



DE BOER TOOL
CUTTING TOOL EXCELLENCE



16423.12



De Boer Tool is a premier manufacturer of high-performance standard and custom solid carbide cutting tools. With a relentless commitment to quality and innovation, we pride ourselves on delivering cutting-edge solutions that empower our customers to achieve exceptional results in their machining operations.

Backed by our team of skilled engineers, technicians, and state-of-the-art manufacturing facility, we offer a comprehensive range of precision cutting tools designed to meet the most demanding requirements across various industries. Whether you need superior performance, extended tool life, or customized solutions tailored to your specific needs, De Boer Tool is your trusted partner for cutting-edge excellence. Explore our catalog and unlock the potential for unparalleled precision and productivity in your machining processes.

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ESSENTIAL

- General-purpose endmills suited for a variety of milling applications

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X-MILL

- High performance tools designed for roughing
- Harmonically balanced for aggressive feed rates

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T-MILL

- Revolutionary Titanium cutting geometry
- Suitable for Titanium, Inconel, and Stainless Steel

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XM

- High performance solid carbide end mills for roughing and finishing of ISO P steels

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THREADMILL

- Multi-flute thread mills for CNC machining

55

HIGH VELOCITY

- High performance endmills for milling hardened steels
- Nanograin carbide and advanced coating for extended life

72

HIGH VELOCITY FEED MILLS

- Combining very high feed rates with advanced sweeper geometry for exceptional surface finish

74

PRODRILL

- High-performance solid carbide and coolant through drills for a wide range of workpiece materials
- Available in 3xD, 5xD, 8xD and 12xD

95

A-MILLS

- Unrivaled aluminum machining
- Rougher, Semi-Finisher and Finisher designs available
- AluMini series for 1-32" - 3/32" cutting diameters

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INDEXABLE PRO FEED

- Highly efficient indexable high feed tools designed for optimal productivity, offering excellent performance in roughing applications.

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SPEEDS & FEEDS

- Charts to assist with achieving the best performance with your tool

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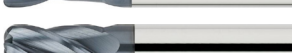
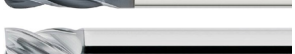
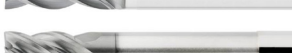
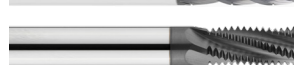
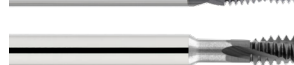
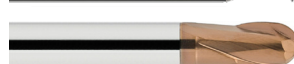
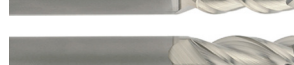
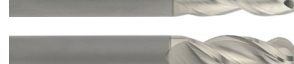
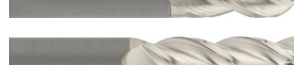
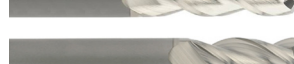
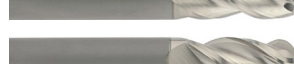
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11	Standard 3 Flute	
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14	Long 2 & 4 Flute	
15	X-Long 2 & 4 Flute	
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All tools made at De Boer Tool have shanks ground to h6 tolerance which guarantees trouble free machining when using precision holders.

Weldon flats and whistle notches are also available for side lock holders.

ESSENTIAL

The **Essential Series** tools combine our passion for unrivaled excellence with general purpose milling applications. These versatile cutters are suitable for a wide range of materials, including ferrous and non-ferrous. Choose from a variety of geometries, lengths, and configurations such as flat bottom, ball nose, radius, chamfer mills, and more. For maximum flexibility, **Essential Series** tools are available uncoated or coated with our DuraCoat multi-layer coating for added durability and performance.

Key Features:

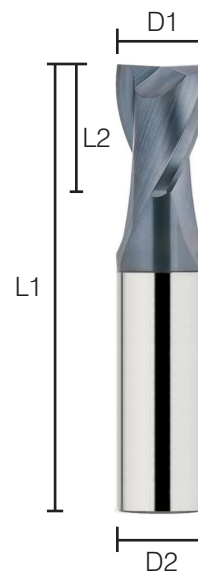
- Cost effective general purpose option for most applications
- Cutting diameters ranging from 0.005" to 1.0" and 0.5mm to 25mm
- Diverse length of cut, number of flutes, and corner radius options
- Specialty profiles such as chamfer mills, spot drills, and corner rounders
- Ball nose, flat bottom, and corner radius options
- Available coated and uncoated for maximum versatility



Square Corner

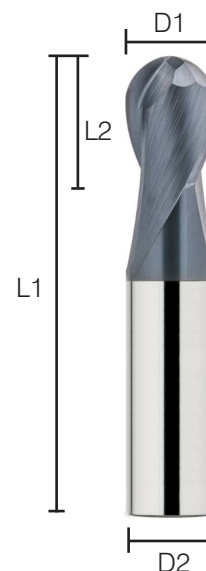
	D1 Dia.	D2 Dia. (h6)	L1 OAL	L2 LOC	Part #	Coated Part #
in	0.005	1/8	1.5	0.007	120-0005-201	120-0005-201A
	0.010	1/8	1.5	0.015	120-0010-201	120-0010-201A
	0.015	1/8	1.5	0.022	120-0015-201	120-0015-201A
	0.020	1/8	1.5	0.030	120-0020-201	120-0020-201A
	0.025	1/8	1.5	0.037	120-0025-201	120-0025-201A
	1/32	1/8	1.5	0.063	120-0031-201	120-0031-201A
	3/64	1/8	1.5	0.094	120-0046-201	120-0046-201A
	1/16	1/8	1.5	0.125	120-0062-201	120-0062-201A
	5/64	1/8	1.5	0.156	120-0078-201	120-0078-201A
	3/32	1/8	1.5	0.188	120-0093-201	120-0093-201A
	1/8	1/8	1.5	0.250	120-0125-201	120-0125-201A
	3/16	3/16	2.0	0.375	120-0187-201	120-0187-201A
	1/4	1/4	2.0	0.500	120-0250-201	120-0250-201A
	5/16	5/16	2.0	0.500	120-0312-201	120-0312-201A
	3/8	3/8	2.0	0.625	120-0375-201	120-0375-201A
	1/2	1/2	2.5	0.625	120-0500-201	120-0500-201A
	5/8	5/8	3.0	0.750	120-0625-201	120-0625-201A
	3/4	3/4	3.0	1.000	120-0750-201	120-0750-201A
	1	1	3.0	1.000	120-1000-201	120-1000-201A

- General purpose 2 flute solid carbide end mill
- Excellent cost to performance ratio
- Stub length of cut
- Available coated and uncoated
- 30° helix geometry
- Center cutting



Ball Nose

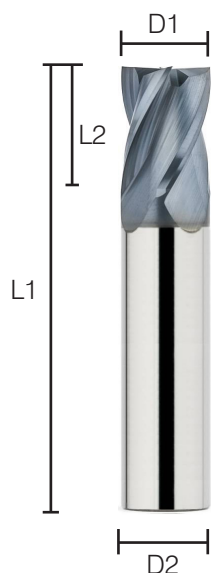
	D1 Dia.	D2 Dia. (h6)	L1 OAL	L2 LOC	Part #	Coated Part #
in	0.010	1/8	1.5	0.015	120-0010-202	120-0010-202A
	0.015	1/8	1.5	0.022	120-0015-202	120-0015-202A
	0.020	1/8	1.5	0.030	120-0020-202	120-0020-202A
	0.025	1/8	1.5	0.037	120-0025-202	120-0025-202A
	1/32	1/8	1.5	0.063	120-0031-202	120-0031-202A
	3/64	1/8	1.5	0.094	120-0046-202	120-0046-202A
	1/16	1/8	1.5	0.125	120-0062-202	120-0062-202A
	5/64	1/8	1.5	0.156	120-0078-202	120-0078-202A
	3/32	1/8	1.5	0.188	120-0093-202	120-0093-202A
	1/8	1/8	1.5	0.250	120-0125-202	120-0125-202A
	3/16	3/16	2.0	0.375	120-0187-202	120-0187-202A
	1/4	1/4	2.0	0.500	120-0250-202	120-0250-202A
	5/16	5/16	2.0	0.500	120-0312-202	120-0312-202A
	3/8	3/8	2.0	0.625	120-0375-202	120-0375-202A
	1/2	1/2	2.5	0.625	120-0500-202	120-0500-202A
	5/8	5/8	3.0	0.750	120-0625-202	120-0625-202A
	3/4	3/4	3.0	1.000	120-0750-202	120-0750-202A
	1	1	3.0	1.000	120-1000-202	120-1000-202A



Stub 4 Flute

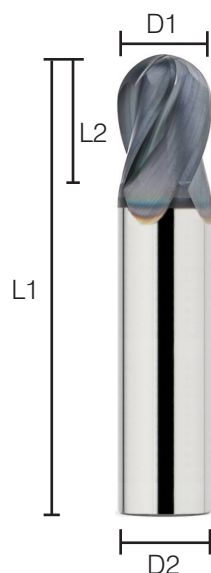
- General purpose 4 flute solid carbide end mill
- Excellent cost to performance ratio
- Stub length of cut
- Available coated and uncoated
- 30° helix geometry
- Center cutting

Square Corner



	D1 Dia.	D2 Dia. (h6)	L1 OAL	L2 LOC	Part #	Coated Part #
in	0.015	1/8	1.5	0.022	120-0015-401	120-0015-401A
	0.020	1/8	1.5	0.030	120-0020-401	120-0020-401A
	0.025	1/8	1.5	0.037	120-0025-401	120-0025-401A
	1/32	1/8	1.5	0.063	120-0031-401	120-0031-401A
	3/64	1/8	1.5	0.094	120-0046-401	120-0046-401A
	1/16	1/8	1.5	0.125	120-0062-401	120-0062-401A
	5/64	1/8	1.5	0.156	120-0078-401	120-0078-401A
	3/32	1/8	1.5	0.188	120-0093-401	120-0093-401A
	1/8	1/8	1.5	0.250	120-0125-401	120-0125-401A
	3/16	3/16	2.0	0.375	120-0187-401	120-0187-401A
	1/4	1/4	2.0	0.500	120-0250-401	120-0250-401A
	5/16	5/16	2.0	0.500	120-0312-401	120-0312-401A
	3/8	3/8	2.0	0.625	120-0375-401	120-0375-401A
	1/2	1/2	2.5	0.625	120-0500-401	120-0500-401A
	5/8	5/8	3.0	.750	120-0625-401	120-0625-401A
	3/4	3/4	3.0	1.000	120-0750-401	120-0750-401A
	1	1	3.0	1.000	120-1000-401	120-1000-401A

Ball Nose



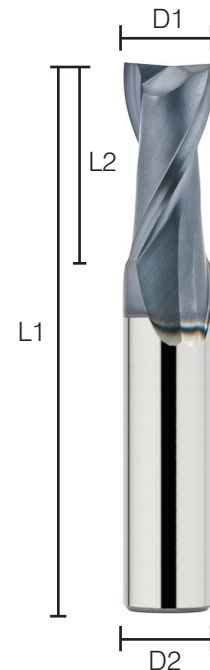
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	0.020	1/8	1.5	0.030	120-0020-402	120-0020-402A
	0.025	1/8	1.5	0.037	120-0025-402	120-0025-402A
	1/32	1/8	1.5	0.063	120-0031-402	120-0031-402A
	3/64	1/8	1.5	0.094	120-0046-402	120-0046-402A
	1/16	1/8	1.5	0.125	120-0062-402	120-0062-402A
	5/64	1/8	1.5	0.156	120-0078-402	120-0078-402A
	3/32	1/8	1.5	0.188	120-0093-402	120-0093-402A
	1/8	1/8	1.5	0.250	120-0125-402	120-0125-402A
	3/16	3/16	2.0	0.375	120-0187-402	120-0187-402A
	1/4	1/4	2.0	0.500	120-0250-402	120-0250-402A
	5/16	5/16	2.0	0.500	120-0312-402	120-0312-402A
	3/8	3/8	2.0	0.625	120-0375-402	120-0375-402A
	1/2	1/2	2.5	0.625	120-0500-402	120-0500-402A
	5/8	5/8	3.0	0.750	120-0625-402	120-0625-402A
	3/4	3/4	3.0	1.000	120-0750-402	120-0750-402A
	1	1	3.0	1.000	120-1000-402	120-1000-402A

Standard 2 Flute

Square Corner

	D1 Dia.	D2 Dia. (h6)	L1 OAL	L2 LOC	Part #	Coated Part #
in	0.005	1/8	1.5	0.015	110-0005-201	110-0005-201A
	0.010	1/8	1.5	0.030	110-0010-201	110-0010-201A
	0.015	1/8	1.5	0.045	110-0015-201	110-0015-201A
	0.020	1/8	1.5	0.060	110-0020-201	110-0020-201A
	0.025	1/8	1.5	0.075	110-0025-201	110-0025-201A
	1/32	1/8	1.5	0.094	110-0031-201	110-0031-201A
	3/64	1/8	1.5	0.141	110-0046-201	110-0046-201A
	1/16	1/8	1.5	0.188	110-0062-201	110-0062-201A
	5/64	1/8	1.5	0.250	110-0078-201	110-0078-201A
	3/32	1/8	1.5	0.344	110-0093-201	110-0093-201A
	7/64	1/8	1.5	0.375	110-0109-201	110-0109-201A
	1/8	1/8	1.5	0.500	110-0125-201	110-0125-201A
	9/64	3/16	2.0	0.563	110-0140-201	110-0140-201A
	5/32	3/16	2.0	0.563	110-0156-201	110-0156-201A
	11/64	3/16	2.0	0.563	110-0171-201	110-0171-201A
	3/16	3/16	2.0	0.625	110-0187-201	110-0187-201A
	13/64	1/4	2.5	0.625	110-0203-201	110-0203-201A
	7/32	1/4	2.5	0.625	110-0218-201	110-0218-201A
	15/64	1/4	2.5	0.750	110-0234-201	110-0234-201A
	1/4	1/4	2.5	0.750	110-0250-201	110-0250-201A
	17/64	5/16	2.5	0.813	110-0265-201	110-0265-201A
	9/32	5/16	2.5	0.813	110-0281-201	110-0281-201A
	19/64	5/16	2.5	0.813	110-0296-201	110-0296-201A
	5/16	5/16	2.5	0.813	110-0312-201	110-0312-201A
	21/64	3/8	2.5	0.875	110-0328-201	110-0328-201A
	11/32	3/8	2.5	0.875	110-0343-201	110-0343-201A
	23/64	3/8	2.5	0.875	110-0359-201	110-0359-201A
	3/8	3/8	2.5	0.875	110-0375-201	110-0375-201A
	25/64	7/16	2.5	0.875	110-0390-201	110-0390-201A
	13/32	7/16	2.5	0.875	110-0406-201	110-0406-201A
	27/64	7/16	2.5	0.875	110-0421-201	110-0421-201A
	7/16	7/16	2.5	1.000	110-0437-201	110-0437-201A
	29/64	1/2	3.0	1.000	110-0453-201	110-0453-201A
	15/32	1/2	3.0	1.000	110-0468-201	110-0468-201A
	31/64	1/2	3.0	1.000	110-0484-201	110-0484-201A
	1/2	1/2	3.0	1.000	110-0500-201	110-0500-201A
	9/16	9/16	3.5	1.125	110-0562-201	110-0562-201A
	5/8	5/8	3.5	1.250	110-0625-201	110-0625-201A
	11/16	3/4	4.0	1.500	110-0687-201	110-0687-201A
	3/4	3/4	4.0	1.500	110-0750-201	110-0750-201A
	7/8	7/8	4.0	1.500	110-0875-201	110-0875-201A
	1	1	4.0	1.500	110-1000-201	110-1000-201A

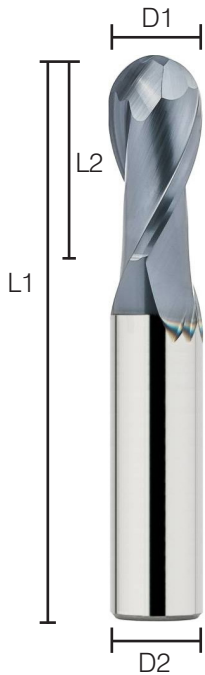
- General purpose 2 flute solid carbide end mill
- Excellent cost to performance ratio
- Standard length of cut
- Available coated and uncoated
- 30° helix geometry
- Center cutting



Standard 2 Flute

- General purpose 2 flute solid carbide end mill
- Excellent cost to performance ratio
- Standard length of cut
- Available coated and uncoated
- 30° helix geometry
- Center cutting

Ball Nose



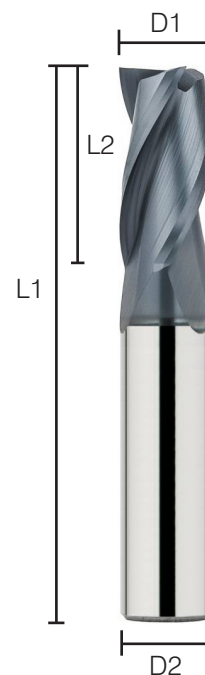
	D1 Dia.	D2 Dia. (h6)	L1 OAL	L2 LOC	Part #	Coated Part #
in	0.010	1/8	1.5	0.030	110-0010-202	110-0010-202A
	0.015	1/8	1.5	0.045	110-0015-202	110-0015-202A
	0.020	1/8	1.5	0.060	110-0020-202	110-0020-202A
	0.025	1/8	1.5	0.075	110-0025-202	110-0025-202A
	1/32	1/8	1.5	0.094	110-0031-202	110-0031-202A
	3/64	1/8	1.5	0.141	110-0046-202	110-0046-202A
	1/16	1/8	1.5	0.188	110-0062-202	110-0062-202A
	5/64	1/8	1.5	0.250	110-0078-202	110-0078-202A
	3/32	1/8	1.5	0.344	110-0093-202	110-0093-202A
	7/64	1/8	1.5	0.375	110-0109-202	110-0109-202A
	1/8	1/8	1.5	0.500	110-0125-202	110-0125-202A
	9/64	3/16	2.0	0.563	110-0140-202	110-0140-202A
	5/32	3/16	2.0	0.344	110-0156-202	110-0156-202A
	11/64	3/16	2.0	0.563	110-0171-202	110-0171-202A
	3/16	3/16	2.0	0.625	110-0187-202	110-0187-202A
	13/64	1/4	2.5	0.625	110-0203-202	110-0203-202A
	7/32	1/4	2.5	0.625	110-0218-202	110-0218-202A
	15/64	1/4	2.5	0.750	110-0234-202	110-0234-202A
	1/4	1/4	2.5	0.750	110-0250-202	110-0250-202A
	17/64	5/16	2.5	0.813	110-0265-202	110-0265-202A
	9/32	5/16	2.5	0.813	110-0281-202	110-0281-202A
	19/64	5/16	2.5	0.813	110-0296-202	110-0296-202A
	5/16	5/16	2.5	0.813	110-0312-202	110-0312-202A
	21/64	3/8	2.5	0.875	110-0328-202	110-0328-202A
	11/32	3/8	2.5	0.875	110-0343-202	110-0343-202A
	23/64	3/8	2.5	0.875	110-0359-202	110-0359-202A
	3/8	3/8	2.5	0.875	110-0375-202	110-0375-202A
	25/64	7/16	2.5	0.875	110-0390-202	110-0390-202A
	13/32	7/16	2.5	0.875	110-0406-202	110-0406-202A
	27/64	7/16	2.5	0.875	110-0421-202	110-0421-202A
	7/16	7/16	2.75	1.000	110-0437-202	110-0437-202A
	29/64	1/2	3.0	1.000	110-0453-202	110-0453-202A
	15/32	1/2	3.0	1.000	110-0468-202	110-0468-202A
	31/64	1/2	3.0	1.000	110-0484-202	110-0484-202A
	1/2	1/2	3.0	1.000	110-0500-202	110-0500-202A
	9/16	9/16	3.5	1.125	110-0562-202	110-0562-202A
	5/8	5/8	3.5	1.250	110-0625-202	110-0625-202A
	11/16	3/4	4.0	1.500	110-0687-202	110-0687-202A
	3/4	3/4	4.0	1.500	110-0750-202	110-0750-202A
	7/8	7/8	4.0	1.500	110-0875-202	110-0875-202A
	1	1	4.0	1.500	110-1000-202	110-1000-202A

Standard 3 Flute

- General purpose 3 flute solid carbide end mill
- Excellent cost to performance ratio
- Standard length of cut
- Available coated and uncoated
- 30° helix geometry
- Center cutting

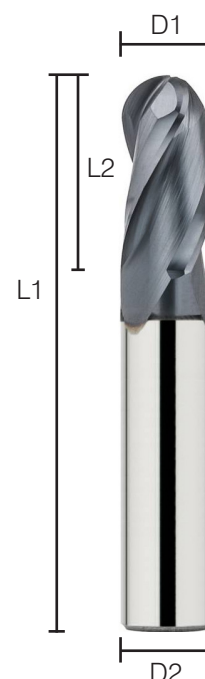
Square Corner

	D1 Dia.	D2 Dia. (h6)	L1 OAL	L2 LOC	Part #	Coated Part #
in	1/32	1/8	1.5	0.094	110-0031-301	110-0031-301A
	3/64	1/8	1.5	0.141	110-0046-301	110-0046-301A
	1/16	1/8	1.5	0.188	110-0062-301	110-0062-301A
	5/64	1/8	1.5	0.250	110-0078-301	110-0078-301A
	3/32	1/8	1.5	0.344	110-0093-301	110-0093-301A
	1/8	1/8	1.5	0.500	110-0125-301	110-0125-301A
	5/32	3/16	2.0	0.563	110-0156-301	110-0156-301A
	3/16	3/16	2.0	0.625	110-0187-301	110-0187-301A
	7/32	1/4	2.5	0.625	110-0218-301	110-0218-301A
	1/4	1/4	2.5	0.750	110-0250-301	110-0250-301A
	5/16	5/16	2.5	0.813	110-0312-301	110-0312-301A
	3/8	3/8	2.5	0.875	110-0375-301	110-0375-301A
	1/2	1/2	3.0	1.000	110-0500-301	110-0500-301A
	5/8	5/8	3.5	1.250	110-0625-301	110-0625-301A
	3/4	3/4	4.0	1.500	110-0750-301	110-0750-301A
	7/8	7/8	4.0	1.500	110-0875-301	110-0875-301A
	1	1	4.0	1.500	110-1000-301	110-1000-301A



Ball Nose

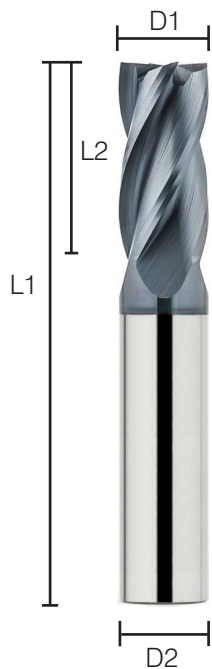
	D1 Dia.	D2 Dia. (h6)	L1 OAL	L2 LOC	Part #	Coated Part #
in	1/32	1/8	1.5	0.094	110-0031-302	110-0031-302A
	3/64	1/8	1.5	0.141	110-0046-302	110-0046-302A
	1/16	1/8	1.5	0.188	110-0062-302	110-0062-302A
	5/64	1/8	1.5	0.250	110-0078-302	110-0078-302A
	3/32	1/8	1.5	0.344	110-0093-302	110-0093-302A
	1/8	1/8	1.5	0.500	110-0125-302	110-0125-302A
	3/16	3/16	2.0	0.625	110-0187-302	110-0187-302A
	1/4	1/4	2.5	0.750	110-0250-302	110-0250-302A
	5/16	5/16	2.5	0.813	110-0312-302	110-0312-302A
	3/8	3/8	2.5	0.875	110-0375-302	110-0375-302A
	1/2	1/2	3.0	1.000	110-0500-302	110-0500-302A
	5/8	5/8	3.5	1.250	110-0625-302	110-0625-302A
	3/4	3/4	4.0	1.500	110-0750-302	110-0750-302A
	7/8	7/8	4.0	1.500	110-0875-302	110-0875-302A
	1	1	4.0	1.500	110-1000-302	110-1000-302A



