	4
STD4375V	7/16	7/16	1	2-3/4	4
STD4531V	29/64	1/2	1	3	4
STD4687V	15/32	1/2	1	3	4
STD4843V	31/64	1/2	1-1/4	3	4
STD5000V	1/2	1/2	1-1/4	3	4
STD5000V-1	1/2	1/2	2	4	4
STD5000V-2	1/2	1/2	3	6	4
STD5625	9/16	9/16	1-1/4	3-1/2	4
STD6250V	5/8	5/8	1-1/4	3-1/2	4
STD6250V-1	5/8	5/8	2	6	4
STD6250V-2	5/8	5/8	3	6	4
STD6875V	11/16	3/4	1-1/2	4	4
STD7500V	3/4	3/4	1-1/2	4	4
STD7500V-1	3/4	3/4	2-1/4	5	4
STD7500V-2	3/4	3/4	3	6	4
STD8750	7/8	7/8	1-1/2	4	4
STD1000V	1	1	1-1/2	4	4
STD1000V	1	1	2-1/4	5	4
STD1000V	1	1	3	6	4

SS4 Matrix Tools



SS4 Matrix Stub Length w/Radius TiALN coated

CID PART #	DIA. OF CUT	SHANK DIA.	LOC	OAL	# OF FLUTES	RADIUS
SS4-STB1250R	1/8	1/8	1/4	1.5	4	.008-010
SS4-STB1875R	3/16	3/16	1/4	2	4	.008-010
SS4-STB2500R	1/4	1/4	3/8	2	4	.015-020
SS4-STB3125R	5/16	5/16	7/16	2	4	.015-020
SS4-STB3750R	3/8	3/8	1/2	2	4	.015-020
SS4-STB4375R	7/16	7/16	9/16	2-1/2	4	.015-020
SS4-STB5000R	1/2	1/2	5/8	2-1/2	4	.030-035
SS4-STB6250R	5/8	5/8	3/4	3	4	.030-035
SS4-STB7500R	3/4	3/4	1	3	4	.030-035
SS4-STB1000R	1	1	1-1/4	3	4	.030-035



SS4 Matrix w/Radius TiALN coated

CID PART #	DIA. OF CUT	SHANK DIA.	LOC	OAL	# OF FLUTES	RADIUS
SS41250R	1/8	1/8	1/2	1.5	4	.008-010
SS41875R	3/16	3/16	9/16	2	4	.008-010
SS42500R	1/4	1/4	3/4	2-1/2	4	.015-020
SS43125R	5/16	5/16	13/16	2-1/2	4	.015-020
SS43750R	3/8	3/8	1	2-1/2	4	.015-020
SS44375R	7/16	7/16	1	2-3/4	4	.015-020
SS45000R	1/2	1/2	1-1/4	3	4	.030-035
SS46250R	5/8	5/8	1-5/8	3-1/2	4	.030-035
SS47500R	3/4	3/4	1-5/8	4	4	.030-035
SS41000R	1	1	2	4	4	.030-035



SS4 Matrix 4 Flute Standard - TiALN coated

CID PART #	DIA. OF CUT	SHANK DIA.	LOC	OAL	# OF FLUTES
SS41250	1/8	1/8	1/2	1.5	4
SS41875	3/16	3/16	9/16	2	4
SS42500	1/4	1/4	3/4	2-1/2	4
SS43125	5/16	5/16	13/16	2-1/2	4
SS43750	3/8	3/8	1	2-1/2	4
SS44375	7/16	7/16	1	2-3/4	4
SS45000	1/2	1/2	1-1/4	3	4
SS46250	5/8	5/8	1-5/8	3-1/2	4
SS47500	3/4	3/4	1-5/8	4	4
SS41000	1	1	2	4	4

BENEFITS

- Increased Speeds & Feeds 50-200% • Decreased Chatter
- Slot • Rough • Plunge • Finish

SS4 SWISS MATRIX SERIES



Swiss Matrix are designed with 40 degree Helix Variable, Slotting, Roughing and Profiling with decreased chatter, and increased feed rate..