Standard 4 Flute

- General purpose 4 flute solid carbide end mill
- Excellent cost to performance ratio
- Standard length of cut
- Available coated and uncoated
- 30° helix geometry
- Center cutting

Square Corner



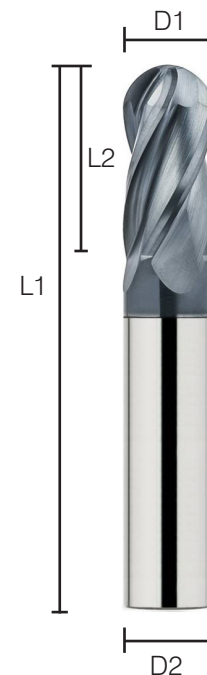
	D1 Dia.	D2 Dia. (h6)	L1 OAL	L2 LOC	Part #	Coated Part #
in	0.015	1/8	1.5	0.045	110-0015-401	110-0015-401A
	0.02	1/8	1.5	0.060	110-0020-401	110-0020-401A
	0.025	1/8	1.5	0.075	110-0025-401	110-0025-401A
	1/32	1/8	1.5	0.094	110-0031-401	110-0031-401A
	3/64	1/8	1.5	0.141	110-0046-401	110-0046-401A
	1/16	1/8	1.5	0.188	110-0062-401	110-0062-401A
	5/64	1/8	1.5	0.250	110-0078-401	110-0078-401A
	3/32	1/8	1.5	0.344	110-0093-401	110-0093-401A
	7/64	1/8	1.5	0.375	110-0109-401	110-0109-401A
	1/8	1/8	1.5	0.500	110-0125-401	110-0125-401A
	9/64	3/16	2.0	0.563	110-0140-401	110-0140-401A
	5/32	3/16	2.0	0.563	110-0156-401	110-0156-401A
	11/64	3/16	2.0	0.563	110-0171-401	110-0171-401A
	3/16	3/16	2.0	0.625	110-0187-401	110-0187-401A
	13/64	1/4	2.5	0.625	110-0203-401	110-0203-401A
	7/32	1/4	2.5	0.625	110-0218-401	110-0218-401A
	15/64	1/4	2.5	0.750	110-0234-401	110-0234-401A
	1/4	1/4	2.5	0.750	110-0250-401	110-0250-401A
	17/64	5/16	2.5	0.813	110-0265-401	110-0265-401A
	9/32	5/16	2.5	0.813	110-0281-401	110-0281-401A
	19/64	5/16	2.5	0.813	110-0296-401	110-0296-401A
	5/16	5/16	2.5	0.813	110-0312-401	110-0312-401A
	21/64	3/8	2.5	0.875	110-0328-401	110-0328-401A
	11/32	3/8	2.5	0.875	110-0343-401	110-0343-401A
	23/64	3/8	2.5	0.875	110-0359-401	110-0359-401A
	3/8	3/8	2.5	0.875	110-0375-401	110-0375-401A
	25/64	7/16	2.5	0.875	110-0390-401	-
	13/32	7/16	2.5	0.875	110-0406-401	110-0406-401A
	27/64	7/16	2.5	0.875	110-0421-401	110-0421-401A
	7/16	7/16	2.75	1.000	110-0437-401	110-0437-401A
	29/64	1/2	3.0	1.000	110-0453-401	110-0453-401A
	15/32	1/2	3.0	1.000	110-0468-401	110-0468-401A
	31/64	1/2	3.0	1.000	110-0484-401	110-0484-401A
	1/2	1/2	3.0	1.000	110-0500-401	110-0500-401A
	9/16	9/16	3.5	1.125	110-0562-401	110-0562-401A
	5/8	5/8	3.5	1.250	110-0625-401	110-0625-401A
	11/16	3/4	4.0	1.500	110-0687-401	110-0687-401A
	3/4	3/4	4.0	1.500	110-0750-401	110-0750-401A
	7/8	7/8	4.0	1.500	110-0875-401	110-0875-401A
	1	1	4.0	1.500	110-1000-401	110-1000-401A

Standard 4 Flute

Ball Nose

	D1 Dia.	D2 Dia. (h6)	L1 OAL	L2 LOC	Part #	Coated Part #
in	0.015	1/8	1.5	0.045	110-0015-402	110-0015-402A
	0.02	1/8	1.5	0.060	110-0020-402	110-0020-402A
	0.025	1/8	1.5	0.075	110-0025-402	110-0025-402A
	1/32	1/8	1.5	0.094	110-0031-402	110-0031-402A
	3/64	1/8	1.5	0.141	110-0046-402	110-0046-402A
	1/16	1/8	1.5	0.188	110-0062-402	110-0062-402A
	5/64	1/8	1.5	0.250	110-0078-402	110-0078-402A
	3/32	1/8	1.5	0.344	110-0093-402	110-0093-402A
	7/64	1/8	1.5	0.375	110-0109-402	110-0109-402A
	1/8	1/8	1.5	0.500	110-0125-402	110-0125-402A
	9/64	3/16	2.0	0.563	110-0140-402	110-0140-402A
	5/32	3/16	2.0	0.563	110-0156-402	110-0156-402A
	11/64	3/16	2.0	0.563	110-0171-402	110-0171-402A
	3/16	3/16	2.0	0.625	110-0187-402	110-0187-402A
	13/64	1/4	2.5	0.625	110-0203-402	110-0203-402A
	7/32	1/4	2.5	0.625	110-0218-402	110-0218-402A
	15/64	1/4	2.5	0.750	110-0234-402	110-0234-402A
	1/4	1/4	2.5	0.750	110-0250-402	110-0250-402A
	17/64	5/16	2.5	0.813	110-0265-402	110-0265-402A
	9/32	5/16	2.5	0.813	110-0281-402	110-0281-402A
	19/64	5/16	2.5	0.813	110-0296-402	110-0296-402A
	5/16	5/16	2.5	0.813	110-0312-402	110-0312-402A
	21/64	3/8	2.5	0.875	110-0328-402	110-0328-402A
	11/32	3/8	2.5	0.875	110-0343-402	110-0343-402A
	23/64	3/8	2.5	0.875	110-0359-402	110-0359-402A
	3/8	3/8	2.5	0.875	110-0375-402	110-0375-402A
	25/64	7/16	2.5	0.875	110-0390-402	110-0390-402A
	13/32	7/16	2.5	0.875	110-0406-402	110-0406-402A
	27/64	7/16	2.5	0.875	110-0421-402	110-0421-402A
	7/16	7/16	2.75	1.000	110-0437-402	110-0437-402A
	29/64	1/2	3.0	1.000	110-0453-402	110-0453-402A
	15/32	1/2	3.0	1.000	110-0468-402	110-0468-402A
	31/64	1/2	3.0	1.000	110-0484-402	110-0484-402A
	1/2	1/2	3.0	1.000	110-0500-402	110-0500-402A
	9/16	9/16	3.5	1.125	110-0562-402	110-0562-402A
	5/8	5/8	3.5	1.250	110-0625-402	110-0625-402A
	11/16	3/4	4.0	1.500	110-0687-402	110-0687-402A
	3/4	3/4	4.0	1.500	110-0750-402	110-0750-402A
	7/8	7/8	4.0	1.500	110-0875-402	110-0875-402A
	1	1	4.0	1.500	110-1000-402	110-1000-402A

- General purpose 4 flute solid carbide end mill
- Excellent cost to performance ratio
- Standard length of cut
- Available coated and uncoated
- 30° helix geometry
- Center cutting



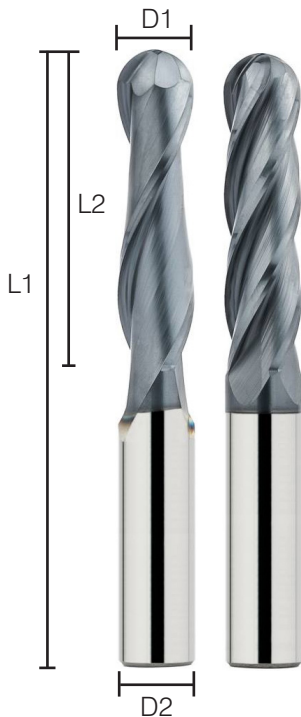
Long 2 & 4 Flute

- General purpose 2 & 4 flute solid carbide end mill
- Excellent cost to performance ratio
- Long length of cut
- Available coated and uncoated
- 30° helix geometry
- Center cutting



Square Corner

	D1 Dia.	D2 Dia. (h6)	L1 OAL	L2 LOC	2 Flute Part #	2 Flute Coated Part #	4 Flute Part #	4 Flute Coated Part #
in	1/32	1/8	2.0	0.125	130-0031-201	130-0031-201A	130-0031-401	130-0031-401A
	3/64	1/8	2.0	0.188	130-0046-201	130-0046-201A	130-0046-401	130-0046-401A
	1/16	1/8	2.0	0.250	130-0062-201	130-0062-201A	130-0062-401	130-0062-401A
	5/64	1/8	2.0	0.312	130-0078-201	130-0078-201A	130-0078-401	130-0078-401A
	3/32	1/8	2.0	0.484	130-0093-201	130-0093-201A	130-0093-401	130-0093-401A
	1/8	1/8	2.0	0.625	130-0125-201	130-0125-201A	130-0125-401	130-0125-401A
	3/16	3/16	2.5	0.750	130-0187-201	130-0187-201A	130-0187-401	130-0187-401A
	1/4	1/4	3.0	1.125	130-0250-201	130-0250-201A	130-0250-401	130-0250-401A
	5/16	5/16	3.0	1.125	130-0312-201	130-0312-201A	130-0312-401	130-0312-401A
	3/8	3/8	3.0	1.125	130-0375-201	130-0375-201A	130-0375-401	130-0375-401A
	1/2	1/2	4.0	2.000	130-0500-201	130-0500-201A	130-0500-401	130-0500-401A
	1/2	1/2	4.0	1.625	-	-	130-A500-401	130-A500-401A
	1/2	1/2	4.0	1.000	-	-	130-B500-401	130-B500-401A
	5/8	5/8	5.0	2.250	130-0625-201	130-0625-201A	130-0625-401	130-0625-401A
	3/4	3/4	5.0	2.250	130-0750-201	130-0750-201A	130-0750-401	130-0750-401A
	1	1	5.0	2.250	130-1000-201	130-1000-201A	130-1000-401	130-1000-401A



Ball Nose

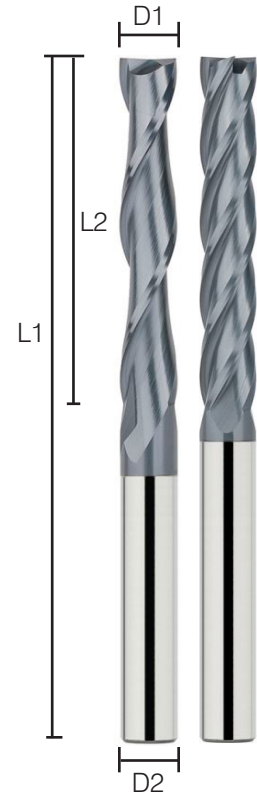
	D1 Dia.	D2 Dia. (h6)	L1 OAL	L2 LOC	2 Flute Part #	2 Flute Coated Part #	4 Flute Part #	4 Flute Coated Part #
in	1/32	1/8	2.0	0.125	130-0031-202	130-0031-202A	130-0031-402	130-0031-402A
	3/64	1/8	2.0	0.188	130-0046-202	130-0046-202A	130-0046-402	130-0046-402A
	1/16	1/8	2.0	0.250	130-0062-202	130-0062-202A	130-0062-402	130-0062-402A
	5/64	1/8	2.0	0.312	130-0078-202	130-0078-202A	130-0078-402	130-0078-402A
	3/32	1/8	2.0	0.484	130-0093-202	130-0093-202A	130-0093-402	130-0093-402A
	1/8	1/8	2.0	0.625	130-0125-202	130-0125-202A	130-0125-402	130-0125-402A
	3/16	3/16	2.5	0.750	130-0187-202	130-0187-202A	130-0187-402	130-0187-402A
	1/4	1/4	3.0	1.125	130-0250-202	130-0250-202A	130-0250-402	130-0250-402A
	5/16	5/16	3.0	1.125	130-0312-202	130-0312-202A	130-0312-402	130-0312-402A
	3/8	3/8	3.0	1.125	130-0375-202	130-0375-202A	130-0375-402	130-0375-402A
	1/2	1/2	4.0	2.000	130-0500-202	130-0500-202A	130-0500-402	130-0500-402A
	1/2	1/2	4.0	1.625	-	-	130-A500-402	130-A500-402A
	1/2	1/2	4.0	1.000	-	-	130-B500-402	130-B500-402A
	5/8	5/8	5.0	2.250	130-0625-202	130-0625-202A	130-0625-402	130-0625-402A
	3/4	3/4	5.0	2.250	130-0750-202	130-0750-202A	130-0750-402	130-0750-402A
	1	1	5.0	2.250	130-1000-202	130-1000-202A	130-1000-402	130-1000-402A

X-Long 2 & 4 Flute

- General purpose 2 & 4 flute solid carbide end mill
- Excellent cost to performance ratio
- Extra-Long length of cut
- Available coated and uncoated
- 30° helix geometry
- Center cutting

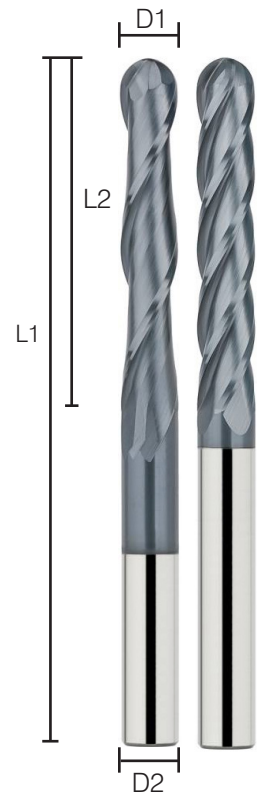
Square Corner

	D1 Dia.	D2 Dia. (h6)	L1 OAL	L2 LOC	2 Flute Part #	2 Flute Coated Part #	4 Flute Part #	4 Flute Coated Part #
in	1/32	1/8	3.0	0.156	140-0031-201	140-0031-201A	140-0031-401	140-0031-401A
	3/64	1/8	3.0	0.234	140-0046-201	140-0046-201A	140-0046-401	140-0046-401A
	1/16	1/8	3.0	0.313	140-0062-201	140-0062-201A	140-0062-401	140-0062-401A
	5/64	1/8	3.0	0.391	140-0078-201	140-0078-201A	140-0078-401	140-0078-401A
	3/32	1/8	3.0	0.563	140-0093-201	140-0093-201A	140-0093-401	140-0093-401A
	1/8	1/8	3.0	0.750	140-0125-201	140-0125-201A	140-0125-401	140-0125-401A
	3/16	3/16	3.0	1.125	140-0187-201	140-0187-201A	140-0187-401	140-0187-401A
	1/4	1/4	4.0	1.500	140-0250-201	140-0250-201A	140-0250-401	140-0250-401A
	5/16	5/16	4.0	1.625	140-0312-201	140-0312-201A	140-0312-401	140-0312-401A
	3/8	3/8	4.0	2.000	140-0375-201	140-0375-201A	140-0375-401	140-0375-401A
	1/2	1/2	6.0	3.000	140-0500-201	140-0500-201A	140-0500-401	140-0500-401A
	5/8	5/8	6.0	3.000	140-0625-201	140-0625-201A	140-0625-401	140-0625-401A
	3/4	3/4	6.0	3.000	140-0750-201	140-0750-201A	140-0750-401	140-0750-401A
	1	1	6.0	3.000	140-1000-201	140-1000-201A	140-1000-401	140-1000-401A
	1	1	7.0	4.000	-	-	140-100B-401	140-100B-401A
	1	1	8.0	5.000	-	-	140-100C-401	140-100C-401A



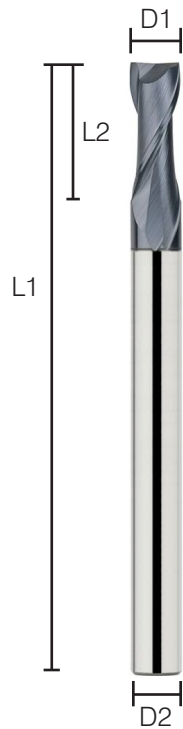
Ball Nose

	D1 Dia.w	D2 Dia. (h6)	L1 OAL	L2 LOC	2 Flute Part #	2 Flute Coated Part #	4 Flute Part #	4 Flute Coated Part #
in	1/32	1/8	3.0	0.156	140-0031-202	140-0031-202A	140-0031-402	140-0031-402A
	3/64	1/8	3.0	0.234	140-0046-202	140-0046-202A	140-0046-402	140-0046-402A
	1/16	1/8	3.0	0.313	140-0062-202	140-0062-202A	140-0062-402	140-0062-402A
	5/64	1/8	3.0	0.391	140-0078-202	140-0078-202A	140-0078-402	140-0078-402A
	3/32	1/8	3.0	0.563	140-0093-202	140-0093-202A	140-0093-402	140-0093-402A
	1/8	1/8	3.0	0.750	140-0125-202	140-0125-202A	140-0125-402	140-0125-402A
	3/16	3/16	3.0	1.125	140-0187-202	140-0187-202A	140-0187-402	140-0187-402A
	1/4	1/4	4.0	1.500	140-0250-202	140-0250-202A	140-0250-402	140-0250-402A
	5/16	5/16	4.0	1.625	140-0312-202	140-0312-202A	140-0312-402	140-0312-402A
	3/8	3/8	4.0	2.000	140-0375-202	140-0375-202A	140-0375-402	140-0375-402A
	1/2	1/2	6.0	3.000	140-0500-202	140-0500-202A	140-0500-402	140-0500-402A
	5/8	5/8	6.0	3.000	140-0625-202	140-0625-202A	140-0625-402	140-0625-402A
	3/4	3/4	6.0	3.000	140-0750-202	140-0750-202A	140-0750-402	140-0750-402A
	1	1	6.0	3.000	140-1000-202	140-1000-202A	140-1000-402	140-1000-402A
	1	1	7.0	4.000	-	-	140-100B-402	140-100B-402A
	1	1	8.0	5.000	-	-	140-100C-402	140-100C-402A



Long Reach 2 & 4 Flute

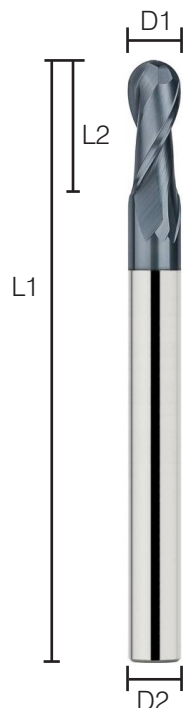
- General purpose 2 & 4 flute solid carbide end mill
- Excellent cost to performance ratio
- Short length of cut with long overall length
- Available coated and uncoated
- 30° helix geometry
- Center cutting



Square Corner

	D1 Dia.	D2 Dia. (h6)	L1 OAL	L2 LOC	2 Flute Part #	2 Flute Coated Part #	4 Flute Part #	4 Flute Coated Part #
in	1/8	1/8	3.0	0.375	140-A125-201	140-A125-201A	140-A125-401	140-A125-401A
	1/8	1/8	4.0	0.750	140-B125-201	140-B125-201A	140-B125-401	140-B125-401A
	3/16	3/16	4.0	0.625	140-A187-201	140-A187-201A	140-A187-401	140-A187-401A
	3/16	3/16	4.0	1.125	140-B187-201	140-B187-201A	140-B187-401	140-B187-401A
	1/4	1/4	6.0	0.875	140-A250-201	140-A250-201A	140-A250-401	140-A250-401A
	1/4	1/4	4.0	1.000	-	-	140-C250-401	140-C250-401A
	5/16	5/16	6.0	1.000	140-A312-201	140-A312-201A	140-A312-401	140-A312-401A
	3/8	3/8	6.0	1.000	140-A375-201	140-A375-201A	140-A375-401	140-A375-401A
	1/2	1/2	6.0	1.250	140-A500-201	140-A500-201A	140-A500-401	140-A500-401A
	1/2	1/2	6.0	2.000	-	-	140-B500-401	140-B500-401A
	1/2	1/2	8.0	1.000	-	-	140-C500-401	140-C500-401A
	5/8	5/8	6.0	1.250	140-A625-201	140-A625-201A	140-A625-401	140-A625-401A
	3/4	3/4	6.0	1.375	140-A750-201	140-A750-201A	140-A750-401	140-A750-401A
	1	1	6.0	1.375	140-100A-201	140-100A-201A	140-100A-401	140-100A-401A

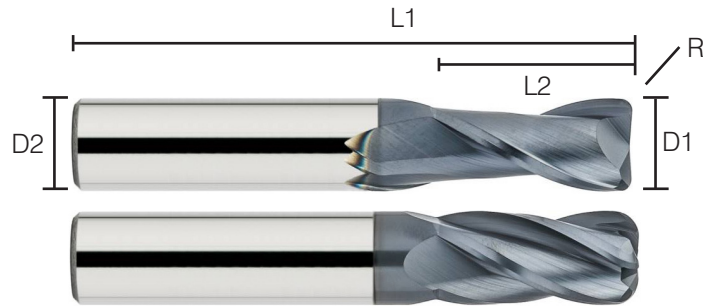
Ball Nose



	D1 Dia.	D2 Dia. (h6)	L1 OAL	L2 LOC	2 Flute Part #	2 Flute Coated Part #	4 Flute Part #	4 Flute Coated Part #
in	1/8	1/8	3.0	0.375	140-A125-202	140-A125-202A	140-A125-402	140-A125-402A
	1/8	1/8	4.0	0.750	140-B125-202	140-B125-202A	140-B125-402	140-B125-402A
	3/16	3/16	4.0	0.625	140-A187-202	140-A187-202A	140-A187-402	140-A187-402A
	3/16	3/16	4.0	1.125	140-B187-202	140-B187-202A	140-B187-402	140-B187-402A
	1/4	1/4	6.0	0.875	140-A250-202	140-A250-202A	140-A250-402	140-A250-402A
	1/4	1/4	4.0	1.000	-	-	140-C250-402	140-C250-402A
	5/16	5/16	6.0	1.000	140-A312-202	140-A312-202A	140-A312-402	140-A312-402A
	3/8	3/8	6.0	1.000	140-A375-202	140-A375-202A	140-A375-402	140-A375-402A
	1/2	1/2	6.0	1.250	140-A500-202	140-A500-202A	140-A500-402	140-A500-402A
	1/2	1/2	6.0	2.000	-	-	140-B500-402	140-B500-402A
	1/2	1/2	8.0	1.000	-	-	140-C500-402	140-C500-402A
	5/8	5/8	6.0	1.250	140-A625-202	140-A625-202A	140-A625-402	140-A625-402A
	5/8	5/8	8.0	1.250	-	-	140-C625-402	140-C625-402A
	3/4	3/4	6.0	1.375	140-A750-202	140-A750-202A	140-A750-402	140-A750-402A
	3/4	3/4	8.0	1.500	-	-	140-B750-402	140-B750-402A
	1	1	6.0	1.375	140-100A-202	140-100A-202A	140-100A-402	140-100A-402A