SS4 Swiss Matrix

CID PART #	DIA. OF CUT	SHANK DIA.	LOC	OAL	# OF FLUTES
SS41250SWISS	1/8	1/8	1/2	1-1/2	4
SS41875SWISS	3/16	3/16	9/16	2	4
SS42500SWISS	1/4	1/4	3/4	2-1/2	4
SS43125SWISS	5/16	5/16	13/16	2-1/2	4
SS43750SWISS	3/8	3/8	1	2-1/2	4
SS44375SWISS	7/16	7/16	1	2-3/4	4
SS45000SWISS	1/2	1/2	1-1/4	3	4
SS46250SWISS	5/8	5/8	1-5/8	3-1/2	4
SS47500SWISS	3/4	3/4	1-5/8	4	4
SS41000SWISS	1	1	2	4	4



SS4 Swiss Matrix w/ Chamfered

CID PART #	DIA. OF CUT	SHANK DIA.	LOC	OAL	# OF FLUTES
SS41250C SWISS	1/8	1/8	1/2	1-1/2	4
SS41875C SWISS	3/16	3/16	9/16	2	4
SS42500C SWISS	1/4	1/4	3/4	2-1/2	4
SS43125C SWISS	5/16	5/16	13/16	2-1/2	4
SS43750C SWISS	3/8	3/8	1	2-1/2	4
SS44375C SWISS	7/16	7/16	1	2-3/4	4
SS45000C SWISS	1/2	1/2	1-1/4	3	4
SS46250C SWISS	5/8	5/8	1-5/8	3-1/2	4
SS47500C SWISS	3/4	3/4	1-5/8	4	4
SS41000C SWISS	1	1	2	4	4

KNUCKLE ROUGHING END MILLS



The RO-STD series are center cutting roughers Variable Helix for steels, stainless steels and high temperature alloys. They are designed for increased chip loads.

RO-STD series TiALN coated

CID PART #	FLUTE DIAM.	SHANK DIAM.	FLUTE LENGTH	OAL LENGTH	# OF FLUTES
RO-STD2500V	1/4	1/4	3/4	2-1/2	3
RO-STD3750V	3/8	3/8	7/8	2-1/2	4
RO-STD5000V	1/2	1/2	1	3	4
RO-STD6250V	5/8	5/8	1-1/4	3-1/2	4
RO-STD7500V	3/4	3/4	1-1/2	4	4
RO-STD1000V	1	1	1-1/2	4	4



RO-STUB series TiALN coated

CID PART #	FLUTE DIAM.	SHANK DIAM.	FLUTE LENGTH	OAL LENGTH	# OF FLUTES
RO-STUB2500V	1/4	1/4	1/4	2	3
RO-STUB3750V	3/8	3/8	3/8	2	4
RO-STUB5000V	1/2	1/2	3/4	2-1/2	4
RO-STUB6250V	5/8	5/8	5/8	3	4
RO-STUB7500V	3/4	3/4	3/4	3-1/2	4
RO-STUB1000V	1	1	1	3-1/2	4

SAMURAI



The Alumin-All End Mill is a very unique product that will allow you to achieve greater speed and feeds than conventional 2 & 3 fluted tools.

Aluminum End Mill 3 flute standard length

CID PART #	FLUTE DIAM.	SHANK DIAM.	FLUTE LENGTH	OAL LENGTH	# OF FLUTES
AL3-CB1250V	1/8	1/8	3/8	1-1/2	3
AL3-CB1875V	3/16	3/16	9/16	2	3
AL3-CB2500V	1/4	1/4	3/4	2-1/2	3
AL3-CB3125V	5/16	5/16	13/16	2-1/2	3
AL3-CB3750V	3/8	3/8	1	2-1/2	3
AL3-CB4375V	7/16	7/16	1	2-3/4	3
AL3-CB5000V	1/2	1/2	1-1/4	3	3
AL3-CB6250V	5/8	5/8	1-5/8	3-1/2	3
AL3-CB7500V	3/4	3/4	1-5/8	4	3
AL3-CB1000V	1	1	2	4	3

Aluminum End Mill 3 flute standard length

CID PART #	FLUTE DIAM.	SHANK DIAM.	FLUTE LENGTH	OAL LENGTH	# OF FLUTES
AL3-CB2500VR	1/4	1/4	3/4	2-1/2	3
AL3-CB3125VR	5/16	5/16	13/16	2-1/2	3
AL3-CB3750VR	3/8	3/8	1	2-1/2	3
AL3-CB4375VR	7/16	7/16	1	2-3/4	3
AL3-CB5000VR	1/2	1/2	1-1/4	3	3
AL3-CB6250VR	5/8	5/8	1-5/8	3-1/2	3
AL3-CB7500VR	3/4	3/4	1-5/8	4	3
AL3-CB1000VR	1	1	2	4	3

Featuring... *Roughing, Slotting, Profiling, Finishing*

CID PART #	FLUTE DIAM.	SHANK DIAM.	FLUTE LENGTH	OAL LENGTH	# OF FLUTES
AL3-CB-L2500V	1/4	1/4	1-1/4	3	3
AL3-CB-L3125V	5/16	5/16	1-1/4	3-1/2	3
AL3-CB-L3750V	3/8	3/8	1-1/2	4	3
AL3-CB-L4375V	7/16	7/16	2	4	3
AL3-CB-L5000V	1/2	1/2	2	4	3
AL3-CB-L6250V	5/8	5/8	2-1/2	5	3
AL3-CB-L7500V	3/4	3/4	3	6	3
AL3-CB-L1000V	1	1	3	6	3

ALUMIN-ALL



BCB series Aluminum Ball End Mills

CID PART #	DIAM. OF CUT	SHANK DIAM.	FLUTE LENGTH	OAL	# OF FLUTES
BCB-2500	1/4	1/4	3/4	2-1/2	3
BCB-3125	5/16	5/16	13/16	2-1/2	3
BCB-3750	3/8	3/8	1	2-1/2	3
BCB-4375	7/16	7/16	1	2-3/4	3
BCB-5000	1/2	1/2	1-1/4	3	3
BCB-6250	5/8	5/8	1-5/8	3-1/2	3
BCB-7500	3/4	3/4	1-5/8	4	3
BCB-1000	1	1	2	5	3

MEDIUM HELIX END MILLS



SHH-R Series End Mills are designed for roughing and finishing in ferrous metals having noted radius.

SHH-R series TiALN coated with .015 Corner Radius

CID PART #	FLUTE DIAM.	SHANK DIAM.	FLUTE LENGTH	OAL	# OF FLUTES
SHH1875R	3/16	3/16	9/16	2	5
SHH2500R	1/4	1/4	3/4	2-1/2	5
SHH3125R	5/16	5/16	13/16	2-1/2	5
SHH3750R	3/8	3/8	1	2-1/2	5
SHH4375R	7/16	7/16	1	2-3/4	5
SHH5000R	1/2	1/2	1-1/4	3	5



SHH-R series TiALN coated with .020 Corner Radius

CID PART #	FLUTE DIAM.	SHANK DIAM.	FLUTE LENGTH	OAL	# OF FLUTES
SHH1875R	3/16	3/16	9/16	2	5
SHH2500R	1/4	1/4	3/4	2-1/2	5
SHH3125R	5/16	5/16	13/16	2-1/2	5
SHH3750R	3/8	3/8	1	2-1/2	5
SHH4375R	7/16	7/16	1	2-3/4	5
SHH5000R	1/2	1/2	1-1/4	3	5

MEDIUM HELIX STANDARD LENGTH END MILLS



SHH series TiALN coated with .030 Corner Radius

CID PART #	FLUTE DIAM.	SHANK DIAM.	FLUTE LENGTH	OAL	# OF FLUTES
SHH3750R	3/8	3/8	1	2-1/2	5
SHH0500R	1/2	1/2	1-1/4	3	5
SHH0625R	5/8	5/8	1-5/8	2-1/2	5
SHH0750R	3/4	3/4	1-5/8	4	5
SHH1000R	1	1	2	4	5



SHH series TiALN coated with .060 Corner Radius

CID PART #	FLUTE DIAM.	SHANK DIAM.	FLUTE LENGTH	OAL	# OF FLUTES
SHH0500R	1/2	1/2	1-1/4	3	5
SHH0625R	5/8	5/8	1-5/8	2-1/2	5
SHH0750R	3/4	3/4	1-5/8	4	5
SHH1000R	1	1	2	4	5



SHH series TiALN coated with .125 Corner Radius

CID PART #	FLUTE DIAM.	SHANK DIAM.	FLUTE LENGTH	OAL	# OF FLUTES
SHH0500R	1/2	1/2	1-1/4	3	5
SHH0625R	5/8	5/8	1-5/8	2-1/2	5
SHH0750R	3/4	3/4	1-5/8	4	5
SHH1000R	1	1	2	4	5

MEDIUM VARIABLE HELIX END MILLS



Medium Helix Endmill, designed with Variable Helix, benefits include: greater feed rates, less chatter and long tool life.

JHH series TiAlN coated

CID PART #	FLUTE DIAM.	SHANK DIAM.	FLUTE LENGTH	OAL LENGTH	# OF FLUTES
JHH1250V	1/8	1/8	1/2	1-1/2	5
JHH1562V	5/32	3/16	9/16	2	5
JHH1875V	3/16	3/16	9/16	2	5
JHH2500V	1/4	1/4	3/4	2-1/2	5
JHH3125V	5/16	5/16	13/16	2-1/2	5
JHH3750V	3/8	3/8	1	2-1/2	5
JHH4375V	7/16	7/16	1	2-3/4	5
JHH5000V	1/2	1/2	1-1/4	3	5
JHH6250V	5/8	5/8	1-5/8	3-1/2	7
JHH7500V	3/4	3/4	1-5/8	4	7
JHH1000V	1	1	2	4	7