Corner Radius 2 & 4 Flute

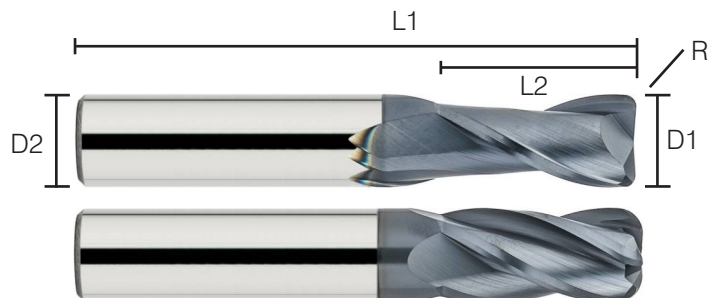
- General purpose 2 & 4 flute solid carbide end mill
- Excellent cost to performance ratio
- Several length of cut options
- Several corner radius options
- Available coated and uncoated
- 30° helix geometry
- Center cutting



	D1 Dia.	D2 Dia. (h6)	L1 OAL	L2 LOC	R Radius	2 Flute Part #	2 Flute Coated Part #	4 Flute Part #	4 Flute Coated Part #
in	1/16	1/8	2.0	0.188	0.005	110-0062-2R05	110-0062-2AR05	110-0062-4R05	110-0062-4AR05
	1/16	1/8	2.0	0.188	0.010	110-0062-2R10	110-0062-2AR10	110-0062-4R10	110-0062-4AR10
	1/16	1/8	2.0	0.188	0.015	110-0062-2R15	110-0062-2AR15	110-0062-4R15	110-0062-4AR15
	5/64	1/8	2.0	0.250	0.005	-	-	110-0078-4R05	110-0078-4AR05
	5/64	1/8	2.0	0.250	0.010	110-0078-2R10	110-0078-2AR10	110-0078-4R10	110-0078-4AR10
	5/64	1/8	2.0	0.250	0.015	110-0078-2R15	110-0078-2AR15	110-0078-4R15	110-0078-4AR15
	3/32	1/8	2.0	0.344	0.005	110-0093-2R05	110-0093-2AR05	110-0093-4R05	110-0093-4AR05
	3/32	1/8	2.0	0.344	0.010	110-0093-2R10	110-0093-2AR10	110-0093-4R10	110-0093-4AR10
	3/32	1/8	2.0	0.344	0.015	110-0093-2R15	110-0093-2AR15	110-0093-4R15	110-0093-4AR15
	3/32	1/8	2.0	0.344	0.020	110-0093-2R20	110-0093-2AR20	110-0093-4R20	110-0093-4AR20
	1/8	1/8	2.0	0.500	0.005	110-0125-2R05	110-0125-2AR05	110-0125-4R05	110-0125-4AR05
	1/8	1/8	2.0	0.500	0.010	110-0125-2R10	110-0125-2AR10	110-0125-4R10	110-0125-4AR10
	1/8	1/8	2.0	0.500	0.015	110-0125-2R15	110-0125-2AR15	110-0125-4R15	110-0125-4AR15
	1/8	1/8	2.0	0.500	0.020	110-0125-2R20	110-0125-2AR20	110-0125-4R20	110-0125-4AR20
	1/8	1/8	2.0	0.500	0.030	110-0125-2R30	110-0125-2AR30	110-0125-4R30	110-0125-4AR30
	5/32	3/16	2.0	0.563	0.010	-	110-0156-2AR10	-	110-0156-4AR10
	5/32	3/16	2.0	0.563	0.020	-	110-0156-2AR20	-	110-0156-4AR20

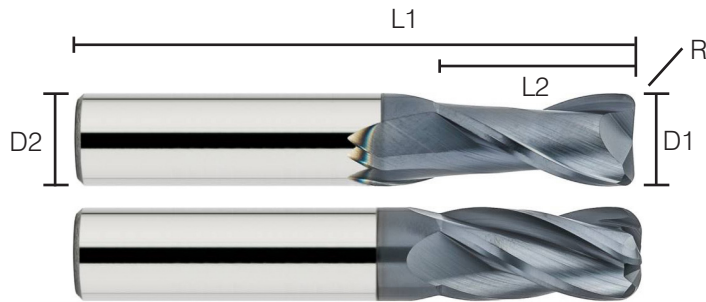
Corner Radius 2 & 4 Flute

- General purpose 2 & 4 flute solid carbide end mill
- Excellent cost to performance ratio
- Several length of cut options
- Several corner radius options
- Available coated and uncoated
- 30° helix geometry
- Center cutting



	D1 Dia.	D2 Dia. (h6)	L1 OAL	L2 LOC	R Radius	2 Flute Part #	2 Flute Coated Part #	4 Flute Part #	4 Flute Coated Part #
in	3/16	3/16	2.0	0.625	0.005	110-0187-2R05	110-0187-2AR05	110-0187-4R05	110-0187-4AR05
	3/16	3/16	2.0	0.625	0.010	110-0187-2R10	110-0187-2AR10	110-0187-4R10	110-0187-4AR10
	3/16	3/16	2.0	0.625	0.015	-	-	110-0187-4R15	110-0187-4AR15
	3/16	3/16	2.0	0.625	0.020	110-0187-2R20	110-0187-2AR20	110-0187-4R20	110-0187-4AR20
	3/16	3/16	2.0	0.625	0.030	110-0187-2R30	110-0187-2AR30	110-0187-4R30	110-0187-4AR30
	3/16	3/16	2.0	0.625	0.060	-	-	110-0187-4R60	110-0187-4AR60
	3/16	3/16	2.5	0.750	0.030	130-0187-2R30	130-0187-2AR30	130-0187-4R30	130-0187-4AR30
	3/16	3/16	2.5	0.625	0.060	-	-	130-A187-4R60	130-A187-4AR60
	3/16	3/16	4.0	0.625	0.030	-	-	-	140-0187-4AR30
	1/4	1/4	2.5	0.750	0.005	110-0250-2R05	110-0250-2AR05	110-0250-4R05	110-0250-4AR05
	1/4	1/4	2.5	0.750	0.010	110-0250-2R10	110-0250-2AR10	110-0250-4R10	110-0250-4AR10
	1/4	1/4	2.5	0.750	0.015	110-0250-2R15	110-0250-2AR15	110-0250-4R15	110-0250-4AR15
	1/4	1/4	2.5	0.750	0.020	110-0250-2R20	110-0250-2AR20	110-0250-4R20	110-0250-4AR20
	1/4	1/4	2.5	0.750	0.030	110-0250-2R30	110-0250-2AR30	110-0250-4R30	110-0250-4AR30
	1/4	1/4	2.5	0.750	0.040	110-0250-2R40	110-0250-2AR40	110-0250-4R40	110-0250-4AR40
	1/4	1/4	2.5	0.750	0.060	-	130-0250-2AR60	110-0250-4R60	110-0250-4AR60
	1/4	1/4	3.0	1.125	0.010	-	110-0250-2AR10	-	130-0250-4AR10
	1/4	1/4	3.0	1.125	0.030	-	-	130-0250-4R30	130-0250-4AR30
	1/4	1/4	3.0	1.125	0.060	130-0250-2R60	130-0250-2AR60	130-0250-4R60	130-0250-4AR60
	1/4	1/4	4.0	1.500	0.030	140-0250-2R30	140-0250-2AR30	140-0250-4R30	140-0250-4AR30
	1/4	1/4	4.0	1.500	0.060	140-0250-2R60	140-0250-2AR60	140-0250-4R60	140-0250-4AR60
	1/4	1/4	6.0	0.875	0.030	-	-	140-A250-4R30	140-A250-4AR30
	1/4	1/4	6.0	0.875	0.060	-	-	140-A250-4R60	140-A250-4AR60
	5/16	5/16	2.5	0.813	0.015	110-0312-2R15	110-0312-2AR15	110-0312-4R15	110-0312-4AR15
	5/16	5/16	2.5	0.813	0.020	110-0312-2R20	110-0312-2AR20	110-0312-4R20	110-0312-4AR20
	5/16	5/16	2.5	0.813	0.030	110-0312-2R30	110-0312-2AR30	110-0312-4R30	110-0312-4AR30
	5/16	5/16	2.5	0.813	0.040	110-0312-2R40	110-0312-2AR40	110-0312-4R40	110-0312-4AR40
	5/16	5/16	2.5	0.813	0.040	-	-	110-0312-4R60	110-0312-4AR60
	5/16	5/16	3.0	1.125	0.030	-	-	130-0312-4R30	130-0312-4AR30
	5/16	5/16	3.0	1.125	0.060	-	-	130-0312-4R60	130-0312-4AR60
	5/16	5/16	4.0	1.625	0.030	140-0312-2R30	140-0312-2AR30	140-0312-4R30	140-0312-4AR30

Corner Radius 2 & 4 Flute

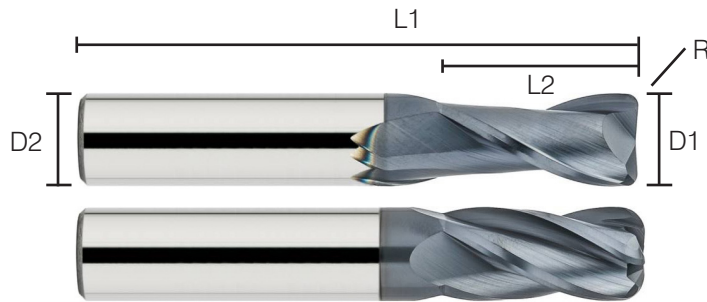


- General purpose 2 & 4 flute solid carbide end mill
- Excellent cost to performance ratio
- Several length of cut options
- Several corner radius options
- Available coated and uncoated
- 30° helix geometry
- Center cutting

	D1 Dia.	D2 Dia. (h6)	L1 OAL	L2 LOC	R Radius	2 Flute Part #	2 Flute Coated Part #	4 Flute Part #	4 Flute Coated Part #
in	3/8	3/8	2.5	0.875	0.005	110-0375-2R05	110-0375-2AR05	110-0375-4R05	110-0375-4AR05
	3/8	3/8	2.5	0.875	0.010	110-0375-2R10	110-0375-2AR10	110-0375-4R10	110-0375-4AR10
	3/8	3/8	2.5	0.875	0.015	110-0375-2R15	110-0375-2AR15	110-0375-4R15	110-0375-4AR15
	3/8	3/8	2.5	0.875	0.020	110-0375-2R20	110-0375-2AR20	110-0375-4R20	110-0375-4AR20
	3/8	3/8	2.5	0.875	0.030	110-0375-2R30	110-0375-2AR30	110-0375-4R30	110-0375-4AR30
	3/8	3/8	2.5	0.875	0.040	110-0375-2R40	110-0375-2AR40	110-0375-4R40	110-0375-4AR40
	3/8	3/8	2.5	0.875	0.060	110-0375-2R60	110-0375-2AR60	110-0375-4R60	110-0375-4AR60
	3/8	3/8	2.5	0.875	0.125	110-0375-2R125	110-0375-2AR125	110-0375-4R125	110-0375-4AR125
	3/8	3/8	3.0	1.125	0.010	130-0375-2R10	130-0375-2AR10	130-0375-4R10	130-0375-4AR10
	3/8	3/8	3.0	1.125	0.030	130-0375-2R30	130-0375-2AR30	130-0375-4R30	130-0375-4AR30
	3/8	3/8	3.0	1.000	0.060	130-0375-2R60	130-0375-2AR60	130-0375-4R60	130-0375-4AR60
	3/8	3/8	4.0	4.000	0.010	-	-	140-0375-4R10	140-0375-4AR10
	3/8	3/8	4.0	4.000	0.030	-	-	140-0375-4R30	140-0375-4AR30
	3/8	3/8	4.0	4.000	0.060	-	-	140-0375-4R60	140-0375-4AR60
	3/8	3/8	6.0	6.000	0.030	-	-	140-A375-4R30	140-A375-4AR30
	3/8	3/8	6.0	6.000	0.060	-	-	140-A375-4R60	140-A375-4AR60
	1/2	1/2	3.0	3.000	0.005	-	-	110-0500-4R05	110-0500-4AR05
	1/2	1/2	3.0	3.000	0.010	-	-	110-0500-4R10	110-0500-4AR10
	1/2	1/2	3.0	3.000	0.015	110-0500-2R15	110-0500-2AR15	110-0500-4R15	110-0500-4AR15
	1/2	1/2	3.0	3.000	0.020	110-0500-2R20	110-0500-2AR20	110-0500-4R20	110-0500-4AR20
	1/2	1/2	3.0	3.000	0.030	110-0500-2R30	110-0500-2AR30	110-0500-4R30	110-0500-4AR30
	1/2	1/2	3.0	3.000	0.040	110-0500-2R40	110-0500-2AR40	110-0500-4R40	110-0500-4AR40
	1/2	1/2	3.0	3.000	0.060	110-0500-2R60	110-0500-2AR60	110-0500-4R60	110-0500-4AR60
	1/2	1/2	3.0	3.000	0.125	-	-	110-0500-4R90	110-0500-4AR90
	1/2	1/2	3.0	3.000	0.125	110-0500-2R125	110-0500-2AR125	110-0500-4R125	110-0500-4AR125
	1/2	1/2	4.0	4.000	0.010	-	-	130-0500-4R10	130-0500-4AR10
	1/2	1/2	4.0	4.000	0.060	-	-	130-0500-4R60	130-0500-4AR60
	1/2	1/2	4.0	4.000	0.125	-	-	130-0500-4R125	130-0500-4AR125
	1/2	1/2	6.0	6.000	0.030	-	-	140-0500-4R30	140-0500-4AR30
	1/2	1/2	6.0	6.000	0.060	-	-	140-0500-4R60	140-0500-4AR60
	1/2	1/2	6.0	1.250	0.030	-	-	140-A500-4R30	140-A500-4AR30
	1/2	1/2	6.0	1.250	0.060	-	-	140-A500-4R60	140-A500-4AR60

Corner Radius 2 & 4 Flute

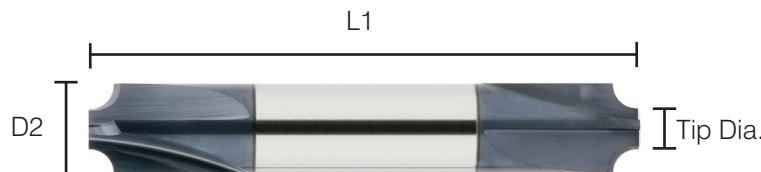
- General purpose 2 & 4 flute solid carbide end mill
- Excellent cost to performance ratio
- Several length of cut options
- Several corner radius options
- Available coated and uncoated
- 30° helix geometry
- Center cutting



	D1 Dia.	D2 Dia. (h6)	R Radius	L1 OAL	L2 LOC	2 Flute Part #	2 Flute Coated Part #	4 Flute Part #	4 Flute Coated Part #
in	5/8	5/8	3.5	1.250	0.015	-	-	110-0625-4R15	110-0625-4AR15
	5/8	5/8	3.5	1.250	0.020	-	-	110-0625-4R20	110-0625-4AR20
	5/8	5/8	3.5	1.250	0.030	110-0625-2R30	110-0625-2AR30	110-0625-4R30	110-0625-4AR30
	5/8	5/8	3.5	1.250	0.040	110-0625-2R40	110-0625-2AR40	110-0625-4R40	110-0625-4AR40
	5/8	5/8	3.5	1.250	0.060	110-0625-2R60	110-0625-2AR60	110-0625-4R60	110-0625-4AR60
	5/8	5/8	3.5	1.250	0.125	-	-	110-0625-4R125	110-0625-4AR125
	3/4	3/4	4.0	1.500	0.015	-	-	110-0750-4R15	110-0750-4AR15
	3/4	3/4	4.0	1.500	0.020	-	-	110-0750-4R20	110-0750-4AR20
	3/4	3/4	4.0	1.500	0.030	-	-	110-0750-4R30	110-0750-4AR30
	3/4	3/4	4.0	1.500	0.040	-	-	110-0750-4R40	110-0750-4AR40
	3/4	3/4	4.0	1.500	0.060	-	-	110-0750-4R60	110-0750-4AR60
	3/4	3/4	4.0	1.500	0.090	110-0750-2R90	110-0750-2AR90	110-0750-4R90	110-0750-4AR90
	3/4	3/4	4.0	1.500	0.125	110-0750-2R125	110-0750-2AR125	110-0750-4R125	110-0750-4AR125
	3/4	3/4	4.0	1.500	0.250	-	-	110-0750-4R250	110-0750-4A250
	1	1	4.0	1.500	0.030	110-1000-2R30	110-1000-2AR30	110-1000-4R30	110-1000-4AR30
	1	1	4.0	1.500	0.040	-	-	-	-
	1	1	4.0	1.500	0.060	110-1000-2R60	110-1000-2AR60	110-1000-4R60	110-1000-4AR60
	1	1	4.0	1.500	0.090	-	-	-	-
	1	1	4.0	1.500	0.125	110-1000-2R125	110-1000-2AR125	110-1000-4R125	110-1000-4AR125
	1	1	6.0	1.375	0.030	140-100A-2R30	140-100A-2R30A	-	-
	1	1	6.0	1.375	0.060	140-100A-2R60	140-100A-2R60A	-	-
	1	1	6.0	1.375	0.090	140-100A-2R90	140-100A-2R90A	-	-
	1	1	6.0	1.375	0.120	140-100A-2R120	140-100A-2R120A	-	-

Corner Round

Corner Round Series End Mills incorporate standard geometry for an excellent general purpose End Mill. They are suited for a variety of milling applications. Tools are suitable for breaking edges and putting a smooth radius on a part. Also known as radius cutters, these tools are useful for milling deep inside a pocket or on the back side of a part. Available coated and uncoated.

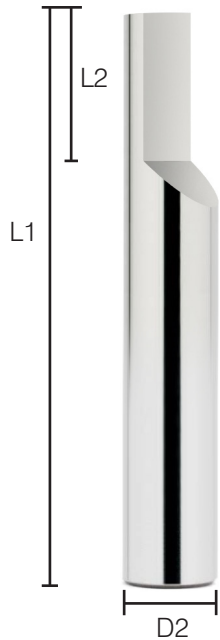


	Corner Round	D2 Dia. (h6)	L1 OAL	No. of Flutes	Tip Dia.	Part #	Coated Part #
in	0.010	1/4	2.5	4	.219	111-0250-4R010	111-0250-4AR010
	0.015	1/4	2.5	4	.209	111-0250-4R015	111-0250-4AR015
	0.020	1/4	2.5	4	.199	111-0250-4R020	111-0250-4AR020
	0.032	1/4	2.5	4	.173	111-0250-4R032	111-0250-4AR032
	0.050	1/4	2.5	4	.134	111-0250-4R050	111-0250-4AR050
	0.032	3/8	2.5	4	.298	111-0375-4R032	111-0375-4AR032
	0.040	3/8	2.5	4	.284	111-0375-4R040	111-0375-4AR040
	0.050	3/8	2.5	4	.260	111-0375-4R050	111-0375-4AR050
	0.062	3/8	2.5	4	.233	111-0375-4R062	111-0375-4AR062
	0.062	1/2	3.0	4	.358	111-0500-4R062	111-0500-4AR062
	0.078	1/2	3.0	4	.324	111-0500-4R078	111-0500-4AR078
	0.093	1/2	3.0	4	.294	111-0500-4R093	111-0500-4AR093
	0.125	1/2	3.0	4	.225	111-0500-4R125	111-0500-4AR125
	0.125	5/8	3.5	4	.350	111-0625-4R125	111-0625-4AR125
	0.156	5/8	3.5	4	.278	111-0625-4R156	111-0625-4AR156
	0.187	3/4	4.0	4	.341	111-0750-4R187	111-0750-4AR187
	0.250	3/4	4.0	4	.206	111-0750-4R250	111-0750-4AR250
	0.312	1	4.0	4	.321	111-1000-4R312	111-1000-4AR312
	0.375	1	4.0	3	.195	111-1000-3R375	111-1000-3AR375

Split Blank

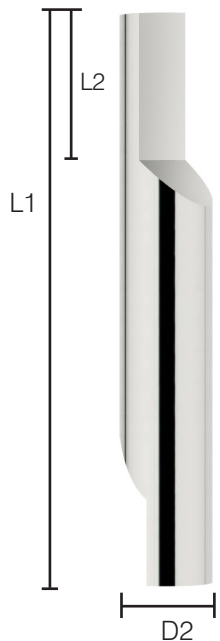
- Solid carbide split blanks
- For custom milling, lathe tools
- Available square and with various point angles

Single End



	D2 Dia. (h6)	L1 OAL	L2 Split Length	Standard Part #	30° Point Part #	60° Point Part #	90° Point Part #
in	1/8	1.5	0.375	113-A125-100	113-A125-130	113-A125-160	113-A125-190
	1/8	2.0	0.375	113-B125-100	113-B125-130	113-B125-160	113-B125-190
	1/8	3.0	0.375	113-C125-100	113-C125-130	113-C125-160	113-C125-190
	3/16	2.0	0.375	113-A187-100	113-A187-130	113-A187-160	113-A187-190
	3/16	3.0	0.375	113-C187-100	113-C187-130	113-C187-160	113-C187-190
	3/16	4.0	0.375	113-D187-100	113-D187-130	113-D187-160	113-D187-190
	1/4	2.0	0.375	113-A250-100	113-A250-130	113-A250-160	113-A250-190
	1/4	3.0	0.375	113-C250-100	113-C250-130	113-C250-160	113-C250-190
	1/4	4.0	0.375	113-D250-100	113-D250-130	113-D250-160	113-D250-190
	1/4	6.0	0.375	113-E250-100	113-E250-130	113-E250-160	113-E250-190
	3/8	3.0	0.500	113-B375-100	113-B375-130	113-B375-160	113-B375-190
	3/8	4.0	0.500	113-C375-100	113-C375-130	113-C375-160	113-C375-190
	3/8	6.0	0.500	113-D375-100	113-D375-130	113-D375-160	113-D375-190
	1/2	3.0	0.625	113-A500-100	113-A500-130	113-A500-160	113-A500-190
	1/2	4.0	0.625	113-B500-100	113-B500-130	113-B500-160	113-B500-190
	1/2	6.0	0.625	113-C500-100	113-C500-130	113-C500-160	113-C500-190