JHH series TiAlN coated

CID PART #	FLUTE DIAM.	SHANK DIAM.	FLUTE LENGTH	OAL LENGTH	# OF FLUTES
JHH-STB1250V	1/8	1/8	1/4	1-1/2	5
JHH-STB1562V	5/32	3/16	5/16	2	5
JHH-STB1875V	3/16	3/16	5/16	2	5
JHH-STB2187V	7/32	1/4	3/8	2	5
JHH-STB2500V	1/4	1/4	3/8	2	5
JHH-STB2812V	9/32	5/16	7/16	2	5
JHH-STB3125V	5/16	5/16	7/16	2	5
JHH-STB3437V	11/32	3/8	1/2	2	5
JHH-STB3750V	3/8	3/8	1/2	2	5
JHH-STB4062V	13/32	7/16	9/16	2-1/2	5
JHH-STB4375V	7/16	7/16	9/16	2-1/2	5
JHH-STB4687V	15/32	1/2	5/8	2-1/2	5
JHH-STB5000V	1/2	1/2	5/8	2-1/2	5
JHH-STB6250V	5/8	5/8	3/4	3	7
JHH-STB7500V	3/4	3/4	1	3	7
JHH-STB1000V	1	1	1-1/4	3	7

MEDIUM VARIABLE HELIX - LONG



JHH-L series TiAlN coated

CID PART #	FLUTE DIAM.	SHANK DIAM.	FLUTE LENGTH	OAL LENGTH	# OF FLUTES
JHH-L2500V	1/4	1/4	1-1/4	4	5
JHH-L3125V	5/16	5/16	1-1/4	4	5
JHH-L3750V	3/8	3/8	1-1/2	4	5
JHH-L4375V	7/16	7/16	2	4	5
JHH-L5000V	1/2	1/2	2	4	5
JHH-L6250V	5/8	5/8	2-1/2	5	7
JHH-L7500V	3/4	3/4	3-1/4	6	7
JHH-L1000V	1	1	3-1/4	6	7

CARBIDE SPOT DRILLS



The CHS series is a performance spot drill. These carbide spotting drills can also be used for countersinking and chamfering metals.

CHS series uncoated

CID PART #	FLUTE DIAM.	INCLD ANGLE	FLUTE LENGTH	OAL LENGTH	# OF FLUTES
CHS1250	1/8	90 DGR	3/16	2	2
CHS1250-120	1/8	120 DGR	3/16	2	2
CHS1875	3/16	90 DGR	3/16	2	2
CHS1875-120	3/16	120 DGR	3/16	2	2
CHS2500	1/4	90 DGR	3/16	2-1/2	2
CHS2500-120	1/4	120 DGR	3/16	2-1/2	2
CHS3750	3/8	90 DGR	5/16	2-1/2	2
CHS3750-120	3/8	120 DGR	5/16	2-1/2	2
CHS5000	1/2	90 DGR	7/16	3	2
CHS5000-120	1/2	120 DGR	7/16	3	2
CHS7500	3/4	90 DGR	3/8	4	4
CHS7500-120	3/4	120 DGR	3/8	4	4

HIGH HELIX END MILLS



The SSH series tools are built with a 60 degree helix design. They are generally used in profiling applications in materials that tend to work harden when machining; stainless and high temperature alloys.

SSH series TiAlN coated

CID PART #	FLUTE DIAM.	SHANK DIAM.	FLUTE LENGTH	OAL LENGTH	# OF FLUTES
SSH1250	1/8	1/8	3/8	1-1/2	3
SSH1875	3/16	3/16	9/16	2	3
SSH2500	1/4	1/4	3/4	2-1/2	3
SSH3125	5/16	5/16	13/16	2-1/2	3
SSH3750	3/8	3/8	1	2-1/2	3
SSH4375	7/16	7/16	1	2-3/4	3
SSH5000	1/2	1/2	1	3	3
SSH6250	5/8	5/8	1-1/4	3-1/2	3
SSH7500	3/4	3/4	1-1/2	4	3
SSH1000	1	1	1-1/2	4	3