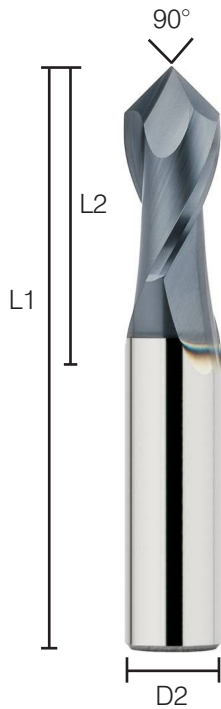
Double End



	D2 Dia. (h6)	L1 OAL	L2 Split Length	Standard Part #	30° Part #	60° Part #	90° Part #
in	1/8	1.5	0.375	114-A125-100	114-A125-130	114-A125-160	114-A125-190
	1/8	2.0	0.375	114-B125-100	114-B125-130	114-B125-160	114-B125-190
	1/8	3.0	0.375	114-C125-100	114-C125-130	114-C125-160	114-C125-190
	3/16	2.0	0.375	114-A187-100	114-A187-130	114-A187-160	114-A187-190
	3/16	3.0	0.375	114-C187-100	114-C187-130	114-C187-160	114-C187-190
	3/16	4.0	0.375	114-D187-100	114-D187-130	114-D187-160	114-D187-190
	1/4	2.0	0.375	114-A250-100	114-A250-130	114-A250-160	114-A250-190
	1/4	3.0	0.375	114-C250-100	114-C250-130	114-C250-160	114-C250-190
	1/4	4.0	0.375	114-D250-100	114-D250-130	114-D250-160	114-D250-190
	1/4	6.0	0.375	114-E250-100	114-E250-130	114-E250-160	114-E250-190
	3/8	3.0	0.500	114-B375-100	114-B375-130	114-B375-160	114-B375-190
	3/8	4.0	0.500	114-C375-100	114-C375-130	114-C375-160	114-C375-190
	3/8	6.0	0.500	114-D375-100	114-D375-130	114-D375-160	114-D375-190
	1/2	3.0	0.625	114-A500-100	114-A500-130	114-A500-160	114-A500-190
	1/2	4.0	0.625	114-B500-100	114-B500-130	114-B500-160	114-B500-190
	1/2	6.0	0.625	114-C500-100	114-C500-130	114-C500-160	114-C500-190

Chamfering Cutters

- 2 flute solid carbide chamfer cutters
- Used for chamfering and slotting
- 90° & 120° point geometry
- Available coated and uncoated

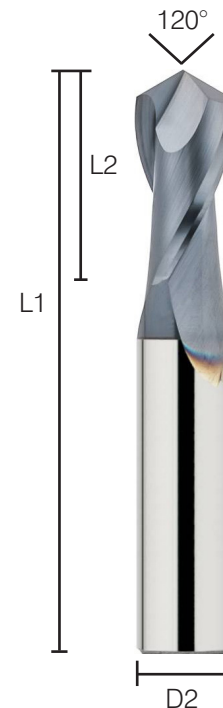


Chamfering Cutter 90° included

	D2 Dia. (h6)	L1 OAL	L2 LOC	Standard Part #	Coated Part #
in	1/8	1.5	0.500	116-0125-2P90	116-0125-2P90A
	3/16	2.0	0.625	116-0187-2P90	116-0187-2P90A
	1/4	2.5	0.750	116-0250-2P90	116-0250-2P90A
	3/8	2.5	0.875	116-0375-2P90	116-0375-2P90A
	1/2	3.0	1.000	116-0500-2P90	116-0500-2P90A
	5/8	3.5	1.250	116-0625-2P90	116-0625-2P90A
	3/4	4.0	1.500	116-0750-2P90	116-0750-2P90A

Chamfering Cutter 120° included

	D2 Dia. (h6)	L1 OAL	L2 LOC	Standard Part #	Coated Part #
in	1/8	1.5	0.500	116-0125-2P120	116-0125-2P120A
	3/16	2	0.625	116-0187-2P120	116-0187-2P120A
	1/4	2.5	0.750	116-0250-2P120	116-0250-2P120A
	3/8	2.5	0.875	116-0375-2P120	116-0375-2P120A
	1/2	3	1.000	116-0500-2P120	116-0500-2P120A
	5/8	3.5	1.250	116-0625-2P120	116-0625-2P120A
	3/4	4	1.500	116-0750-2P120	116-0750-2P120A



Engraving Specials / Spot Drill



Engraving Specials

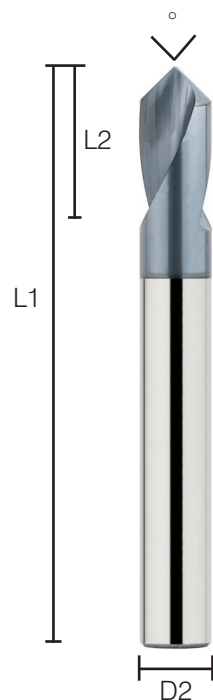
- Single flute solid carbide engraving cutters
- Used for light duty engraving
- Available coated and uncoated

	D2 Dia. (h6)	L1 OAL	L2 Split Length	Tip Size	Standard Part #	Coated Part #
in	1/8	2.0	0.120	0.005	113-B125-3005	113-B125-3005A
	1/8	2.0	0.120	0.010	113-B125-3010	113-B125-3010A
	1/8	2.0	0.120	0.015	113-B125-3015	113-B125-3015A
	1/8	2.0	0.120	0.020	113-B125-3020	113-B125-3020A
	1/8	2.0	0.120	0.025	113-B125-3025	113-B125-3025A

Carbide Spot Drill

- 2 flute solid carbide spot drills
- 90° & 120° point geometry
- Available coated and uncoated

	D2 Dia. (h6)	L1 OAL	L2 LOC	90° Point Part #	90° Point Coated Part #	120° Point Part #	120° Point Coated Part #
in	1/8	2.0	0.375	230-0125-210	230-0125-210A	230-0125-211	230-0125-211A
	3/16	2.5	0.500	230-0187-210	230-0187-210A	230-0187-211	230-0187-211A
	1/4	3.0	0.625	230-0250-210	230-0250-210A0	230-0250-211	230-0250-211A
	5/16	3.0	0.625	230-0312-210	230-0312-210A	230-0312-211	230-0312-211A
	3/8	3.0	0.750	230-0375-210	230-0375-210A	230-0375-211	230-0375-211A
	1/2	4.0	1.000	230-0500-210	230-0500-210A	230-0500-211	230-0500-211A
	5/8	3.5	1.000	230-0625-210	230-0625-210A	230-0625-211	230-0625-211A
	3/4	4.0	1.125	230-0750-210	230-0750-210A	230-0750-211	230-0750-211A

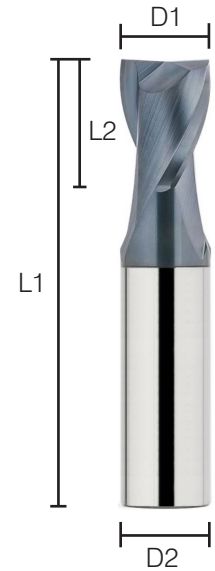


Metric - 2 Flute Stub

- General purpose Metric 2 flute solid carbide end mill
- Excellent cost to performance ratio
- Stub length of cut
- Available coated and uncoated
- 30° helix geometry
- Center cutting

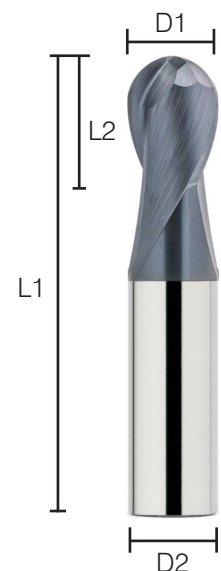
Square Corner

	D1 Dia.	D2 Dia. (h6)	L1 OAL	L2 LOC	Part #	Coated Part #
mm	1.0	3.0	39.0	1.5	100-010-201	100-010-201A
	1.5	3.0	39.0	2.3	100-015-201	100-015-201A
	2.0	3.0	39.0	3.0	100-020-201	100-020-201A
	2.5	3.0	39.0	4.0	100-025-201	100-025-201A
	3.0	3.0	39.0	6.0	100-030-201	100-030-201A
	4.0	4.0	51.0	8.0	100-040-201	100-040-201A
	5.0	5.0	51.0	9.0	100-050-201	100-050-201A
	6.0	6.0	51.0	10.0	100-060-201	100-060-201A
	8.0	8.0	50.0	12.0	100-080-201	100-080-201A
	10.0	10.0	50.0	16.0	100-100-201	100-100-201A
	12.0	12.0	63.0	18.0	100-120-201	100-120-201A
	16.0	16.0	83.0	22.0	100-160-201	100-160-201A



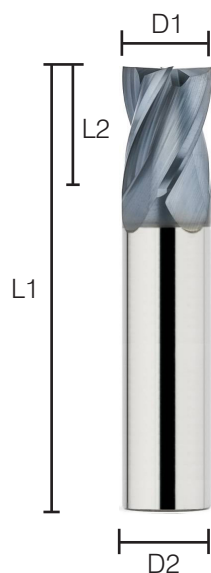
Ball Nose

	D1 Dia.	D2 Dia. (h6)	L1 OAL	L2 LOC	Part #	Coated Part #
mm	1.0	3.0	39.0	1.5	100-010-202	100-010-202A
	1.5	3.0	39.0	2.3	100-015-202	100-015-202A
	2.0	3.0	39.0	3.0	100-020-202	100-020-202A
	2.5	3.0	39.0	4.0	100-025-202	100-025-202A
	3.0	3.0	39.0	6.0	100-030-202	100-030-202A
	4.0	4.0	51.0	8.0	100-040-202	100-040-202A
	5.0	5.0	51.0	9.0	100-050-202	100-050-202A
	6.0	6.0	51.0	10.0	100-060-202	100-060-202A
	8.0	8.0	50.0	12.0	100-080-202	100-080-202A
	10.0	10.0	50.0	16.0	100-100-202	100-100-202A
	12.0	12.0	63.0	18.0	100-120-202	100-120-202A
	16.0	16.0	83.0	22.0	100-160-202	100-160-202A



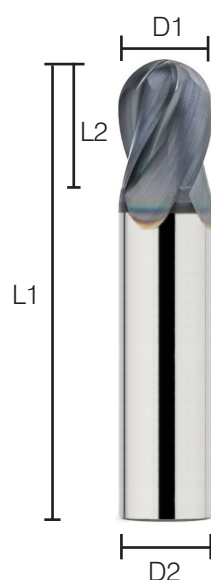
Metric - 4 Flute Stub

- General purpose Metric 4 flute solid carbide end mill
- Excellent cost to performance ratio
- Stub length of cut
- Available coated and uncoated
- 30° helix geometry
- Center cutting



Square Corner

	D1 Dia.	D2 Dia. (h6)	L1 OAL	L2 LOC	Part #	Coated Part #
mm	1.0	3.0	39.0	1.5	100-010-401	100-010-401A
	1.5	3.0	39.0	2.3	100-015-401	100-015-401A
	2.0	3.0	39.0	3.0	100-020-401	100-020-401A
	2.5	3.0	39.0	4.0	100-025-401	100-025-401A
	3.0	3.0	39.0	6.0	100-030-401	100-030-401A
	4.0	4.0	51.0	8.0	100-040-401	100-040-401A
	5.0	5.0	51.0	9.0	100-050-401	100-050-401A
	6.0	6.0	51.0	10.0	100-060-401	100-060-401A
	8.0	8.0	50.0	12.0	100-080-401	100-080-401A
	10.0	10.0	50.0	16.0	100-100-401	100-100-401A
	12.0	12.0	63.0	18.0	100-120-401	100-120-401A
	16.0	16.0	83.0	22.0	100-160-401	100-160-401A



Ball Nose

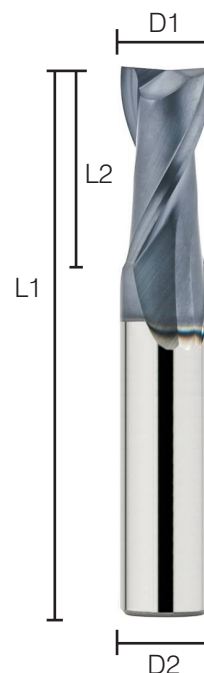
	D1 Dia.	D2 Dia. (h6)	L1 OAL	L2 LOC	Part #	Coated Part #
mm	1.0	3.0	39.0	1.5	100-010-402	100-010-402A
	1.5	3.0	39.0	2.3	100-015-402	100-015-402A
	2.0	3.0	39.0	3.0	100-020-402	100-020-402A
	2.5	3.0	39.0	4.0	100-025-402	100-025-402A
	3.0	3.0	39.0	6.0	100-030-402	100-030-402A
	4.0	4.0	51.0	8.0	100-040-402	100-040-402A
	5.0	5.0	51.0	9.0	100-050-402	100-050-402A
	6.0	6.0	51.0	10.0	100-060-402	100-060-402A
	8.0	8.0	50.0	12.0	100-080-402	100-080-402A
	10.0	10.0	50.0	16.0	100-100-402	100-100-402A
	12.0	12.0	63.0	18.0	100-120-402	100-120-402A
	16.0	16.0	83.0	22.0	100-160-402	100-160-402A

Metric - 2 Flute Standard

- General purpose Metric 2 flute solid carbide end mill
- Excellent cost to performance ratio
- Standard length of cut
- Available coated and uncoated
- 30° helix geometry
- Center cutting

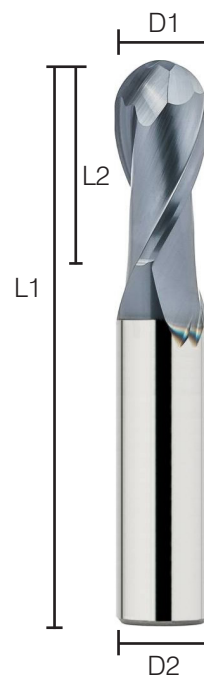
Square Corner

	D1 Dia.	D2 Dia. (h6)	L1 OAL	L2 LOC	Part #	Coated Part #
mm	0.5	3.0	39.0	1.5	101-005-201	101-005-201A
	1.0	3.0	39.0	3.0	101-010-201	101-010-201A
	1.5	3.0	39.0	4.5	101-015-201	101-015-201A
	2.0	3.0	39.0	6.0	101-020-201	101-020-201A
	2.5	3.0	39.0	8.0	101-025-201	101-025-201A
	3.0	3.0	39.0	10.0	101-030-201	101-030-201A
	4.0	4.0	51.0	12.0	101-040-201	101-040-201A
	5.0	5.0	64.0	14.0	101-050-201	101-050-201A
	6.0	6.0	64.0	16.0	101-060-201	101-060-201A
	8.0	8.0	64.0	20.0	101-080-201	101-080-201A
	10.0	10.0	67.0	24.0	101-100-201	101-100-201A
	12.0	12.0	74.0	26.0	101-120-201	101-120-201A
	16.0	16.0	89.0	32.0	101-160-201	101-160-201A
	18.0	18.0	93.0	36.0	101-180-201	101-180-201A
	20.0	20.0	100.0	38.0	101-200-201	101-200-201A
	25.0	25.0	100.0	40.0	101-250-201	101-250-201A



Ball Nose

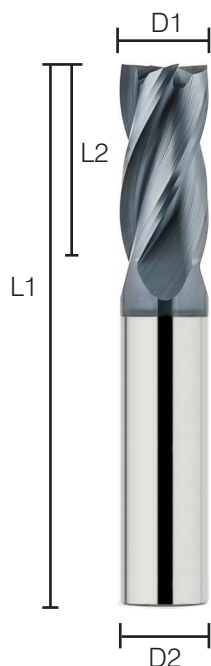
	D1 Dia.	D2 Dia. (h6)	L1 OAL	L2 LOC	Part #	Coated Part #
mm	0.5	3.0	39.0	1.5	101-005-202	101-005-202A
	1.0	3.0	39.0	3.0	101-010-202	101-010-202A
	1.5	3.0	39.0	4.5	101-015-202	101-015-202A
	2.0	3.0	39.0	6.0	101-020-202	101-020-202A
	2.5	3.0	39.0	8.0	101-025-202	101-025-202A
	3.0	3.0	39.0	10.0	101-030-202	101-030-202A
	4.0	4.0	51.0	12.0	101-040-202	101-040-202A
	5.0	5.0	64.0	14.0	101-050-202	101-050-202A
	6.0	6.0	64.0	16.0	101-060-202	101-060-202A
	8.0	8.0	64.0	20.0	101-080-202	101-080-202A
	10.0	10.0	67.0	24.0	101-100-202	101-100-202A
	12.0	12.0	74.0	26.0	101-120-202	101-120-202A
	16.0	16.0	89.0	32.0	101-160-202	101-160-202A
	18.0	18.0	93.0	36.0	101-180-202	101-180-202A
	20.0	20.0	100.0	38.0	101-200-202	101-200-202A
	25.0	25.0	100.0	40.0	101-250-202	101-250-202A



Metric - 4 Flute Standard

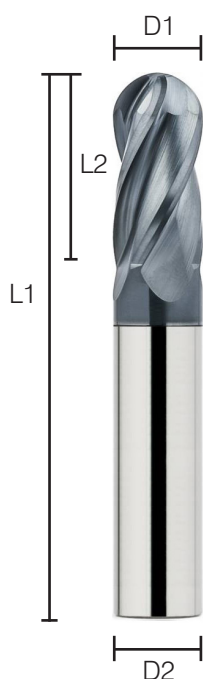
- General purpose Metric 4 flute solid carbide end mill
- Excellent cost to performance ratio
- Standard length of cut
- Available coated and uncoated
- 30° helix geometry
- Center cutting

Square Corner



	D1 Dia.	D2 Dia. (h6)	L1 OAL	L2 LOC	Part #	Coated Part #
mm	0.5	3.0	39.0	1.5	101-005-401	101-005-401A
	1.0	3.0	39.0	3.0	101-010-401	101-010-401A
	1.5	3.0	39.0	4.5	101-015-401	101-015-401A
	2.0	3.0	39.0	6.0	101-020-401	101-020-401A
	2.5	3.0	39.0	8.0	101-025-401	101-025-401A
	3.0	3.0	39.0	10.0	101-030-401	101-030-401A
	4.0	4.0	51.0	12.0	101-040-401	101-040-401A
	5.0	5.0	64.0	14.0	101-050-401	101-050-401A
	6.0	6.0	64.0	16.0	101-060-401	101-060-401A
	8.0	8.0	64.0	20.0	101-080-401	101-080-401A
	10.0	10.0	67.0	24.0	101-100-401	101-100-401A
	12.0	12.0	74.0	26.0	101-120-401	101-120-401A
	16.0	16.0	89.0	32.0	101-160-401	101-160-401A
	18.0	18.0	93.0	36.0	101-180-401	101-180-401A
	20.0	20.0	100.0	38.0	101-200-401	101-200-401A
	25.0	25.0	100.0	40.0	101-250-401	101-250-401A

Ball Nose



	D1 Dia.	D2 Dia. (h6)	L1 OAL	L2 LOC	Part #	Coated Part #
mm	0.5	3.0	39.0	1.5	101-005-402A	101-005-402A
	1.0	3.0	39.0	3.0	101-010-402	101-010-402A
	1.5	3.0	39.0	4.5	101-015-402	101-015-402A
	2.0	3.0	39.0	6.0	101-020-402	101-020-402A
	2.5	3.0	39.0	8.0	101-025-402	101-025-402A
	3.0	3.0	39.0	10.0	101-030-402	101-030-402A
	4.0	4.0	51.0	12.0	101-040-402	101-040-402A
	5.0	5.0	64.0	14.0	101-050-402	101-050-402A
	6.0	6.0	64.0	16.0	101-060-402	101-060-402A
	8.0	8.0	64.0	20.0	101-080-402	101-080-402A
	10.0	10.0	67.0	24.0	101-100-402	101-100-402A
	12.0	12.0	74.0	26.0	101-120-402	101-120-402A
	16.0	16.0	89.0	32.0	101-160-402	101-160-402A
	18.0	18.0	93.0	36.0	101-180-402	101-180-402A
	20.0	20.0	100.0	38.0	101-200-402	101-200-402A
	25.0	25.0	100.0	40.0	101-250-402	101-250-402A

Metric - 2 Flute Long

- General purpose Metric 2 flute solid carbide end mill
- Excellent cost to performance ratio
- Long length of cut
- Available coated and uncoated
- 30° helix geometry
- Center cutting

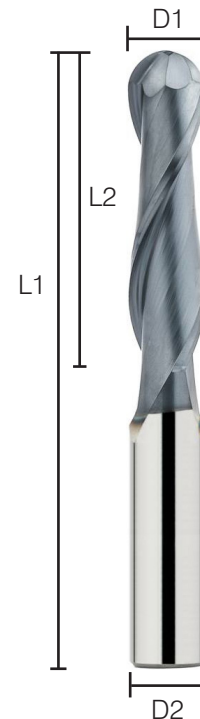
Square Corner

	D1 Dia.	D2 Dia. (h6)	L1 OAL	L2 LOC	Part #	Coated Part #
mm	1.0	3.0	39.0	4.0	102-010-201	102-010-201A
	1.5	3.0	39.0	6.0	102-015-201	102-015-201A
	2.0	3.0	39.0	8.0	102-020-201	102-020-201A
	2.5	3.0	51.0	10.0	102-025-201	102-025-201A
	3.0	3.0	51.0	13.0	102-030-201	102-030-201A
	4.0	4.0	64.0	16.0	102-040-201	102-040-201A
	5.0	5.0	76.0	20.0	102-050-201	102-050-201A
	6.0	6.0	76.0	24.0	102-060-201	102-060-201A
	8.0	8.0	76.0	26.0	102-080-201	102-080-201A
	10.0	10.0	76.0	30.0	102-100-201	102-100-201A
	12.0	12.0	100.0	38.0	102-120-201	102-120-201A
	16.0	16.0	125.0	40.0	102-160-201	102-160-201A
	18.0	18.0	125.0	46.0	102-180-201	102-180-201A
	20.0	20.0	125.0	52.0	102-200-201	102-200-201A
	25.0	25.0	125.0	52.0	102-250-201	102-250-201A



Ball Nose

	D1 Dia.	D2 Dia. (h6)	L1 OAL	L2 LOC	Part #	Coated Part #
mm	1.0	3.0	39.0	4.0	102-010-202	102-010-202A
	1.5	3.0	39.0	6.0	102-015-202	102-015-202A
	2.0	3.0	39.0	8.0	102-020-202	102-020-202A
	2.5	3.0	51.0	10.0	102-025-202	102-025-202A
	3.0	3.0	51.0	13.0	102-030-202	102-030-202A
	4.0	4.0	64.0	16.0	102-040-202	102-040-202A
	5.0	5.0	76.0	20.0	102-050-202	102-050-202A
	6.0	6.0	76.0	24.0	102-060-202	102-060-202A
	8.0	8.0	76.0	26.0	102-080-202	102-080-202A
	10.0	10.0	76.0	30.0	102-100-202	102-100-202A
	12.0	12.0	100.0	38.0	102-120-202	102-120-202A
	16.0	16.0	125.0	40.0	102-160-202	102-160-202A
	18.0	18.0	125.0	46.0	102-180-202	102-180-202A
	20.0	20.0	125.0	52.0	102-200-202	102-200-202A
	25.0	25.0	125.0	52.0	102-250-202	102-250-202A



Metric - 4 Flute Long

- General purpose Metric 4 flute solid carbide end mill
- Excellent cost to performance ratio
- Long length of cut
- Available coated and uncoated
- 30° helix geometry
- Center cutting



Square Corner

	D1 Dia.	D2 Dia. (h6)	L1 OAL	L2 LOC	Part #	Coated Part #
mm	1.0	3.0	39.0	4.0	102-010-401	102-010-401A
	1.5	3.0	39.0	6.0	102-015-401	102-015-401A
	2.0	3.0	39.0	8.0	102-020-401	102-020-401A
	2.5	3.0	51.0	10.0	102-025-401	102-025-401A
	3.0	3.0	51.0	13.0	102-030-401	102-030-401A
	4.0	4.0	64.0	16.0	102-040-401	102-040-401A
	5.0	5.0	76.0	20.0	102-050-401	102-050-401A
	6.0	6.0	76.0	24.0	102-060-401	102-060-401A
	8.0	8.0	76.0	26.0	102-080-401	102-080-401A
	10.0	10.0	76.0	30.0	102-100-401	102-100-401A
	12.0	12.0	100.0	38.0	102-120-401	102-120-401A
	16.0	16.0	125.0	40.0	102-160-401	102-160-401A
	18.0	18.0	125.0	46.0	102-180-401	-
	20.0	20.0	125.0	52.0	102-200-401	102-200-401A
	25.0	25.0	125.0	52.0	102-250-401	102-250-401A