SSH stub Series TiAlN coated

CID PART #	FLUTE DIAM.	SHANK DIAM.	FLUTE LENGTH	OAL LENGTH	# OF FLUTES
SSH-STUB1250	1/8	1/8	1/4	1-1/2	3
SSH-STUB1562	5/32	3/16	5/16	2	3
SSH-STUB1875	3/16	3/16	5/16	2	3
SSH-STUB2187	7/32	1/4	3/8	2	3
SSH-STUB2500	1/4	1/4	3/8	2	3
SSH-STUB2812	9/32	5/16	7/16	2	3
SSH-STUB3125	5/16	5/16	7/16	2	3
SSH-STUB3437	11/32	3/8	1/2	2	3
SSH-STUB3750	3/8	3/8	1/2	2	3
SSH-STUB4062	13/32	7/16	9/16	2-1/2	3
SSH-STUB4375	7/16	7/16	9/16	2-1/2	3
SSH-STUB4687	15/32	1/2	5/8	2-1/2	3
SSH-STUB5000	1/2	1/2	5/8	2-1/2	3
SSH-STUB6250	5/8	5/8	3/4	3	3
SSH-STUB7500	3/4	3/4	1	3	3
SSH-STUB1000	1	1	1-1/4	3	3

HH Series 6-8 Flute Finishers TiALN coated



Designed to machine high hardened materials. High speed cutting and finish milling with high feed rates. Wear resistant. Produces excellent workpiece finishes. Suitable for dry milling.

Long Length without corner radius

CID PART #	FLUTE DIAM.	SHANK DIAM.	FLUTE LENGTH	OAL LENGTH	# OF FLUTES
HH2500	1/4	1/4	1/2	2	6
HH3125	5/16	5/16	3/4	2-1/2	6
HH3750	3/8	3/8	7/8	2-1/2	6
HH5000	1/2	1/2	1	3	6
HH6250	5/8	5/8	1-1/4	3-1/2	6
HH7500	3/4	3/4	1-1/2	4	8
HH1000	1	1	1-3/4	4	8

Long Length with Corner Radius

CID PART #	RADIUS	FLUTE DIAM.	SHANK DIAM.	FLUTE LENGTH	OAL LENGTH	# OF FLUTES
HH2500R	.020"	1/4	1/4	1/2	2	6
HH3125R	.020"	5/16	5/16	3/4	2-1/2	6
HH3750R	.020"	3/8	3/8	7/8	2-1/2	6
HH3750R	.030"	3/8	3/8	7/8	2-1/2	6
HH5000R	.020"	1/2	1/2	1	3	6
HH5000R	.030"	1/2	1/2	1	3	6
HH6250R	.030"	5/8	5/8	1-1/4	3-1/2	6
HH6250R	.060"	5/8	5/8	1-1/4	3-1/2	6
HH7500R	.030"	3/4	3/4	1-1/2	4	8
HH7500R	.060"	3/4	3/4	1-1/2	4	8
HH7500R	.090"	3/4	3/4	1-1/2	4	8

Extra Long Length without Corner Radius

CID PART #	FLUTE DIAM.	SHANK DIAM.	FLUTE LENGTH	OAL LENGTH	# OF FLUTES
HH7500L	3/4	3/4	2-1/4	5	8
HH7500L	3/4	3/4	3-1/4	6	8
HH7500L	3/4	3/4	4-1/8	7	8
HH1000L	1	1	4-1/8	7	8

CHIPLOAD CHARTS

Chipload chart

Tool Series Diameter	AL3	AL3-CB	ALU	SSH & STD	SHH	RO	SS
1/8	.0003-.0008	--	.0003-.0008	.0003-.0006	.0003-.0008	--	.0003-.0005
5/32	--	--	.0003-.0010	.0003-.0007	.0004-.0008	--	.0003-.0007
3/16	.0004-.0012	--	.0004-.0012	.0004-.0007	.0005-.0009	--	.0005-.0008
7/32	--	--	.0005-.0015	.0004-.0008	.0005-.0010	--	.0005-.0008
1/4	.0010-.0040	.0005-.0015	.0005-.0015	.0005-.0008	.0005-.0015	.0040-.0010	.0006-.0008
9/32	--	--	.0008-.0020	.0005-.0010	.0005-.0016	--	.0006-.0010
5/16	.0015-.0045	.0008-.0025	.0008-.0020	.0010-.0020	.0005-.0023	.0005-.0015	.0010-.0015
11/32	--	--	.0008-.0020	.0010-.0030	.0008-.0025	--	.0015-.0020
3/8	.0015-.0050	.0010-.0030	.0010-.0050	.0008-.0035	.0008-.0030	.0008-.0020	.0020-.0035
13/32	--	.0012-.0035	.0012-.0055	.0010-.0040	.0008-.0035	--	.0020-.0032
7/16	--	.0015-.0040	.0012-.0055	.0010-.0040	.0008-.0040	.0010-.0030	.0020-.0050
15/32	--	.0017-.0045	.0020-.0070	.0010-.0043	.0008-.0040	--	--
1/2	.0020-.0060	.0020-.0050	.0020-.0070	.0010-.0045	.0010-.0050	.0010-.0030	.0025-.0060
9/16	--	--	--	--	.0010-.0055	--	--
5/8	--	.0025-.0055	.0025-.0100	.0020-.0055	.0010-.0060	.0020-.0035	.0030-.0070
3/4	.0030-.0080	.0030-.0060	.0030-.0150	.0030-.0060	.0015-.0080	.0025-.0040	.0035-.0080
7/8	--	--	--	--	--	--	--
1	.0030-.0100	.004-.007	.0030-.0160	.0035-.0070	.0020-.0100	.0003-.0050	.0035-.0100
1-1/4	--	--	--	--	.0030-.0110	--	--