Ball Nose

	D1 Dia.	D2 Dia. (h6)	L1 OAL	L2 LOC	Part #	Coated Part #
mm	1.0	3.0	39.0	4.0	102-010-402	102-010-402A
	1.5	3.0	39.0	6.0	102-015-402	102-015-402A
	2.0	3.0	39.0	8.0	102-020-402	102-020-402A
	2.5	3.0	51.0	10.0	102-025-402	102-025-402A
	3.0	3.0	51.0	13.0	102-030-402	102-030-402A
	4.0	4.0	64.0	16.0	102-040-402	102-040-402A
	5.0	5.0	76.0	20.0	102-050-402	102-050-402A
	6.0	6.0	76.0	24.0	102-060-402	102-060-402A
	8.0	8.0	76.0	26.0	102-080-402	102-080-402A
	10.0	10.0	76.0	30.0	102-100-402	102-100-402A
	12.0	12.0	100.0	38.0	102-120-402	102-120-402A
	16.0	16.0	125.0	40.0	102-160-402	102-160-402A
	18.0	18.0	125.0	46.0	102-180-402	-
	20.0	20.0	125.0	52.0	102-200-402	102-200-402A
	25.0	25.0	125.0	52.0	102-250-402	102-250-402A

Metric - 2 Flute X-Long

- General purpose Metric 2 flute solid carbide end mill
- Excellent cost to performance ratio
- Extra-Long length of cut
- Available coated and uncoated
- 30° helix geometry
- Center cutting

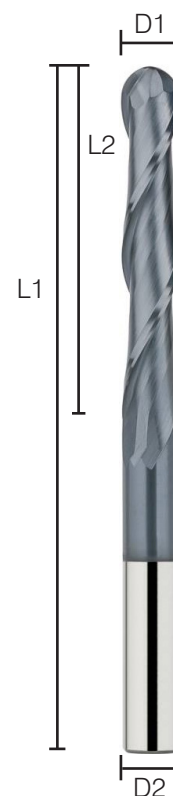
Square Corner

	D1 Dia.	D2 Dia. (h6)	L1 OAL	L2 LOC	Part #	Coated Part #
mm	1.0	3.0	51.0	5.0	103-010-201	103-010-201A
	1.5	3.0	51.0	7.5	103-015-201	103-015-201A
	2.0	3.0	51.0	10.0	103-020-201	103-020-201A
	2.5	3.0	51.0	14.0	103-025-201	103-025-201A
	3.0	3.0	64.0	20.0	103-030-201	103-030-201A
	4.0	4.0	76.0	22.0	103-040-201	103-040-201A
	5.0	5.0	100.0	28.0	103-050-201	103-050-201A
	6.0	6.0	100.0	32.0	103-060-201	103-060-201A
	8.0	8.0	100.0	35.0	103-080-201	103-080-201A
	10.0	10.0	100.0	45.0	103-100-201	103-100-201A
	12.0	12.0	150.0	60.0	103-120-201	103-120-201A
	16.0	16.0	150.0	70.0	103-160-201	103-160-201A
	18.0	18.0	150.0	70.0	103-180-201	103-180-201A
	20.0	20.0	150.0	75.0	103-200-201	103-200-201A
	25.0	25.0	150.0	75.0	103-250-201	103-250-201A



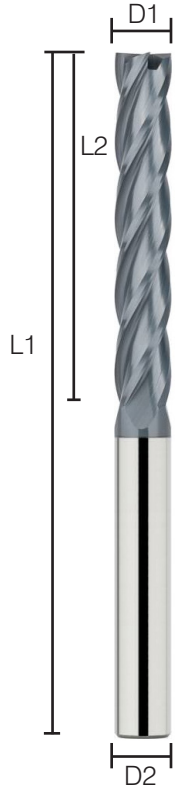
Ball Nose

	D1 Dia.	D2 Dia. (h6)	L1 OAL	L2 LOC	Part #	Coated Part #
mm	1.0	3.0	51.0	5.0	103-010-202	103-010-202A
	1.5	3.0	51.0	7.5	103-015-202	103-015-202A
	2.0	3.0	51.0	10.0	103-020-202	103-020-202A
	2.5	3.0	51.0	14.0	103-025-202	103-025-202A
	3.0	3.0	64.0	20.0	103-030-202	103-030-202A
	4.0	4.0	76.0	22.0	103-040-202	103-040-202A
	5.0	5.0	100.0	28.0	103-050-202	103-050-202A
	6.0	6.0	100.0	32.0	103-060-202	103-060-202A
	8.0	8.0	100.0	35.0	103-080-202	103-080-202A
	10.0	10.0	100.0	45.0	103-100-202	103-100-202A
	12.0	12.0	150.0	60.0	103-120-202	103-120-202A
	16.0	16.0	150.0	70.0	103-160-202	103-160-202A
	18.0	18.0	150.0	70.0	103-180-202	103-180-202A
	20.0	20.0	150.0	75.0	103-200-202	103-200-202A
	25.0	25.0	150.0	75.0	103-250-202	103-250-202A



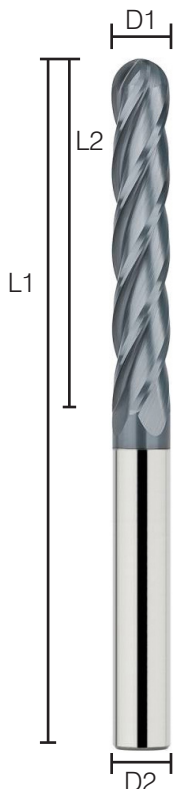
Metric - 4 Flute X-Long

- General purpose Metric 4 flute solid carbide end mill
- Excellent cost to performance ratio
- Extra-Long length of cut
- Available coated and uncoated
- 30° helix geometry
- Center cutting



Square Corner

	D1 Dia.	D2 Dia. (h6)	L1 OAL	L2 LOC	Part #	Coated Part #
mm	1.0	3.0	51.0	5.0	103-010-401	103-010-401A
	1.5	3.0	51.0	7.5	103-015-401	103-015-401A
	2.0	3.0	51.0	10.0	103-020-401	103-020-401A
	2.5	3.0	51.0	14.0	103-025-401	103-025-401A
	3.0	3.0	64.0	20.0	103-030-401	103-030-401A
	4.0	4.0	76.0	22.0	103-040-401	103-040-401A
	5.0	5.0	100.0	28.0	103-050-401	103-050-401A
	6.0	6.0	100.0	32.0	103-060-401	103-060-401A
	8.0	8.0	100.0	35.0	103-080-401	103-080-401A
	10.0	10.0	100.0	45.0	103-100-401	103-100-401A
	12.0	12.0	150.0	60.0	103-120-401	103-120-401A
	16.0	16.0	150.0	70.0	103-160-401	103-160-401A
	18.0	18.0	150.0	70.0	103-180-401	103-180-401A
	20.0	20.0	150.0	75.0	103-200-401	103-200-401A
	25.0	25.0	150.0	75.0	103-250-401	103-250-401A

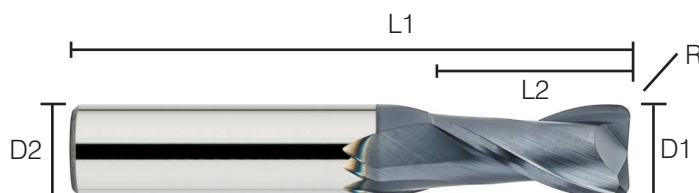


Ball Nose

	D1 Dia.	D2 Dia. (h6)	L1 OAL	L2 LOC	Part #	Coated Part #
mm	1.0	3.0	51.0	5.0	103-010-402	103-010-402A
	1.5	3.0	51.0	7.5	103-015-402	103-015-402A
	2.0	3.0	51.0	10.0	103-020-402	103-020-402A
	2.5	3.0	51.0	14.0	103-025-402	103-025-402A
	3.0	3.0	64.0	20.0	103-030-402	103-030-402A
	4.0	4.0	76.0	22.0	103-040-402	103-040-402A
	5.0	5.0	100.0	28.0	103-050-402	103-050-402A
	6.0	6.0	100.0	32.0	103-060-402	103-060-402A
	8.0	8.0	100.0	35.0	103-080-402	103-080-402A
	10.0	10.0	100.0	45.0	103-100-402	103-100-402A
	12.0	12.0	150.0	60.0	103-120-402	103-120-402A
	16.0	16.0	150.0	70.0	103-160-402	103-160-402A
	18.0	18.0	150.0	70.0	103-180-402	103-180-402A
	20.0	20.0	150.0	75.0	103-200-402	103-200-402A
	25.0	25.0	150.0	75.0	103-250-402	103-250-402A

Metric - 2 Flute Corner Radius

- General purpose Metric 2 flute solid carbide end mill
- Excellent cost to performance ratio
- Several length of cut options
- Several corner radius options
- Available coated and uncoated
- 30° helix geometry
- Center cutting

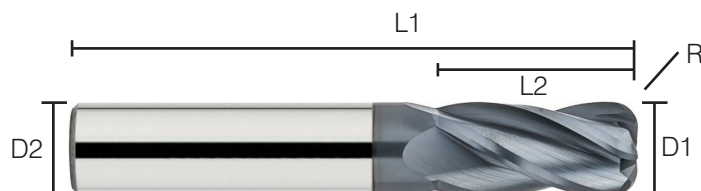


2 Flute

	D1 Dia.	D2 Dia. (h6)	R Radius	L1 OAL	L2 LOC	Part #	Coated Part #
mm	1.0	3.0	0.2	51.0	3.0	101-010-2R.2	101-010-2R.2A
	1.5	3.0	0.2	51.0	4.5	101-015-2R.2	101-015-2R.2A
	2.0	3.0	0.2	51.0	6.0	101-020-2R.2	101-020-2R.2A
	2.5	3.0	0.2	51.0	8.0	101-025-2R.2	101-025-2R.2A
	2.5	3.0	0.5	51.0	8.0	101-025-2R.5	101-025-2R.5A
	3.0	3.0	0.5	51.0	10.0	101-030-2R.5	101-030-2R.5A
	3.0	3.0	1.0	51.0	10.0	101-030-2R1	101-030-2R1A
	4.0	4.0	0.5	51.0	12.0	101-040-2R.5	101-040-2R.5A
	4.0	4.0	1.0	51.0	12.0	101-040-2R1	101-040-2R1A
	5.0	5.0	0.5	64.0	14.0	101-050-2R.5	101-050-2R.5A
	5.0	5.0	1.0	64.0	14.0	101-050-2R1	101-050-2R1A
	6.0	6.0	0.5	64.0	16.0	101-060-2R.5	101-060-2R.5A
	6.0	6.0	1.0	64.0	16.0	101-060-2R1	101-060-2R1A
	6.0	6.0	1.5	64.0	16.0	101-060-2R1.5	101-060-2R1.5A
	8.0	8.0	0.5	64.0	20.0	101-080-2R.5	101-080-2R.5A
	8.0	8.0	1.0	64.0	20.0	101-080-2R1	101-080-2R1A
	8.0	8.0	1.5	64.0	20.0	101-080-2R1.5	101-080-2R1.5A
	8.0	8.0	2.0	64.0	20.0	101-080-2R2	101-080-2R2A
	10.0	10.0	0.5	67.0	24.0	101-100-2R.5	101-100-2R.5A
	10.0	10.0	1.0	67.0	24.0	101-100-2R1	101-100-2R1A
	10.0	10.0	1.5	67.0	24.0	101-100-2R1.5	101-100-2R1.5A
	10.0	10.0	2.0	67.0	24.0	101-100-2R2	101-100-2R2A
	12.0	12.0	0.5	74.0	26.0	101-120-2R.5	101-120-2R.5A
	12.0	12.0	1.0	74.0	26.0	101-120-2R1	101-120-2R1A
	12.0	12.0	1.5	74.0	26.0	101-120-2R1.5	101-120-2R1.5A
	12.0	12.0	2.0	74.0	26.0	101-120-2R2	101-120-2R2A
	12.0	12.0	3.0	74.0	26.0	101-120-2R3	101-120-2R3A

Metric - 4 Flute Corner Radius

- General purpose Metric 4 flute solid carbide end mill
- Excellent cost to performance ratio
- Several length of cut options
- Several corner radius options
- Available coated and uncoated
- 30° helix geometry
- Center cutting



4 Flute

	D1 Dia.	D2 Dia. (h6)	R Radius	L1 OAL	L2 LOC	Part #	Coated Part #
mm	1.0	3.0	0.2	51.0	3.0	101-010-4R.2	101-010-4R.2A
	1.5	3.0	0.2	51.0	4.5	101-015-4R.2	101-015-4R.2A
	2.0	3.0	0.2	51.0	6.0	101-020-4R.2	101-020-4R.2A
	2.5	3.0	0.2	51.0	8.0	101-025-4R.2	101-025-4R.2A
	2.5	3.0	0.5	51.0	8.0	101-025-4R.5	101-025-4R.5A
	3.0	3.0	0.5	51.0	10.0	101-030-4R.5	101-030-4R.5A
	3.0	3.0	1.0	51.0	10.0	101-030-4R1	101-030-4R1A
	4.0	4.0	0.5	51.0	12.0	101-040-4R.5	101-040-4R.5A
	4.0	4.0	1.0	51.0	12.0	101-040-4R1	101-040-4R1A
	5.0	5.0	0.5	64.0	14.0	101-050-4R.5	101-050-4R.5A
	5.0	5.0	1.0	64.0	14.0	101-050-4R1	101-050-4R1A
	6.0	6.0	0.5	64.0	16.0	101-060-4R.5	101-060-4R.5A
	6.0	6.0	1.0	64.0	16.0	101-060-4R1	101-060-4R1A
	6.0	6.0	1.5	64.0	16.0	101-060-4R1.5	101-060-4R1.5A
	8.0	8.0	0.5	64.0	20.0	101-080-4R.5	101-080-4R.5A
	8.0	8.0	1.0	64.0	20.0	101-080-4R1	101-080-4R1A
	8.0	8.0	1.5	64.0	20.0	101-080-4R1.5	101-080-4R1.5A
	8.0	8.0	2.0	64.0	20.0	101-080-4R2	101-080-4R2A
	10.0	10.0	0.5	67.0	24.0	101-100-4R.5	101-100-4R.5A
	10.0	10.0	1.0	67.0	24.0	101-100-4R1	101-100-4R1A
	10.0	10.0	1.5	67.0	24.0	101-100-4R1.5	101-100-4R1.5A
	10.0	10.0	2.0	67.0	24.0	101-100-4R2	101-100-4R2A
	12.0	12.0	0.5	74.0	26.0	101-120-4R.5	101-120-4R.5A
	12.0	12.0	1.0	74.0	26.0	101-120-4R1	101-120-4R1A
	12.0	12.0	1.5	74.0	26.0	101-120-4R1.5	101-120-4R1.5A
	12.0	12.0	2.0	74.0	26.0	101-120-4R2	101-120-4R2A
	12.0	12.0	3.0	74.0	26.0	101-120-4R3	101-120-4R3A

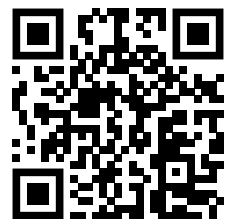
X-MILL

VARIABLE HELIX

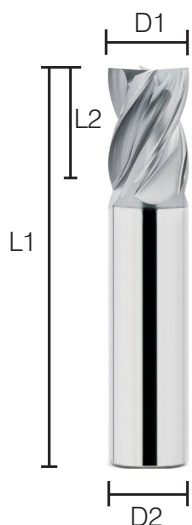
The **X-Mill** is a high-performance roughing end mill engineered for aggressive machining and exceptional Metal Removal Rates in ferrous workpiece materials. Its innovative variable helix and unequal index geometry create a harmoniously balanced tool, effectively reducing chatter for an excellent machining experience. While its primary role is roughing, the **X-Mill** also excels in finishing applications.

Key Features:

- Crafted from tough sub micron carbide substrate for enhanced wear resistance
- Variable helix and unequal index geometry combat chatter
- Eccentric relief and edge prep ensure cutting edge strength
- Wear-resistant, tough DuraCoat PVD Coating for extended tool life
- Polished PVD coating enables a free cutting action to unleash higher performance
- ***Weldon flats available upon request***



X-Mill Variable Helix Stub

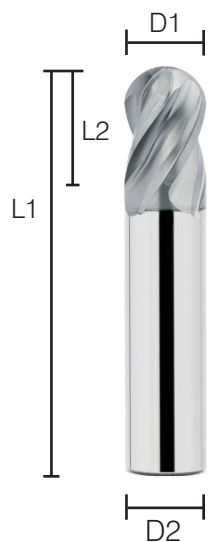
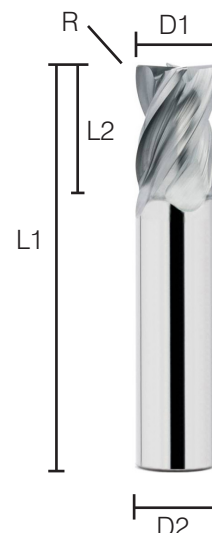


4 Flute Square Corner

	D1 Dia.	D2 Dia. (h6)	L1 OAL	L2 LOC	Coated Part #
in	1/8	1/8	1.5	0.170	600-0125-401X
	3/16	3/16	2.0	0.240	600-0187-401X
	1/4	1/4	2.0	0.320	600-0250-401X
	5/16	5/16	2.0	0.400	600-0312-401X
	3/8	3/8	2.0	0.440	600-0375-401X
	1/2	1/2	2.5	0.600	600-0500-401X
	5/8	5/8	3.0	0.720	600-0625-401X
	3/4	3/4	4.0	0.900	600-0750-401X

4 Flute Corner Radius

	D1 Dia.	D2 Dia. (h6)	L1 OAL	L2 LOC	R Radius	Coated Part #
in	1/8	1/8	1.5	0.170	0.008	600-0125-4R08X
	3/16	3/16	2.0	0.240	0.010	600-0187-4R10X
	1/4	1/4	2.0	0.320	0.010	600-0250-4R10X
	5/16	5/16	2.0	0.400	0.015	600-0312-4R15X
	3/8	3/8	2.0	0.440	0.020	600-0375-4R20X
	1/2	1/2	2.5	0.600	0.020	600-0500-4R20X
	5/8	5/8	3.0	0.720	0.025	600-0625-4R25X
	3/4	3/4	4.0	0.900	0.030	600-0750-4R30X



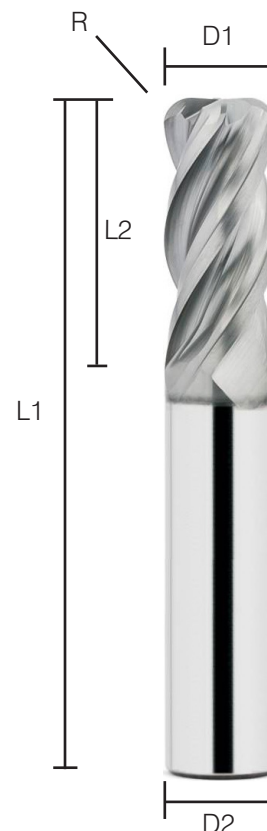
4 Flute Ball Nose

	D1 Dia.	D2 Dia. (h6)	L1 OAL	L2 LOC	Coated Part #
in	1/8	1/8	1.5	0.170	600-0125-402X
	3/16	3/16	2.0	0.240	600-0187-402X
	1/4	1/4	2.0	0.320	600-0250-402X
	5/16	5/16	2.0	0.400	600-0312-402X
	3/8	3/8	2.0	0.440	600-0375-402X
	1/2	1/2	2.5	0.600	600-0500-402X
	5/8	5/8	3.0	0.720	600-0625-402X
	3/4	3/4	4.0	0.900	600-0750-402X

X-Mill Variable Helix Standard

4 Flute Corner Radius

	D1 Dia.	D2 Dia. (h6)	L1 OAL	L2 LOC	R Radius	Coated Part #
in	1/8	1/8	1.5	0.300	0.008	601-0125-4R08X
	1/8	1/8	1.5	0.300	0.010	601-0125-4R10X
	1/8	1/8	1.5	0.300	0.030	601-0125-4R30X
	3/16	3/16	2.0	0.420	0.010	601-0187-4R10X
	3/16	3/16	2.0	0.420	0.030	601-0187-4R30X
	1/4	1/4	2.5	0.570	0.010	601-0250-4R10X
	1/4	1/4	2.5	0.570	0.030	601-0250-4R30X
	1/4	1/4	2.5	0.570	0.060	601-0250-4R60X
	5/16	5/16	2.5	0.700	0.015	601-0312-4R15X
	3/8	3/8	2.5	0.830	0.010	601-0375-4R10X
	3/8	3/8	2.5	0.830	0.020	601-0375-4R20X
	3/8	3/8	2.5	0.830	0.030	601-0375-4R30X
	1/2	1/2	3.0	1.100	0.010	601-0500-4R10X
	1/2	1/2	3.0	1.100	0.020	601-0500-4R20X
	1/2	1/2	3.0	1.100	0.030	601-0500-4R30X
	1/2	1/2	3.0	1.100	0.060	601-0500-4R60X
	1/2	1/2	3.0	1.100	0.125	601-0500-4R125X
	5/8	5/8	3.5	1.360	0.025	601-0625-4R25X
	3/4	3/4	4.0	1.650	0.030	601-0750-4R30X
	1	1	4.0	1.650	0.030	601-1000-4R30X
	1/2	1/2	4.0	1.360	0.010	602-0500-4R10X
	1/2	1/2	4.0	1.360	0.020	602-0500-4R20X
	1/2	1/2	4.0	1.360	0.030	602-0500-4R30X
	1/2	1/2	4.0	1.360	0.060	602-0500-4R60X



4 Flute Square Corner

	D1 Dia.	D2 Dia. (h6)	L1 OAL	L2 LOC	Coated Part #
in	1/8	1/8	1.5	0.300	601-0125-401X
	3/16	3/16	2.0	0.420	601-0187-401X
	1/4	1/4	2.5	0.570	601-0250-401X
	5/16	5/16	2.5	0.700	601-0312-401X
	3/8	3/8	2.5	0.830	601-0375-401X
	1/2	1/2	3.0	1.100	601-0500-401X
	5/8	5/8	3.5	1.360	601-0625-401X
	3/4	3/4	4.0	1.650	601-0750-401X
	1	1	4.0	1.600	601-1000-401X
mm	3.0	3.0	51.0	8.0	601-030-401X
	6.0	6.0	64.0	15.0	601-060-401X
	8.0	8.0	65.0	18.0	601-080-401X
	10.0	10.0	65.0	22.0	601-100-401X
	12.0	12.0	80.0	25.0	601-120-401X

4 Flute Ball Nose

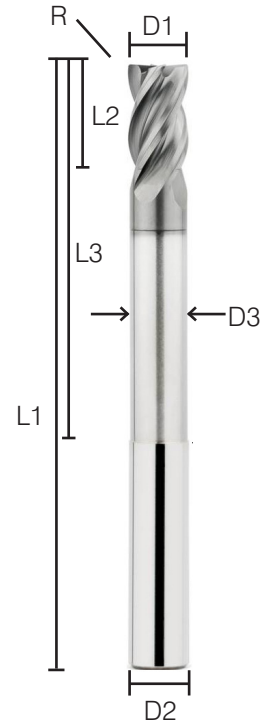
	D1 Dia.	D2 Dia. (h6)	L2 LOC	No. of Flutes	Coated Part #
in	1/8	1/8	1.5	0.300	601-0125-402X
	3/16	3/16	2.0	0.420	601-0187-402X
	1/4	1/4	2.5	0.570	601-0250-402X
	5/16	5/16	2.5	0.700	601-0312-402X
	3/8	3/8	2.5	0.830	601-0375-402X
	1/2	1/2	3.0	1.100	601-0500-402X
	5/8	5/8	3.5	1.360	601-0625-402X
	3/4	3/4	4.0	1.650	601-0750-402X
	1	1	4.0	1.600	601-1000-402X