SPEEDS AND FEEDS CHARTS

RO series

MATERIALS	ALUMINUM		Low Alloy Steels		Stainless Steels		Titanium Alloys		High Temp Alloys	
	PLASTICS		Ductile Steels		High Strength Steels		Stainless Steels			
	ACRILICS		Cast Irons		Medium Alloys		High Alloy Steels			
	WOODS				Copper					
Diameter of End Mill	Speed 450-1200 RPM	Feed SFM IPM	Speed 200-800 RPM	Feed SFM IPM	Speed 150-400 RPM	Feed SFM IPM	Speed 100-350 RPM	Feed SFM IPM	Speed 50-150 RPM	Feed SFM IPM
1/4	6876-MAX	10-60	3056-9168	6-28	2292-6112	4-20	1528-5348	5-18	764-2292	1-6
3/8	4584-12,000	10-60	2037-6112	6-28	1528-4074	4-20	1018-3565	5-18	509-1528	1-6
7/16	3929-10,477	10-60	1748-5244	10-35	1311-3496	8-26	847-3059	6-22	437-1311	1-6
1/2	3438-9168	18-75	1528-4584	12-36	1146-3056	8-26	764-2674	6-22	382-1146	1.5-8
5/8	2750-7334	18-75	1222-3667	12-36	917-2444	8-30	611-2139	6-22	306-917	1.5-8
3/4	2292-6112	20-85	1019-3056	16-46	764-2037	10-32	509-1782	8-26	255-764	2-10
1	1719-4584	20-85	764-2292	16-46	573-1528	10-32	382-1337	8-26	191-573	2-10

SPEEDS AND FEEDS CHARTS

SSH series

Diameter of End Mill	ALUMINUM		Low Alloy Steels		Stainless Steels		Titanium Alloys		High Temp Alloys	
	PLASTICS		Ductile Steels		High Strength Steels		Stainless Steels			
	ACRILICS		Cast Irons		Medium Alloys		High Alloy Steels			
	WOODS		Copper							
	Speed 450 - 1200 RPM	Feed SFM IPM	Speed 200 - 600 RPM	Feed SFM IPM	Speed 150 - 400 RPM	Feed SFM IPM	Speed 100 - 350 RPM	Feed SFM IPM	Speed 50 - 150 RPM	Feed SFM IPM
1/8	MAX	10-60	6112-MAX	8-28	4584-12,000	4-22	3056-10,696	3-16	1528-4584	1-4
3/16	9169-MAX	15-75	4074-12,000	10-34	3056-8149	5-25	2037-7130	4-20	1019-3056	1-4
1/4	6876-MAX	15-75	3056-9168	10-34	2292-6112	5-25	1528-5348	4-20	764-2292	1-6
3/8	4584-12,000	15-75	2037-6112	10-34	1528-4074	8-30	1018-3565	6-22	509-1528	1-6
7/16	3929-10,477	20-80	1748-5244	12-40	1311-3496	8-30	847-3059	6-22	437-1311	1-6
1/2	3438-9168	25-85	1528-4584	15-45	1146-3056	10-32	764-2674	8-26	382-1146	1.5-8
9/16	3056-8149	25-85	1359-4076	15-45	1019-2718	10-32	679-2379	8-26	339-1019	1.5-8
5/8	2750-7334	25-85	1222-3667	15-45	917-2444	12-34	611-2139	10-28	306-917	1.5-8
3/4	2292-6112	34-120	1019-3056	15-45	764-2037	12-34	509-1782	10-28	255-764	2-10
7/8	1964-5238	34-120	873-2619	16-50	654-1746	12-40	436-1528	10-28	218-654	2-10
1	1719-4584	34-135	764-2292	18-60	573-1528	14-47	382-1337	12-28	191-573	2-10
1-1/4	1375-3667	34-135	611-1833	18-60	458-1222	14-47	305-1069	12-28	152-458	2-10

STD series

Diameter of End Mill	ALUMINUM		Low Alloy Steels		Stainless Steels		Titanium Alloys		High Temp Alloys	
	PLASTICS		Ductile Steels		High Strength Steels		Stainless Steels			
	ACRILICS		Cast Irons		Medium Alloys		High Alloy Steels			
	WOODS		Copper							
	Speed 450 - 1200 RPM	Feed SFM IPM	Speed 200 - 600 RPM	Feed SFM IPM	Speed 150 - 400 RPM	Feed SFM IPM	Speed 100 - 350 RPM	Feed SFM IPM	Speed 50 - 150 RPM	Feed SFM IPM
1/8	MAX	5-60	6112-MAX	6-28	4584-12,000	4-20	3056-10,696	4-18	1528-4584	1-6
3/16	9169-MAX	10-60	4074-12,000	6-28	3056-8149	4-20	2037-7130	4-18	1019-3056	1-6
1/4	6876-MAX	10-60	3056-9168	10-35	2292-6112	8-26	1528-5348	6-22	764-2292	1-6
3/8	4584-12,000	18-75	2037-6112	12-36	1528-4074	8-26	1018-3565	6-22	509-1528	1.
7/16	3929-10,477	18-75	1748-5244	12-36	1311-3496	8-30	847-3059	6-22	437-1311	1.5-8
1/2	3438-9168	20-85	1528-4584	12-46	1146-3056	10-32	764-2674	8-26	382-1146	1.5-8
5/8	2750-7334	25-95	1222-3667	12-46	917-2444	10-32	611-2139	8-26	306-917	2-10
3/4	2292-6112	28-110	1019-3056	14-55	764-2037	12-36	509-1782	10-28	255-764	2-10
1	1719-4584	28-110	764-2292	14-55	573-1528	12-36	382-1337	10-28	191-573	2-10

SPEEDS AND FEEDS CHARTS

SSH series

MATERIALS		ALUMINUM		Low Alloy Steels		Stainless Steels		Titanium Alloys		High Temp Alloys	
		PLASTICS		Ductile Steels		High Strength Steels		Stainless Steels			
		ACRILICS		Cast Irons		Medium Alloys		High Alloy Steels			
		WOODS				Copper					
Diameter of End Mill	Speed 450 - 1200 RPM	Feed SFM IPM	Speed 200 - 600 RPM	Feed SFM IPM	Speed 150 - 400 RPM	Feed SFM IPM	Speed 100 - 350 RPM	Feed SFM IPM	Speed 50 - 150 RPM	Feed SFM IPM	
1/8	MAX	10-60	6112-MAX	8-28	"4584-12,000"	4-22	"3056-10,696"	3-16	1528-4584	1-4	
3/16	9169-MAX	15-75	"4074-12,000"	10-34	3056-8149	5-25	2037-7130	4-20	1019-3056	1-4	
1/4	6876-MAX	15-75	3056-9168	10-34	2292-6112	5-25	1528-5348	4-20	764-2292	1-6	
3/8	"4584-12,000"	15-75	2037-6112	10-34	1528-4074	8-30	1018-3565	6-22	509-1528	1-6	
7/16	"3929-10,477"	20-80	1748-5244	12-40	1311-3496	8-30	847-3059	6-22	437-1311	1-6	
1/2	3438-9168	25-85	1528-4584	15-45	1146-3056	10-32	764-2674	8-26	382-1146	1.5-8	
9/16	3056-8149	25-85	1359-4076	15-45	1019-2718	10-32	679-2379	8-26	339-1019	1.5-8	
5/8	2750-7334	25-85	1222-3667	15-45	917-2444	12-34	611-2139	10-28	306-917	1.5-8	
3/4	2292-6112	34-100	1019-3056	15-45	764-2037	12-34	509-1782	10-28	255-764	2-10	
7/8	1964-5238	34-120	873-2619	16-50	654-1746	12-34	436-1528	10-28	218-654	2-10	
1	1719-4584	34-135	764-2292	18-55	573-1528	12-34	382-1337	12-28	191-573	2-10	