X-Mill Variable Helix Long Reach

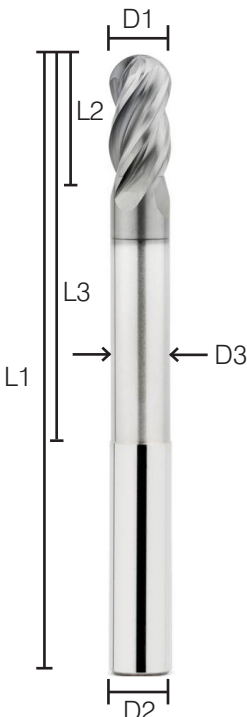
- High performance 4 flute end mill
- Variable helix geometry
- Reduced neck for long reach applications
- Ideal for deep wall and pockets

4 Flute Corner Radius

	D1 Dia.	D2 Dia. (h6)	L1 OAL	L2 LOC	D3 Dia. of Neck	L3 LOR	R Radius	Coated Part #
in	1/8	1/8	1.5	0.170	0.118	0.55	0.008	607-0125-4R08X
	3/16	3/16	2.5	0.240	0.180	0.82	0.010	607-0187-4R10X
	1/4	1/4	3.0	0.350	0.240	0.83	0.010	606-0250-4R10X
	1/4	1/4	3.0	0.350	0.240	1.35	0.010	607-0250-4R10X
	5/16	5/16	3.0	0.430	0.300	1.10	0.015	606-0312-4R15X
	5/16	5/16	4.0	0.430	0.300	1.60	0.015	607-0312-4R15X
	3/8	3/8	3.0	0.550	0.360	1.60	0.020	606-0375-4R20X
	3/8	3/8	4.0	0.550	0.360	2.10	0.020	607-0375-4R20X
	1/2	1/2	4.0	0.850	0.480	2.10	0.010	607-0500-4R10X
	1/2	1/2	4.0	0.850	0.480	2.10	0.020	607-0500-4R20X
	1/2	1/2	4.0	0.850	0.480	2.10	0.030	607-0500-4R30X
	1/2	1/2	4.0	0.850	0.480	2.10	0.060	607-0500-4R60X
	1/2	1/2	5.0	0.850	0.480	3.10	0.020	608-0500-4R20X
	5/8	5/8	4.0	0.900	0.600	2.15	0.025	606-0625-4R25X
	5/8	5/8	6.0	0.900	0.600	3.10	0.025	607-0625-4R25X
	3/4	3/4	5.0	1.150	0.720	2.15	0.030	607-0750-4R30X
	3/4	3/4	6.0	1.150	0.720	3.15	0.030	608-0750-4R30X
	1	1	5.0	1.300	0.960	3.10	0.030	607-1000-4R30X
	1	1	6.0	1.300	0.960	4.10	0.030	608-1000-4R30X



4 Flute Ball Nose



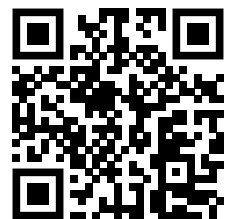
	D1 Dia.	D2 Dia. (h6)	L1 OAL	L2 LOC	D3 Dia. of Neck	L3 LOR	Coated Part #
in	1/8	1/8	1.5	0.170	0.118	0.55	607-0125-402X
	3/16	3/16	2.5	0.240	0.180	0.82	607-0187-402X
	1/4	1/4	3.0	0.350	0.240	0.83	606-0250-402X
	1/4	1/4	3.0	0.350	0.240	1.35	607-0250-402X
	5/16	5/16	3.0	0.430	0.300	1.10	606-0312-402X
	5/16	5/16	4.0	0.430	0.300	1.60	607-0312-402X
	3/8	3/8	3.0	0.550	0.360	1.60	606-0375-402X
	3/8	3/8	4.0	0.550	0.360	2.10	607-0375-402X
	1/2	1/2	4.0	0.850	0.480	2.10	607-0500-402X
	1/2	1/2	5.0	0.850	0.480	3.10	608-0500-402X
	5/8	5/8	4.0	0.900	0.600	2.15	606-0625-402X
	5/8	5/8	6.0	0.900	0.600	3.10	607-0625-402X
	3/4	3/4	5.0	1.150	0.720	2.15	607-0750-402X
	3/4	3/4	6.0	1.150	0.720	3.15	608-0750-402X
	1	1	5.0	1.300	0.960	3.10	607-1000-402X
	1	1	6.0	1.300	0.960	4.10	608-1000-402X

T-MILL

The **T-Mill** is the ultimate solution for high productivity machining of difficult-to-machine, shearable workpiece materials such as Stainless Steels and Titanium, as well as Nickel-Based Superalloys. Designed with precision and innovation, the T-Mill is available in 4, 5, and 6 flute configurations to meet your specific machining needs.

Key Features:

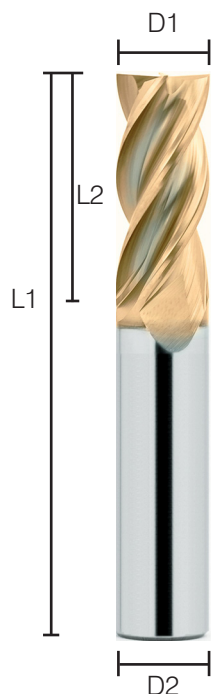
- Submicron Grade of Carbide for exceptional wear resistance and durability
- High Helix Angle and Unequally Indexed Flutes facilitates efficient and reliable machining.
- Eccentric Relief Grind and Edge Prep enhances cutting edge strength, promoting stability and performance
- Nanocomposite ArmourCoat PVD Coating maximizes tool life and provides optimum performance
- Polished PVD Coating enhances chip evacuation for higher performance and productivity



T-Mill 4 Flute

The **4 Flute Rougher T-Mill** is designed for traditional roughing where heavy cuts and slotting are necessary.

- High performance 4 flute end mill
- Variable helix geometry
- For stainless steels, titanium and nickel alloy
- Ideal for roughing

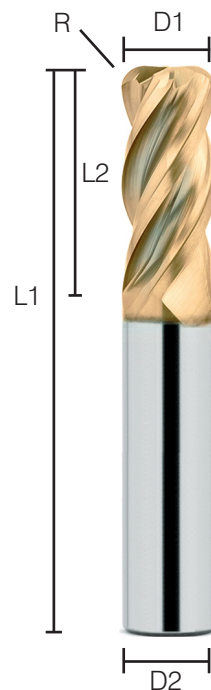
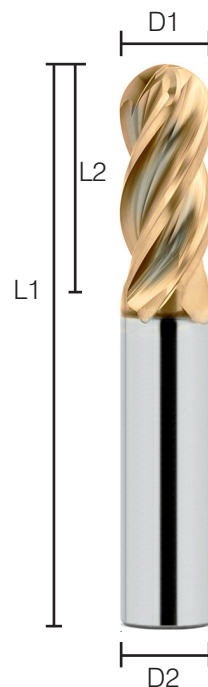


Square Corner

	D1 Dia.	D2 Dia. (h6)	L1 OAL	L2 LOC	Part #
in	1/8	1/8	2.0	0.300	611-0125-401
	3/16	3/16	2.0	0.420	611-0187-401
	1/4	1/4	2.5	0.570	611-0250-401
	5/16	5/16	2.5	0.700	611-0312-401
	3/8	3/8	2.5	0.830	611-0375-401
	1/2	1/2	3.0	1.100	611-0500-401
	5/8	5/8	3.5	1.360	611-0625-401
	3/4	3/4	4.0	1.650	611-0750-401
	1	1	4.0	1.650	611-1000-401

Ball Nose

	D1 Dia.	D2 Dia. (h6)	L1 OAL	L2 LOC	Part #
in	1/8	1/8	2.0	0.300	611-0125-402
	3/16	3/16	2.0	0.420	611-0187-402
	1/4	1/4	2.5	0.570	611-0250-402
	5/16	5/16	2.5	0.700	611-0312-402
	3/8	3/8	2.5	0.830	611-0375-402
	1/2	1/2	3.0	1.100	611-0500-402
	5/8	5/8	3.5	1.360	611-0625-402
	3/4	3/4	4.0	1.650	611-0750-402
	1	1	4.0	1.650	611-1000-402



Corner Radius

	D1 Dia.	D2 Dia. (h6)	L1 OAL	L2 LOC	R Radius	Part #
in	1/8	1/8	2.0	0.300	0.008	611-0125-4R08
	3/16	3/16	2.0	0.420	0.008	611-0187-4R08
	1/4	1/4	2.5	0.570	0.010	611-0250-4R10
	5/16	5/16	2.5	0.700	0.015	611-0312-4R15
	3/8	3/8	2.5	0.830	0.020	611-0375-4R20
	1/2	1/2	3.0	1.100	0.020	611-0500-4R20
	5/8	5/8	3.5	1.360	0.025	611-0625-4R25
	3/4	3/4	4.0	1.650	0.030	611-0750-4R30
	1	1	4.0	1.650	0.030	611-1000-4R30

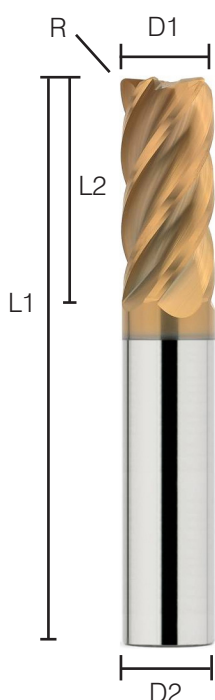
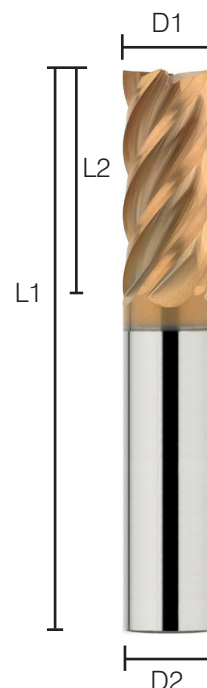
T-Mill 5 Flute

The **5 Flute T-Mill** is ideal for both roughing and finishing applications. The large core size provides increased rigidity to take advantage of efficient roughing tool paths such as trochoidal milling and also provides excellent results in finishing applications.

- High performance 5 flute end mill
- Variable helix geometry
- For stainless steels, titanium and nickel alloy
- Ideal for dynamic roughing and finishing
- Flat bottom and corner radius options

Square Corner

	D1 Dia.	D2 Dia. (h6)	L1 OAL	L2 LOC	Part #
in	1/8	1/8	2.0	0.300	611-0125-501
	3/16	3/16	2.0	0.420	611-0187-501
	1/4	1/4	2.5	0.570	611-0250-501
	5/16	5/16	2.5	0.700	611-0312-501
	3/8	3/8	2.5	0.830	611-0375-501
	1/2	1/2	3.0	1.100	611-0500-501
	5/8	5/8	3.5	1.360	611-0625-501
	3/4	3/4	4.0	1.650	611-0750-501
	1	1	4.0	1.650	611-1000-501



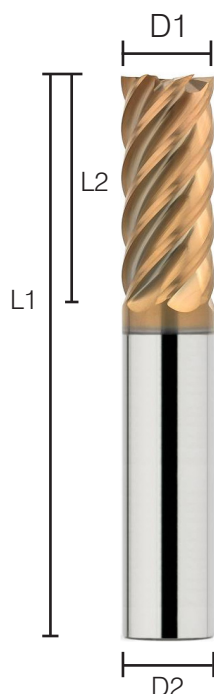
Corner Radius

	D1 Dia.	D2 Dia. (h6)	L1 OAL	L2 LOC	R Radius	Part #
in	1/8	1/8	2.0	0.30	0.010	611-0125-5R10
	3/16	3/16	2.0	0.42	0.010	611-0187-5R10
	1/4	1/4	2.5	0.57	0.020	611-0250-5R20
	5/16	5/16	2.5	0.70	0.020	611-0312-5R20
	3/8	3/8	2.5	0.83	0.030	611-0375-5R30
	1/2	1/2	3.0	0.10	0.030	611-0500-5R20
	1/2	1/2	3.0	0.10	0.030	611-0500-5R30
	5/8	5/8	3.5	1.36	0.030	611-0625-5R30
	3/4	3/4	4.0	1.65	0.030	611-0750-5R30
	1	1	4.0	1.65	0.030	611-1000-5R30

T-Mill 6 Flute

The **6 Flute T-Mill** is designed primarily for finishing applications where surface finish is the primary concern. It also performs well in trochoidal milling applications.

- High performance 6 flute end mill
- Variable helix geometry
- For stainless steels, titanium and nickel alloy
- Ideal for dynamic roughing and finishing
- Flat bottom and corner radius options

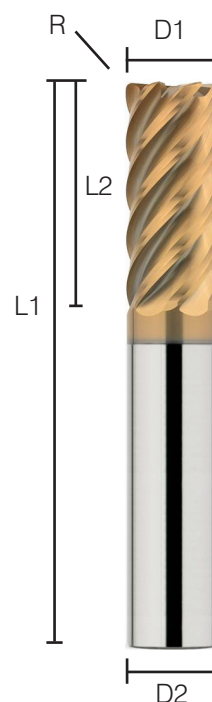


Square Corner

	D1 Dia.	D2 Dia. (h6)	L1 OAL	L2 LOC	Part #
in	1/8	1/8	2.0	0.550	611-0125-601
	3/16	3/16	2.0	0.650	611-0187-601
	1/4	1/4	2.5	0.800	611-0250-601
	5/16	5/16	2.5	0.820	611-0312-601
	3/8	3/8	2.5	0.830	611-0375-601
	1/2	1/2	3.0	1.100	611-0500-601
	5/8	5/8	3.5	1.360	611-0625-601
	3/4	3/4	4.0	1.650	611-0750-601
	1	1	4.0	1.650	611-1000-601

Corner Radius

	D1 Dia.	D2 Dia. (h6)	L1 OAL	L2 LOC	R Radius	Part #
in	1/8	1/8	2.0	0.550	0.010	611-0125-6R10
	3/16	3/16	2.0	0.650	0.010	611-0187-6R10
	1/4	1/4	2.5	0.800	0.020	611-0250-6R20
	5/16	5/16	2.5	0.820	0.020	611-0312-6R20
	3/8	3/8	2.5	0.830	0.030	611-0375-6R30
	1/2	1/2	3.0	1.100	0.030	611-0500-6R30
	5/8	5/8	3.5	1.360	0.030	611-0625-6R30
	3/4	3/4	4.0	1.650	0.030	611-0750-6R30
	1	1	4.0	1.650	0.030	611-1000-6R30



XM

The **XM** line of tools are specifically engineered for highly efficient machining of ISO P workpiece materials. With an unequal index and variable helix design, these tools provide a chatter-free machining experience, especially when employing large Axial and Radial Depth of Cut. **XM** tools are available in 4 and 5 flute configurations, offering a wide range of options to suit your machining needs. With extensive Length of Cut and corner radius choices, as well as chip breakers, these tools provide exceptional flexibility and performance.

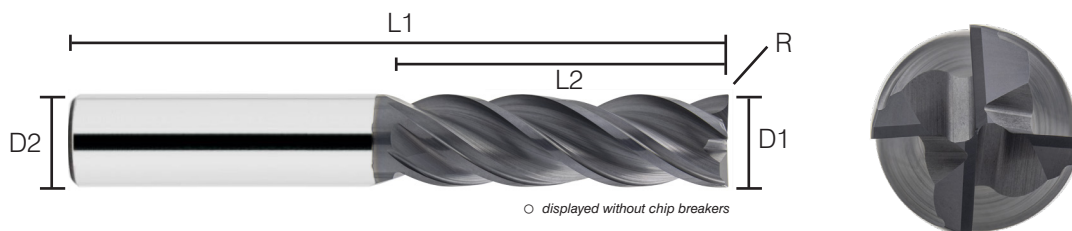
Key Features:

- Crafted from tough sub-micron carbide substrate for exceptional wear resistance
- Variable helix and unequal index geometry effectively combat chatter
- Eccentric relief and edge preparation reinforce cutting edge strength
- Wear-resistant, tough DuraCoat PVD Coating extends the tool's lifespan, ensuring reliability
- Polished PVD coating facilitates a free cutting action, enabling heightened performance
- Optional chip breakers for enhanced chip evacuation and easy chip management
- ***Weldon flats available upon request***



XM 4 Flute

The **4 flute XM-4** is designed for ultra heavy roughing applications. It's ideally suited for roughing with a large radial engagement, full slotting up to 2xD, and ramping up to 45 degrees. While primarily designed for roughing, the **XM4** is well suited for finishing applications as well. The unique geometry provides excellent tool stability for incredibly aggressive machining.



Available Configurations

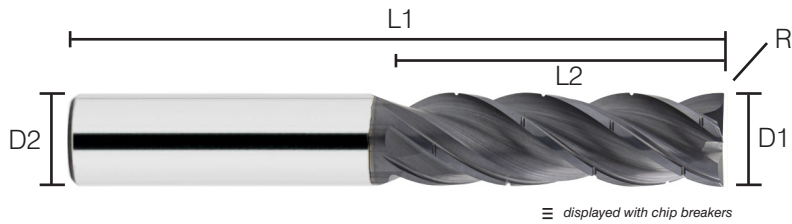
	D1 Dia.	D2 Dia. (h6)	L1 LOC	L2 OAL	SQ	R 0.005	R 0.010	R 0.015	R 0.020	R 0.030	R 0.040	R 0.060	R 0.090	R 0.125	R 0.190	R 0.250	BN
in	1/8	1/4	0.200	3.0	○	○	○		○	○							○
	1/8	1/8	0.250	2.0	○	○	○	○	○	○							○
	1/8	1/8	0.375	2.0	●	●	●		●	●							○
	1/8	1/8	0.500	2.0	●	●	●	●	●	●							○
	1/8	1/8	0.750	2.5	●	●	●		●	●							○
	3/16	5/16	0.320	3.0	○	○	○		○	○							○
	3/16	3/16	0.375	2.0	○	●	○		○	○							○
	3/16	3/16	0.562	2.5	●	●	●		●	●							○
	3/16	3/16	0.750	2.5	●	●	●		●	●							○
	3/16	3/16	1.000	3.0	●	●	●		●	●							○
	1/4	1/4	0.440	4.0	○	○	○	○	○	○	○	○					○
	1/4	1/4	0.500	2.5	●		●		●	●	●	●					○
	1/4	1/4	0.750	2.5	●	●	●	●	●	●	●	●					○
	1/4	1/4	1.000	3.0	●	●	●		●	●	●	●					○
	1/4	1/4	1.250	3.0	●	●	●	●	●	●	●	●					○
	5/16	5/16	0.500	2.0	○				●	○		○					○
	5/16	5/16	0.750	2.5	○				○	○		○					○
	5/16	5/16	1.000	3.0	●				●	●		●					○
	3/8	3/8	0.500	2.0	○		○		○	○		○	○				○
	3/8	3/8	0.625	6.0	○		○		○	○		○	○				○
	3/8	3/8	0.750	2.5	●		●		●	●	●	●	●				●
	3/8	3/8	1.000	3.0	●		●		●	●	○	●	●				●
	3/8	3/8	1.250	3.0	●		●		●	●		●	●				●
	3/8	3/8	1.550	3.5	●		●		●	●		●	●				
	3/8	3/8	2.000	4.0	●				●	●		●					

- Available with or without chip breakers
- Only available without chip breakers
- ≡ Only available with chip breakers



Scan QR to visit 4 flute XM listings on [deboertool.com](https://www.deboertool.com)
Identify tools with user-friendly interface
Metric tool sizes also available

XM 4 Flute



	D1 Dia.	D2 Dia. (h6)	L1 LOC	L2 OAL	SQ	R 0.005	R 0.010	R 0.015	R 0.020	R 0.030	R 0.040	R 0.060	R 0.090	R 0.125	R 0.190	R 0.250	BN
in	1/2	1/2	0.630	2.5	○		○		○	○		○	○	○			○
	1/2	1/2	0.750	6.0	○		○		○	○		○	○	○			○
	1/2	1/2	1.000	3.0	●		●		●	●	●	●	○	○			○
	1/2	1/2	1.250	3.0	●		●		○	●	●	●	○	○			○
	1/2	1/2	1.250	4.0	●		●			●		●					●
	1/2	1/2	1.630	3.5	●		●		●	●		●	●	●			●
	1/2	1/2	2.130	4.0	●		●		●	●		●	●	●			○
	1/2	1/2	2.630	5.0	●					●		●					○
	1/2	1/2	3.130	6.0	●					●							
	5/8	5/8	0.750	3.0	○					○		○		○			○
	5/8	5/8	0.750	6.0	○					○							○
	5/8	5/8	1.250	3.5	○		○			○		○	○	○			○
	5/8	5/8	1.750	4.0	●		●			●		●	○	●			○
	5/8	5/8	2.250	5.0	●					●		●		●			○
	5/8	5/8	2.750	5.0	●					●		●		●			○
	5/8	5/8	3.250	6.0	●					●		●		●			○
	3/4	3/4	0.880	3.0	○		○			○		○		○			
	3/4	3/4	1.000	6.0	○					○		○	○	○	○	○	○
	3/4	3/4	1.250	4.0	○		○			○		○		○		○	○
	3/4	3/4	1.750	4.0	●		○			●		●		○		○	○
	3/4	3/4	2.250	5.0	●		○			●		●		●		○	○
	3/4	3/4	2.750	5.0	●		○			●		●		●		○	○
	3/4	3/4	3.250	6.0	●					●		○		○		○	○
	3/4	3/4	4.250	7.0	●					●							
	1	1	1.250	6.0	○					○		○	○	○	○	○	○
	1	1	1.750	4.0	●					●		○	○	○	○	○	○
	1	1	2.250	5.0	●					●		○	○	○	○	○	○
	1	1	2.750	5.0	●					●		○	○	○	○	○	○
	1	1	3.250	6.0	●					●		○	○	○	○	○	○
	1	1	4.250	7.0	●					●		●					○

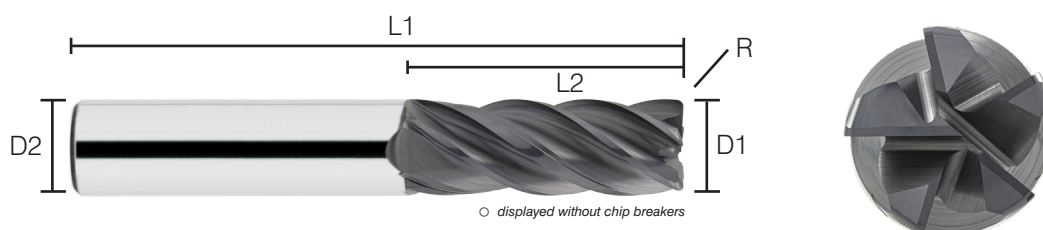
- Available with or without chip breakers
- Only available without chip breakers
- ≡ Only available with chip breakers



Scan QR to visit 4 flute XM listings on [deboertool.com](https://www.deboertool.com)
Identify tools with user-friendly interface
Metric tool sizes also available

XM 5 Flute

The **5 flute XM-5** is a true hybrid tool designed for maximum productivity in heavy roughing, slotting up to 2xD, dynamic milling and finishing applications. The unique geometry provides excellent tool stability for lightning fast, chatterless machining.