SS series

MATERIALS		ALUMINUM		Low Alloy Steels		Stainless Steels		Titanium Alloys		High Temp Alloys	
		PLASTICS		Ductile Steels		High Strength Steels		Stainless Steels			
		ACRILICS		Cast Irons		Medium Alloys		High Alloy Steels			
		WOODS				Copper					
Diameter of End Mill	Speed 450 - 1200 RPM	Feed SFM IPM	Speed 200 - 600 RPM	Feed SFM IPM	Speed 150 - 400 RPM	Feed SFM IPM	Speed 100 - 350 RPM	Feed SFM IPM	Speed 50 - 150 RPM	Feed SFM IPM	
1/8	MAX	16-73	6112-MAX	5-22	"4584-12,000"	4-14	"3056-10,696"	3-12	1528-4584	1.5-8	
3/16	9169-MAX	18-78	"4074-12,000"	6-24	3056-8149	4-14	2037-7130	3-12	1019-3056	1.5-8	
1/4	6876-MAX	18-78	3056-9168	6-24	2292-6112	4-16	1528-5348	3-12	764-2292	2-8	
5/16	5509-MAX	20-85	2446-7346	8-30	1637-4698	6-22	1224-4286	4-18	612-1836	2-10	
3/8	"4584-12,000"	20-85	2037-6112	10-40	1528-4074	8-30	1018-3565	6-22	509-1528	2-12	
7/16	"3929-10,477"	25-110	1748-5244	11-56	1311-3496	8-36	847-3059	6-26	437-1311	3-12	
1/2	3438-9168	28-137	1528-4584	12-58	1146-3056	8-36	764-2674	6-26	382-1146	3-14	
5/8	2750-7334	28-137	1222-3667	13-60	917-2444	10-40	611-2139	8-28	306-917	3-16	
3/4	2292-6112	30-150	1019-3056	13-65	764-2037	10-40	509-1782	8-28	255-764	3-16	
1	1719-4584	30-150	764-2292	14-70	573-1528	11-45	382-1337	10-30	191-573	3-16	

SPEEDS AND FEEDS CHARTS

AL3-CB series

Diameter of End Mill	ALUMINUM		Low Alloy Steels	
	PLASTICS		Ductile Steels	
	ACRILICS		Cast Irons	
	WOODS		Copper	
	Speed 450 - 1200 RPM	Feed SFM IPM	Speed 200 - 600 RPM	Feed SFM IPM
1/4	2292-6112	30-135	1528-5348	15-75
3/8	1528-4074	35-150	1018-3565	15-75
7/16	1311-3496	35-150	847-3059	18-75
1/2	1146-3056	35-160	764-2674	18-75
9/16	1019-2718	40-180	679-2379	20-75
5/8	917-2444	40-180	611-2139	20-75
3/4	764-2037	40-185	509-1782	25-85
7/8	654-1746	40-185	436-1528	25-85
1	573-1528	55-195	382-1337	30-95

HH Series 6 & 8 Flute

MATERIALS		Carbon Steels Alloy Steels Cast Irons		Alloy Steels Tool Steels		Hardened Steels		Hardened Steels	
HARDNESS		-HRc30	HRc30	-HRc50	HRc50	-HRc55	HRc60	-HRc65	
DIAMETER	RPM	FEED(inch/min) RPM		FEED(inch/min) RPM		FEED(inch/min) RPM		FEED(inch/min)	
1/4	5560	79.00	3880	54.00	1580	8.25	1100	5.10	
5/16	4200	79.00	2940	54.00	1160	8.25	840	5.10	
3/8	3360	79.00	2320	54.00	1000	8.25	680	5.10	
1/2	2840	66.00	2000	46.00	840	7.10	560	4.35	
5/8	2100	50.00	1480	35.00	640	5.10	420	2.75	
3/4	1680	40.00	1160	27.00	500	4.35	320	2.35	
1	1260	25.00	870	17.50	375	3.00	240	1.54	

SS Matrix series

MATERIALS	Low Alloys Ductile Steels		Stainless Steels High-Strength Steels Cast Irons		Titanium Alloys Stainless Steels Medium Alloys Steels		High Temp. Alloys High Alloys Steels	
	DIAMETER	SPEED SFM FEED(ipf)	SPEED SFM FEED(ipf)	SPEED SFM FEED(ipf)	SPEED SFMFEED(ipf)	SPEED SFM FEED(ipf)	SPEED SFM FEED(ipf)	
3/16	500-600	.0010	270-300	.0009	270-300	.0009	80-110	.0006
1/4	500-600	.0016	270-300	.0013	270-300	.0013	80-110	.0010
3/8	500-600	.0026	270-300	.0020	270-300	.0019	80-110	.0013
7/16	500-600	.0029	270-300	.0025	270-300	.0020	80-110	.0013
1/2	500-600	.0030	270-300	.0026	270-300	.0027	80-110	.0017
5/8	500-600	.0035	270-300	.0030	270-300	.0030	80-110	.0020
3/4	500-600	.0036	270-300	.0032	270-300	.0032	80-110	.0023
1	500-600	.0050	270-300	.0034	270-300	.0040	80-110	.0025

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Performance Tooling

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