Available Configurations

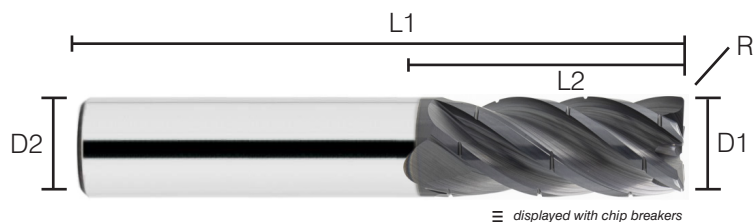
	D1 Dia.	D2 Dia. (h6)	L1 LOC	L2 OAL	SQ	R 0.005	R 0.010	R 0.015	R 0.020	R 0.030	R 0.040	R 0.060	R 0.090	R 0.125	R 0.190	R 0.250	BN
in	1/8	1/4	0.200	3.0	○	○	○		○	○							
	1/8	1/8	0.250	2.0	○	○	○	○	○	○							
	1/8	1/8	0.375	2.0	●	●	●		●	●							
	1/8	1/8	0.500	2.0	●	●	●	●	●	●							
	1/8	1/8	0.750	2.5	●	●	●		●	●							
	3/16	5/16	0.320	3.0	○	○	○		○	○							
	3/16	3/16	0.375	2.0	○	○	○		○	○							
	3/16	3/16	0.562	2.5	●	●	●		●	●							
	3/16	3/16	0.750	2.5	●	●	●		●	●							
	3/16	3/16	1.000	3.0	●	●	●		●	●							
	1/4	1/4	0.440	4.0	○	○	○	○	○	○	○	○					
	1/4	1/4	0.500	2.5	●		●		●	●	●	●					
	1/4	1/4	0.750	2.5	●	●	●	●	●	●	●	●					
	1/4	1/4	1.000	3.0	●	●	●		●	●	●	●					
	1/4	1/4	1.250	3.0	●	●	●	●	●	●	●	●					
	5/16	5/16	0.500	2.0	○				○	○		○					
	5/16	5/16	0.750	2.5	○				○	○		○					
	5/16	5/16	1.000	3.0	●				●	●		●					
	3/8	3/8	0.500	2.0	○		○		○	○		○	○				
	3/8	3/8	0.625	6.0	○		○		○	○		○	○				
	3/8	3/8	0.750	2.5	●		●		●	●	●	●	●				
	3/8	3/8	1.000	3.0	●		●		●	●	●	●	●				
	3/8	3/8	1.250	3.0	●		●		●	●		●	●				
	3/8	3/8	1.550	3.5	●		●		●	●		●	●				
	3/8	3/8	2.000	4.0	●				●	●		●					

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- ≡ Only available with chip breakers



Scan QR to visit 5 flute XM listings on [deboertool.com](https://www.deboertool.com)
Identify tools with user-friendly interface
Metric tool sizes also available

XM 5 Flute



	D1 Dia.	D2 Dia. (h6)	L1 LOC	L2 OAL	SQ	R 0.005	R 0.010	R 0.015	R 0.020	R 0.030	R 0.040	R 0.060	R 0.090	R 0.125	R 0.190	R 0.250	BN
in	1/2	1/2	0.630	2.5	○		○		○	○		○	○	○			
	1/2	1/2	0.750	6.0	○		○		○	○		○	○	○			
	1/2	1/2	1.000	3.0	●		●		●	●	●	●	●	●			
	1/2	1/2	1.250	3.0	●		●		●	●	●	●	●	●			
	1/2	1/2	1.250	4.0	●		●		●	●	●	●	●	●			
	1/2	1/2	1.630	3.5	●		●		●	●		●		●			
	1/2	1/2	2.130	4.0	●		●		●	●		●	●	●			
	1/2	1/2	2.630	5.0	●		●			●		●					
	1/2	1/2	3.130	6.0	●					●							
	5/8	5/8	0.750	3.0	○					○		○		○			
	5/8	5/8	0.750	6.0	○					○							
	5/8	5/8	1.250	3.5	○		○			○		○	○	○			
	5/8	5/8	1.750	4.0	●		●			●		●		●			
	5/8	5/8	2.250	5.0	●					●		●		●			
	5/8	5/8	2.750	5.0	●					●		●		●			
	5/8	5/8	3.250	6.0	●					●		●		●			
	3/4	3/4	1.000	6.0	○					○		○		○		○	
	3/4	3/4	1.250	4.0	○					○		○		○		○	
	3/4	3/4	1.750	4.0	●		●			●		●		●			
	3/4	3/4	2.250	5.0	●					●		●		●			
	3/4	3/4	2.630	5.0						≡							
	3/4	3/4	2.750	5.0	●					●		●		●			
	3/4	3/4	3.250	6.0	●					●		●		●			
	3/4	3/4	4.250	7.0	●					●							
	1	1	1.250	6.0	○					○		○		○		○	
	1	1	1.750	4.0	●					●		●	○	●	○	●	
	1	1	2.250	5.0	●					●		●	○	●	○	●	
	1	1	2.750	5.0	●					●		●		●		●	
	1	1	3.250	6.0	●					●		●		●		●	
	1	1	4.250	7.0	●					●		●		●			

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Identify tools with user-friendly interface
Metric tool sizes also available

THREAD-MILL

Thread Mills are the ultimate solution for high-performance threading in situations where tapping may not be viable. Engineered for versatility and cost-effectiveness, our Thread Mills are designed to tackle tough applications such as challenging workpiece materials, hardened steels, blind holes, large threading applications, and threads requiring exceptional precision.

Experience the advantages of **Thread Mills**:

Versatility: Cut full-length, left or right-hand threads longer than 2xD with ease, delivering accurate and high-quality threads. Comprehensive Thread Forms: Choose from a wide range of thread forms, including UN, Metric, and NPT, to suit your specific requirements.

Key Features:

- Premium Submicron Carbide Grade for outstanding performance and longevity
- Precise Tolerances allows for exceptional thread accuracy
- Tough, Polished robust PVD Coating withstands the most demanding applications enhances tool life and durability
- Advanced Geometry is engineered for efficient cutting action, optimizing productivity

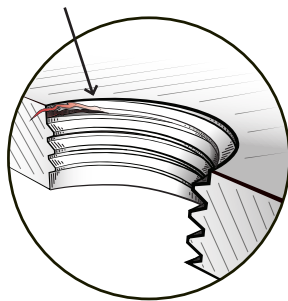


Blunt Start Feature

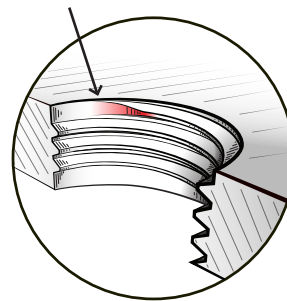
A Blunt Start (higbee) refers to the removal of a portion of the starting threads in a threaded hole. This process serves multiple purposes, including the elimination of start sliver burrs, prevention of deformation mounds in softer steels resulting from high tension on fasteners, prevention of thread breakage in hard steels under high tension, and the prevention of cross threading of fasteners.

In milling applications, achieving a Blunt Start can be done by utilizing thread mills equipped with integrated Blunt Start geometry at the end of the thread form. When the thread mill is inserted into the drilled hole at the correct depth, the Blunt Start and the threads are milled simultaneously, without requiring any additional cycle time.

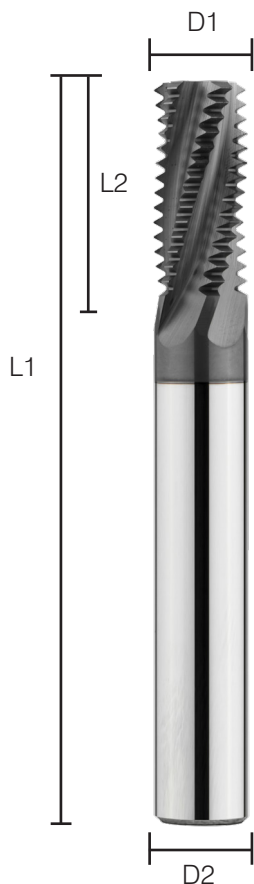
All of De Boer Tool's full form thread mills feature integrated Blunt Start geometry.



Regular Thread Mill Result



Blunt Start Thread Mill Result



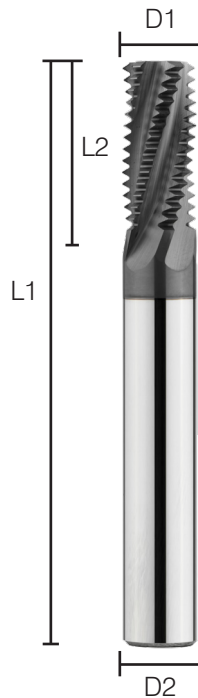
UN Thread Mill

	Thread Form	D1 Dia. (in)	D2 Dia. (mm h6)	L1 OAL (mm)	L2 LOC (in)	No. of Flutes	Coated Part #
mm	10-24	0.142	4	45	0.396	3	705-.142-10-24P8
	10-32	0.142	4	45	0.359	3	705-.142-10-32P10
	1/4-20	0.180	6	65	0.475	3	705-.180-1/4-20P8
	1/4-28	0.180	6	65	0.482	3	TMUG-1/4-28P12M
	5/16-24	0.235	6	65	0.646	3	TMUG-5/16-24P14M
	5/16-18	0.240	8	65	0.583	3	705-.240-5/16-18P9
	3/8-16	0.285	8	65	0.719	3	705-.285-3/8-16P10
	3/8-24	0.285	8	65	0.730	3	TMUG-3/8-24P16M
	7/16-14	0.305	8	65	0.821	3	705-.305-7/16-14P10
	1/2-13	0.370	10	80	0.962	4	705-.370-1/2-13P11
	1/2-20	0.370	10	80	0.925	4	705-.370-1/2-20P17
	5/8-11	0.470	12	80	1.227	4	705-.470-5/8-11P12
	3/4-10	0.470	12	80	1.450	4	705-.470-3/4-10P13
	3/4-16	0.470	12	80	1.406	4	705-.470-3/4-16P21
	1-8	0.620	16	110	1.938	5	705-.620-1-8P14

Metric Thread Mill

Metric Thread Mill

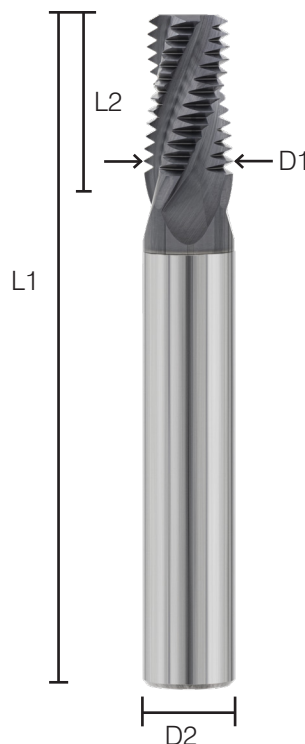
	Thread Form	D1 Dia. (mm)	D2 Dia. (mm h6)	L1 OAL (mm)	L2 LOC (mm)	No. of Flutes	Coated Part #
mm	M4x0.7	3.00	4	50	8.05	3	710-3.00-M4.0-0.70P10
	M5x0.8	3.95	4	55	9.20	3	TMMG-5.0X.8P10
	M6x0.75	4.50	6.	65	11.63	3	TMMG-6X.75P14
	M6x1	4.60	6	65	11.50	3	710-4.60-M6.0-1.0P10
	M8x1	5.30	6	65	15.50	3	TMMG-8X1P14
	M8x1.25	5.95	6	65	15.63	3	710-5.95-M8.0-1.25P11
	M10x1.5	7.50	8	80	20.25	3	710-7.50-M10-1.5P12
	10X1.25	7.50	8	80	19.38	3	TMMG-10X1.25P14
	M12x1.75	8.50	10	80	23.63	4	710-8.50-M12-1.75P12
	M14x1.5	9.95	10	80	29.25	4	TMMG-14x1.5P18
	M14x2	9.95	10	109	27.00	4	710-9.95-M14-2.0P12
	M16x2	11.95	12	109	31.00	4	710-11.95-M16-2.0P14
	M18x2.5	11.95	12	109	33.75	4	710-11.95-M18-2.5P12
	M20x2.5	15.95	16	109	38.75	5	710-15.95-M20-2.5P14



NPT Thread Mill - RHC / RHH (Right Hand Cut, Right Hand Helix)

Solid carbide NPT threadmills are optimized for milling internal and external National Pipe Taper (NPT) threads. High-quality submicron carbide provides durability, while the helical flute design enables smooth chip evacuation for improved productivity. The tough PVD coating adds extra protection against wear, extending the tool's lifespan.

	Thread Form	D1 Dia. (in)	D2 Dia. (mm h6)	L1 OAL (mm)	L2 LOC (in)	No. of Flutes	Solid Carbide Part #	Coolant Through Central Part #
mm	1/16-27	0.232	6.0	60.0	0.463	3	725-.232-1/16-27P12	-
	1/8-27	0.299	8.0	60.0	0.463	3	725-.299-1/8-27P12	-
	1/4, 3/8-18	0.394	10.0	80.0	0.695	4	725-.394-1/4&3/8-18P12	-
	1/2, 3/4-14	0.468	12.0	90.0	0.893	4	725-.468-1/2&3/4-14P12	-
	1-11.5	0.620	16.0	109.0	1.108	4	725-.620-1-11.5P12	726-.419-1/2&3/4-14P12



RHC / RHH Solid

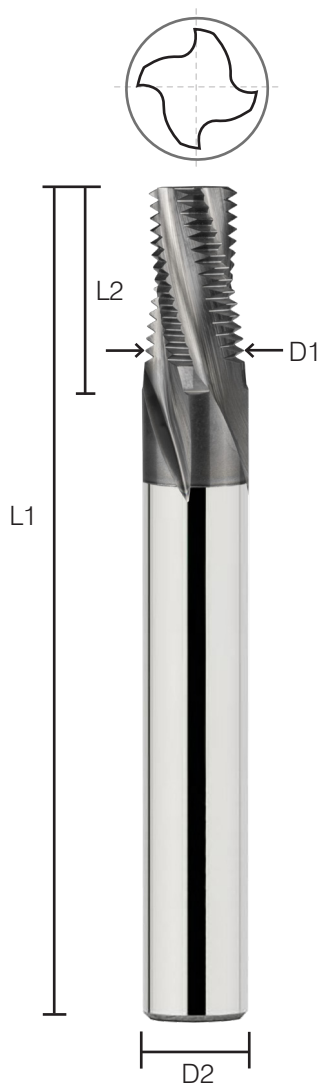
NPT Thread Mill

NPT Thread Mill - RHC / LHH (Right Hand Cut, Left Hand Helix)

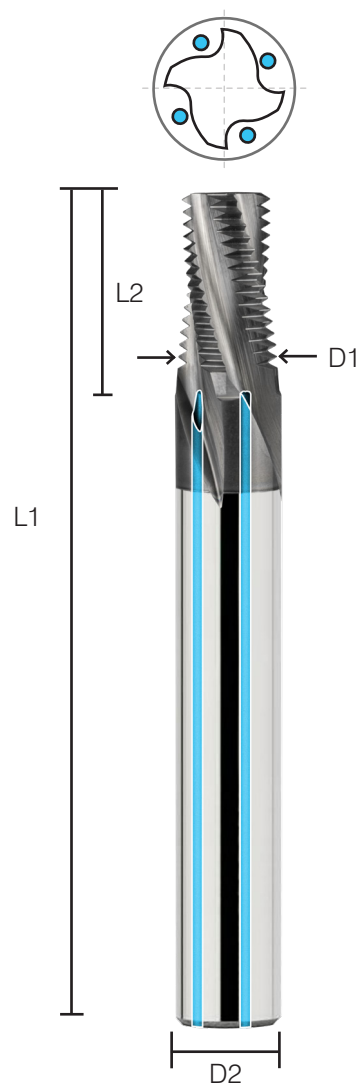
Our left hand helix NPT threadmills, provides excellent performance for NPT threading operations. While the threading process remains similar to standard threadmills, the left hand helix configuration offers a distinct advantage. By pushing the chips forward, away from the cut, it enhances rigidity and promotes smoother chip evacuation. This unique feature proves highly beneficial in applications such as mold making and manifold manufacturing.

Utilizing coolant through the flutes further enhances chip removal while delivering excellent coolant flow to the cut zone. This unique combination allows for remarkable feed rates, promoting exceptional process reliability. Particularly beneficial in applications like mold making and manifold manufacturing, our threadmills offer enhanced productivity and precise results.

	Thread Form	D1 Dia. (in)	D2 Dia. (mm h6)	L1 OAL (mm)	L2 LOC (in)	No. of Flutes	Solid Carbide Part #	Coolant Through Flutes Part #
mm	1/16-27	0.2323	8	76	0.462	3.0000	TM-87722	TM-8590F
	1/8-27	0.3038	10	76	0.462	3.0000	TM-DFFE4	TM-3515C
	1/4, 3/8-18	0.4013	12	90	0.692	4.0000	TM-40BF4	TM-377B8
	1/2, 3/4-14	0.5588	16	101	0.89	4.0000	TM-10C07	TM-B77C8
	1, 2-11.5	0.7549	20	120	1.085	4.0000	TM-2B229	TM-D988A



RHC / LHH Solid



RHC / LHH Flute Coolant

2xD Thread Mill

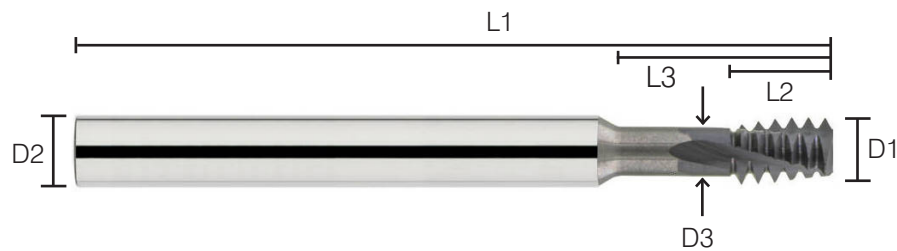
Quickly cut a full left or right hand thread to the bottom of 2xD holes and more when this tool is modified by extending the neck feature. Easily produce extended thread lengths without taper and extended tool life. In the rare case of a broken cutter, it can easily be extracted and the thread picked up with a new cutter.



They can also be used to cut external threads with the same cutter.

2xD UN Thread Mill

	Thread Form	D1 Dia. (in)	L2 LOC (in)	D3 Neck Dia. (in)	L3 LOR (in)	D2 Dia. (mm h6)	L1 OAL (in)	Teeth	Flutes	Part #
mm	10-24	0.134	0.213	0.086	0.43	4	50	4	3	TM-A65E7
	1/4-20	0.180	0.256	0.124	0.57	6	65	5	3	TM-3FDF0
	1/4-28	0.186	0.254	0.145	0.55	6	65	7	3	TM-D288D
	5/16-18	0.234	0.339	0.166	0.70	6	71	6	3	TM-BB73B
	5/16-24	0.234	0.335	0.181	0.68	6	71	6	3	TM-C6BBE
	3/8-16	0.285	0.381	0.208	0.83	8	80	6	3	TM-32843
	7/16-14	0.305	0.508	0.220	0.97	8	91	6	3	TM-9F753
	1/2-13	0.370	0.539	0.273	1.10	10	100	7	4	TM-5A2DB
	5/8-11	0.470	0.636	0.353	1.37	12	110	7	4	TM-CB6F0
	3/4-10	0.550	0.800	0.429	1.63	16	125	8	4	TM-FB73C
	1-8	0.620	1.009	0.466	2.16	16	125	8	5	TM-E452E



2xD Metric Thread Mill

	Thread Form	D1 Dia. (in)	L2 LOC (in)	D3 Neck Dia. (in)	L3 LOR (in)	D2 Dia. (mm h6)	L1 OAL (in)	Teeth	Flutes	Part #
mm	M4x0.7	3.0	4.3	2.1	8.9	4	50	6	3	TM-D61AC
	M5x0.8	3.7	5.7	2.7	11.0	4	65	6	3	TM-B7F90
	M6x1	4.4	6.1	3.2	13.3	6	65	6	3	TM-C04A5
	M8x1	6.0	9	4.7	17.3	6	71	8	3	TM-607F4
	M8x1.25	6.0	8.8	4.3	17.6	6	71	7	3	TM-72D7F
	M10x1.5	7.5	10.5	5.6	21.9	8	80	7	3	TM-84098
	M12x1.75	8.9	12.3	6.8	26.3	10	91	7	4	TM-84BCE
	M16x2	12.0	18	9.4	34.6	12	100	8	4	TM-B638A
	M18x2.5	12.0	20	8.9	39.2	12	110	7	4	TM-728DD
	M20x2.5	15.8	22.5	12.6	43.3	16	125	8	5	TM-467CF

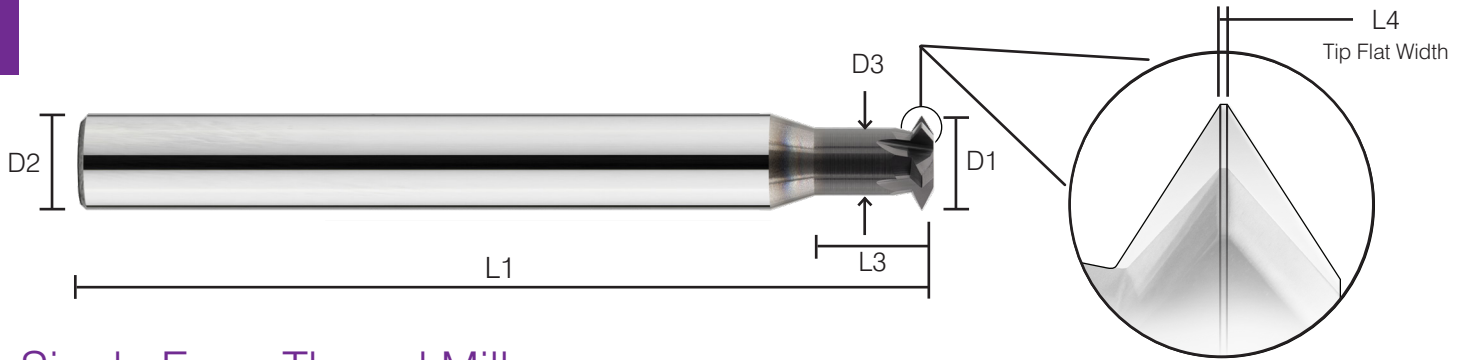
Customization

Should you require different L3 or D3 specifications for your application, contact our sales team with your requirements and we can quickly modify these items to suit your needs.

Single Form Thread Mill

Single form thread mills are designed to machine both internal and external threads, offering excellent flexibility and cost reduction by utilizing a single tool to create various diameters and pitches.

Cutting pressure is minimized as only a single point engages with the workpiece, ensuring greater stability in demanding threading applications. Our single form thread mills also provide exceptional versatility, as each tool is capable of cutting a variety of thread forms, and can be used with a wide range of workpiece materials.



Single Form Thread Mill

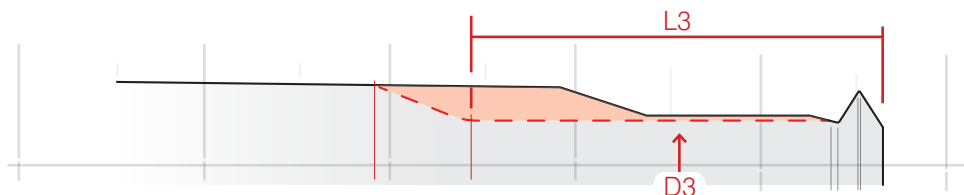
	Series	Thread Range (TPI)	Pitch Range (mm)	D1 Dia. (in)	L4 Tip (in)	Flutes	D3 Neck Dia. (in)	L3 LOR (in)	D2 Dia. (mm h6)	L1 OAL (in)	Part #
mm	#A	90-101	0.25-0.29	0.031	0.0012	2	0.016	0.100	4	60	TMS-D7-.100
	#B	80-84	0.30-0.32	0.038	0.0015	2	0.020	0.126	4	60	TMS-39-.126
	#C	56-72	0.35-0.46	0.050	0.0017	3	0.026	0.180	4	60	TMS-84-.180
	#D	40-56	0.45-0.64	0.068	0.0022	3	0.036	0.260	4	60	TMS-AD-.260
	#E	32-42	0.60-0.80	0.093	0.0030	3	0.054	0.290	4	60	TMS-94-.290
	#F	32-50	0.50-0.80	0.114	0.0025	3	0.071	0.365	6	71	TMS-78-.365
	#G	24-50	0.50-1.06	0.129	0.0025	4	0.073	0.445	6	71	TMS-C3-.445
	#H	20-50	0.50-1.27	0.172	0.0025	4	0.103	0.520	6	71	TMS-45-.520
	#I	18-40	0.63-1.42	0.224	0.0031	4	0.150	0.650	8	80	TMS-3F-.650
	#J	14-50	0.50-1.82	0.273	0.0025	4	0.174	0.890	10	100	TMS-A2-.890
	#K	13-28	0.90-1.96	0.353	0.0045	4	0.249	1.025	10	100	TMS-6D-1.025
	#L	12-32	0.79-2.12	0.413	0.0039	4	0.300	1.210	12	125	TMS-56-1.210
	#M	9-25	1.00-2.83	0.460	0.0049	5	0.310	1.450	12	125	TMS-F9-1.450
	#N	8-32	0.79-3.18	0.570	0.0039	6	0.397	1.780	16	150	TMS-CF-1.780

* Visit the Single Form Thread Mill section of deboertool.com for more information on available tread forms for each tool



Customization

The listed tools are offered with a 2xD reach, though can be modified to suit your application requirements such as an increased L3 (LOR), or decreased D3 (Neck Dia.).



In cases where a customized cutter form is needed to replace an already in use tool, we can engineer a matching form that will substitute seamlessly into your operation.

Simply reach out to our sales team to discuss any customization or engineered solutions.

HIGH VELOCITY

The **High Velocity** line features high-performance mould & die tools suitable for machining at extraordinary speeds and feeds. They are specifically designed for alloy steel, tool steel, and hardened steel found in the mould & die industries.

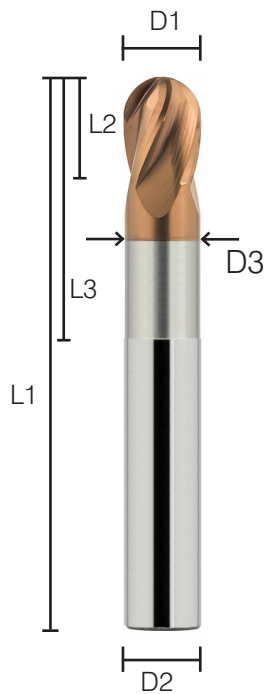
Choose from a diverse range of geometries, including ball, tapered ball, radius, tapered radius, radius extended reach, and flat bottom, to meet your precise machining needs.

Key Features:

- Crafted with premium nanograin carbide, ensuring exceptional wear resistance
- Large core for improved durability
- Optimized geometry for enhanced performance in hardened steels
- Cutting-edge edge preparation, reinforcing cutting strength and extending tool life
- Equipped with a heat-resistant nanocomposite PVD coating, maximizing the longevity of the tool



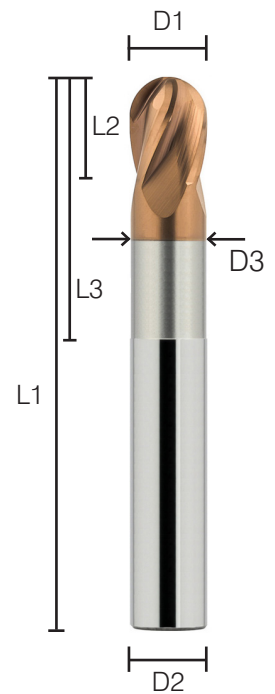
HV Ball Nose 1/32 - 3/32



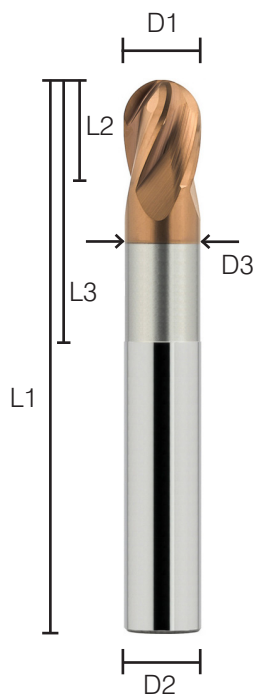
in	D1 Dia.	D2 Dia. (h6)	L1 OAL	L2 LOC	D3 Neck Dia.	L3 LON	No. of Flutes	Part #
	1/32	3/16	2.0	0.032	0.029	0.100	2	900-0031-2N.10
	1/32	3/16	2.0	0.032	0.029	0.130	2	900-0031-2N.13
	1/32	3/16	2.0	0.032	0.029	0.160	2	900-0031-2N.16
	1/32	3/16	2.0	0.032	0.029	0.190	2	900-0031-2N.19
	1/32	3/16	2.0	0.032	0.029	0.225	2	900-0031-2N.23
	1/32	3/16	2.0	0.032	0.029	0.255	2	900-0031-2N.25
	1/32	3/16	2.0	0.032	0.029	0.288	2	900-0031-2N.29
	1/32	3/16	2.0	0.032	0.029	0.320	2	900-0031-2N.32
	1/16	3/16	2.0	0.062	0.059	0.200	2	900-0062-2N.20
	1/16	3/16	2.0	0.062	0.059	0.260	2	900-0062-2N.26
	1/16	3/16	2.0	0.062	0.059	0.320	2	900-0062-2N.32
	1/16	3/16	2.0	0.062	0.059	0.380	2	900-0062-2N.38
	1/16	3/16	2.0	0.062	0.059	0.440	2	900-0062-2N.44
	1/16	3/16	2.25	0.062	0.059	0.510	2	900-0062-2N.51
	1/16	3/16	2.38	0.062	0.059	0.630	2	900-0062-2N.63
	3/32	3/16	2.0	0.093	0.089	0.300	2	900-0093-2N.30
	3/32	3/16	2.0	0.093	0.089	0.300	4	900-0093-4N.30
	3/32	3/16	2.0	0.093	0.089	0.390	2	900-0093-2N.39
	3/32	3/16	2.0	0.093	0.089	0.390	4	900-0093-4N.39
	3/32	3/16	2.0	0.093	0.089	0.480	2	900-0093-2N.48
	3/32	3/16	2.25	0.093	0.089	0.570	4	900-0093-4N.57
	3/32	3/16	2.38	0.093	0.089	0.670	2	900-0093-2N.67
	3/32	3/16	2.38	0.093	0.089	0.760	2	900-0093-2N.76
	3/32	3/16	2.38	0.093	0.089	0.860	2	900-0093-2N.86
	3/32	3/16	2.38	0.093	0.089	0.950	2	900-0093-2N.95
	3/32	3/16	2.38	0.093	0.089	0.950	4	900-0093-4N.95

HV Ball Nose 1/8 - 3/16

	D1 Dia.	D2 Dia. (h6)	L1 OAL	L2 LOC	D3 Neck Dia.	L3 LON	No. of Flutes	Part #
in	1/8	1/4	2.0	0.125	0.121	0.270	2	900-0125-2N.27
	1/8	1/4	2.0	0.125	0.121	0.270	4	900-0125-4N.27
	1/8	1/4	2.25	0.125	0.121	0.400	2	900-0125-2N.40
	1/8	1/4	2.25	0.125	0.121	0.400	4	900-0125-4N.40
	1/8	1/4	2.25	0.125	0.121	0.520	2	900-0125-2N.52
	1/8	1/4	2.25	0.125	0.121	0.520	4	900-0125-4N.52
	1/8	1/4	2.5	0.125	0.121	0.650	2	900-0125-2N.65
	1/8	1/4	2.5	0.125	0.121	0.650	4	900-0125-4N.65
	1/8	1/4	2.5	0.125	0.121	0.770	2	900-0125-2N.77
	1/8	1/4	2.75	0.125	0.121	1.020	2	900-0125-2N1.02
	1/8	1/4	3.0	0.125	0.121	1.270	2	900-0125-2N1.27
	1/8	1/4	3.0	0.125	0.121	1.270	4	900-0125-4N1.27
	3/16	1/4	2.0	0.187	0.184	0.420	2	900-0187-2N.42
	3/16	1/4	2.0	0.187	0.184	0.420	4	900-0187-4N.42
	3/16	1/4	2.25	0.187	0.184	0.610	2	900-0187-2N.61
	3/16	1/4	2.5	0.187	0.184	0.780	2	900-0187-2N.78
	3/16	1/4	2.75	0.187	0.184	0.970	2	900-0187-2N.97
	3/16	1/4	3.0	0.187	0.184	1.150	2	900-0187-2N1.15
	3/16	1/4	3.50	0.187	0.184	1.530	2	900-0187-2N1.53
	3/16	1/4	4.0	0.187	0.184	1.900	2	900-0187-20N1.90



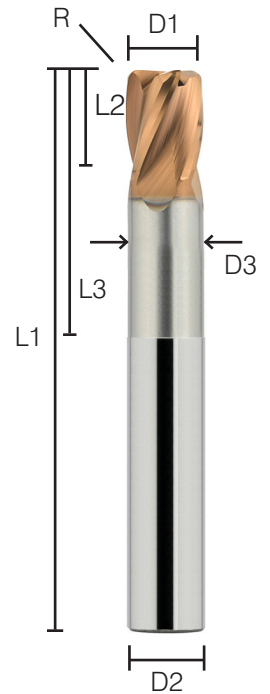
HV Ball Nose 1/4 - 1/2



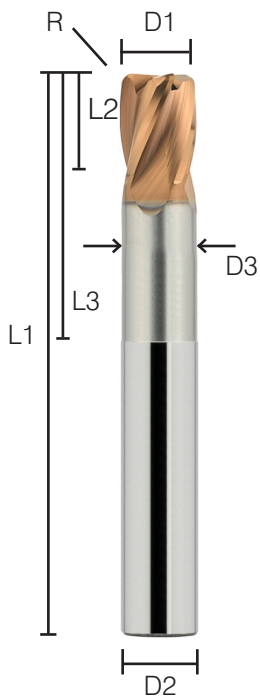
	D1 Dia.	D2 Dia. (h6)	L1 OAL	L2 LOC	D3 Neck Dia.	L3 LON	No. of Flutes	Part #
in	1/4	1/4	2.25	0.312	0.245	0.550	2	900-0250-2N.55
	1/4	1/4	2.25	0.312	0.245	0.550	4	900-0250-4N.55
	1/4	1/4	2.75	0.312	0.245	1.030	2	900-0250-2N1.03
	1/4	1/4	2.75	0.312	0.245	1.030	4	900-0250-4N1.03
	1/4	1/4	3.25	0.312	0.245	1.550	2	900-0250-2N1.55
	1/4	1/4	3.25	0.312	0.245	1.550	4	900-0250-4N1.55
	1/4	1/4	3.75	0.312	0.245	2.030	2	900-0250-2N2.03
	1/4	1/4	3.75	0.312	0.245	2.030	4	900-0250-4N2.03
	1/4	1/4	4.0	0.312	0.245	2.350	2	900-0250-2N2.35
	1/4	1/4	4.0	0.312	0.245	2.350	4	900-0250-4N2.35
	5/16	5/16	3.0	0.4	0.305	1.100	2	900-0312-2N1.10
	5/16	5/16	3.0	0.4	0.305	1.100	4	900-0312-4N1.10
	5/16	5/16	3.5	0.4	0.305	1.600	2	900-0312-2N1.60
	5/16	5/16	3.5	0.4	0.305	1.600	4	900-0312-4N1.60
	3/8	3/8	3.25	0.45	0.367	1.550	2	900-0375-2N1.60
	3/8	3/8	3.25	0.45	0.367	1.550	4	900-0375-4N1.60
	3/8	3/8	4.0	0.45	0.367	2.100	2	900-0375-2N2.10
	3/8	3/8	4.0	0.45	0.367	2.100	4	900-0375-4N2.10
	1/2	1/2	3.5	0.625	0.490	1.600	2	900-0500-2N1.60
	1/2	1/2	3.5	0.625	0.490	1.600	4	900-0500-4N1.60
	1/2	1/2	4.25	0.625	0.490	2.100	2	900-0500-2N2.10
	1/2	1/2	4.25	0.625	0.490	2.100	4	900-0500-4N2.10
	1/2	1/2	6.0	0.625	0.490	3.100	2	900-0500-2N3.10
	1/2	1/2	6.0	0.625	0.490	3.100	4	900-0500-4N3.10

HV Corner Radius 1/32 - 1/8

	D1 Dia.	D2 Dia. (h6)	L1 OAL	L2 LOC	D3 Neck Dia.	L3 LON	R Radius	No. of Flutes	Part #
in	1/32	3/16	2.0	0.032	0.029	0.130	0.005	2	9-0031-2R5N.13
	1/32	3/16	2.0	0.032	0.029	0.190	0.005	2	9-0031-2R5N.19
	1/32	3/16	2.0	0.032	0.029	0.130	0.010	2	9-0031-2R10N.13
	1/32	3/16	2.0	0.032	0.029	0.190	0.010	2	9-0031-2R10N.19
	1/16	3/16	2.0	0.062	0.059	0.250	0.005	2	9-0062-2R5N.25
	1/16	3/16	2.25	0.062	0.059	0.625	0.005	2	9-0062-2R5N.62
	1/16	3/16	2.0	0.062	0.059	0.250	0.010	2	9-0062-2R10N.25
	1/16	3/16	2.25	0.062	0.059	0.625	0.010	2	9-0062-2R10N.62
	1/16	3/16	2.0	0.062	0.059	0.250	0.020	2	9-0062-2R20N.25
	1/16	3/16	2.25	0.062	0.059	0.625	0.020	2	9-0062-2R20N.62
	3/32	3/16	2.0	0.093	0.089	0.470	0.010	4	9-0093-4R10N.47
	3/32	3/16	2.0	0.093	0.089	0.470	0.020	4	9-0093-4R20N.47
	3/32	3/16	2.25	0.093	0.089	0.700	0.010	4	9-0093-4R10N.70
	3/32	3/16	2.25	0.093	0.089	0.700	0.020	4	9-0093-4R20N.70
	3/32	3/16	2.5	0.093	0.089	0.940	0.010	4	9-0093-4R10N.94
	3/32	3/16	2.5	0.093	0.089	0.940	0.020	4	9-0093-4R20N.94
	3/32	3/16	2.75	0.093	0.089	1.170	0.010	4	9-0093-4R10N1.2
	3/32	3/16	2.75	0.093	0.089	1.170	0.020	4	9-0093-4R20N1.2
	1/8	1/4	2.25	0.125	0.121	0.375	0.010	4	9-0125-4R10N.37
	1/8	1/4	2.5	0.125	0.121	0.625	0.010	4	9-0125-4R10N.62
	1/8	1/4	3.0	0.125	0.121	1.270	0.010	4	9-0125-4R10N1.3
	1/8	1/4	2.25	0.125	0.121	0.375	0.020	4	9-0125-4R20N.37
	1/8	1/4	2.5	0.125	0.121	0.625	0.020	4	9-0125-4R20N.62
	1/8	1/4	3.0	0.125	0.121	1.270	0.020	4	9-0125-4R20N1.3
	1/8	1/4	2.25	0.125	0.121	0.375	0.030	4	9-0125-4R30N.37
	1/8	1/4	2.5	0.125	0.121	0.625	0.030	4	9-0125-4R30N.62
	1/8	1/4	3.0	0.125	0.121	1.270	0.030	4	9-0125-4R30N1.3



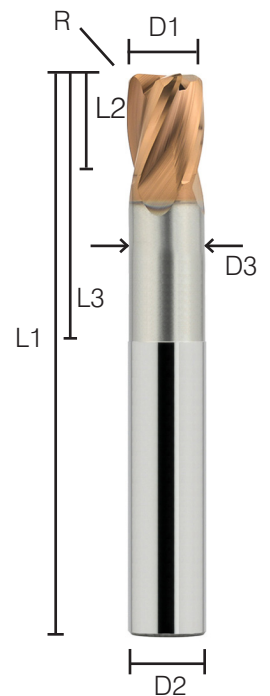
HV Corner Radius 3/16 - 1/4



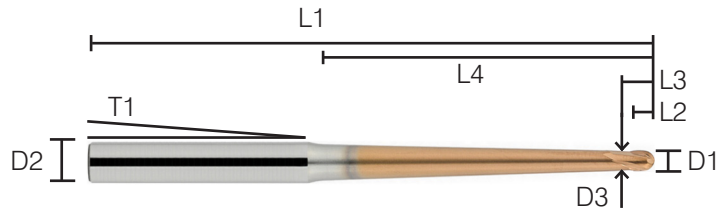
	D1 Dia.	D2 Dia. (h6)	L1 OAL	L2 LOC	D3 Neck Dia.	L3 LON	R Radius	No. of Flutes	Part #
in	3/16	1/4	2.5	0.187	0.184	0.562	0.020	4	9-0187-4R20N.56
	3/16	1/4	2.75	0.187	0.184	0.937	0.020	4	9-0187-4R20N.94
	3/16	1/4	3.0	0.187	0.184	1.300	0.020	4	9-0187-4R20N1.3
	3/16	1/4	2.5	0.187	0.184	0.562	0.030	4	9-0187-4R30N.56
	3/16	1/4	2.75	0.187	0.184	0.937	0.030	4	9-0187-4R30N.94
	3/16	1/4	3.0	0.187	0.184	1.300	0.030	4	9-0187-4R30N1.3
	1/4	1/4	2.5	0.312	0.245	0.750	0.020	4	9-0250-4R20N.75
	1/4	1/4	2.5	0.312	0.245	0.750	0.020	6	9-0250-6R20N.75
	1/4	1/4	3.0	0.312	0.245	1.250	0.015	4	9-0250-4R15N1.2
	1/4	1/4	3.0	0.312	0.245	1.250	0.020	2	9-0250-2R20N1.2
	1/4	1/4	3.0	0.312	0.245	1.250	0.020	4	9-0250-4R20N1.2
	1/4	1/4	3.5	0.312	0.245	1.750	0.020	4	9-0250-4R20N1.7
	1/4	1/4	2.5	0.312	0.245	0.750	0.030	4	9-0250-4R30N.75
	1/4	1/4	2.5	0.312	0.245	0.750	0.030	6	9-0250-6R30N.75
	1/4	1/4	3.0	0.312	0.245	1.250	0.030	4	9-0250-4R30N1.2
	1/4	1/4	3.5	0.312	0.245	1.750	0.030	4	9-0250-4R30N1.7
	1/4	1/4	2.5	0.312	0.245	0.750	0.060	4	9-0250-4R60N.75
	1/4	1/4	2.5	0.312	0.245	0.750	0.060	6	9-0250-6R60N.75
	1/4	1/4	3.0	0.312	0.245	1.250	0.060	4	9-0250-4R60N1.2
	1/4	1/4	3.5	0.312	0.245	1.750	0.060	4	9-0250-4R60N1.7

HV Corner Radius 5/16 - 1/2

	D1 Dia.	D2 Dia. (h6)	L1 OAL	L2 LOC	D3 Neck Dia.	L3 LON	R Radius	No. of Flutes	Part #
in	5/16	5/16	3.0	0.400	0.305	0.937	0.030	4	9-0312-4R30N.94
	5/16	5/16	4.0	0.400	0.305	1.875	0.030	4	9-0312-4R30N1.9
	5/16	5/16	3.0	0.400	0.305	0.937	0.060	6	9-0312-6R60N.94
	5/16	5/16	4.0	0.400	0.305	1.875	0.060	4	9-0312-4R60N1.9
	3/8	3/8	3.0	0.450	0.367	1.125	0.030	4	9-0375-4R30N1.1
	3/8	3/8	3.0	0.450	0.367	1.125	0.030	6	9-0375-6R30N1.1
	3/8	3/8	4.0	0.450	0.367	1.875	0.030	4	9-0375-4R30N1.9
	3/8	3/8	3.0	0.450	0.367	1.125	0.060	4	9-0375-4R60N1.1
	3/8	3/8	3.0	0.450	0.367	1.125	0.060	6	9-0375-6R60N1.1
	3/8	3/8	4.0	0.450	0.367	1.875	0.015	4	9-0375-4R15N1.9
	3/8	3/8	4.0	0.450	0.367	1.875	0.060	4	9-0375-4R60N1.9
	3/8	3/8	3.0	0.450	0.367	1.125	0.120	4	9-0375-4R120N1
	3/8	3/8	3.0	0.450	0.367	1.125	0.120	6	9-0375-6R120N1
	3/8	3/8	4.0	0.450	0.367	1.875	0.120	4	9-0375-4R120N2
	1/2	1/2	4.0	0.625	0.490	2.100	0.015	4	9-0500-4R15N2.1
	1/2	1/2	4.0	0.625	0.490	2.100	0.030	4	9-0500-4R30N2.1
	1/2	1/2	4.0	0.625	0.490	2.100	0.030	6	9-0500-6R30N2.1
	1/2	1/2	4.0	0.625	0.490	2.100	0.060	4	9-0500-4R60N2.1
	1/2	1/2	4.0	0.625	0.490	2.100	0.060	6	9-0500-6R60N2.1
	1/2	1/2	4.0	0.625	0.490	2.100	0.120	4	9-0500-4R120N2
	1/2	1/2	4.0	0.625	0.490	2.100	0.120	6	9-0500-6R120N2
	1/2	1/2	4.0	0.625	0.490	3.100	0.030	4	9-0500-4R30N3.1
	1/2	1/2	4.0	0.625	0.490	3.100	0.030	6	9-0500-6R30N3.1
	1/2	1/2	4.0	0.625	0.490	3.100	0.060	4	9-0500-4R60N3.1
	1/2	1/2	4.0	0.625	0.490	3.100	0.060	6	9-0500-6R60N3.1
	1/2	1/2	4.0	0.625	0.490	3.100	0.120	4	9-0500-4R120N3
	1/2	1/2	4.0	0.625	0.490	3.100	0.120	6	9-0500-6R120N3



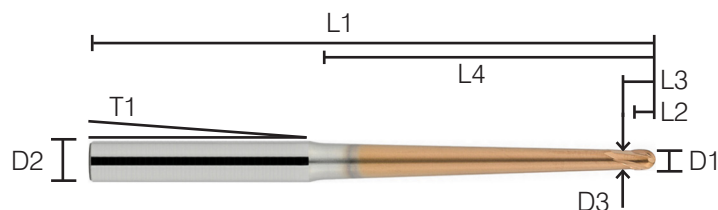
Ball Nose Tapered Shank HV



in

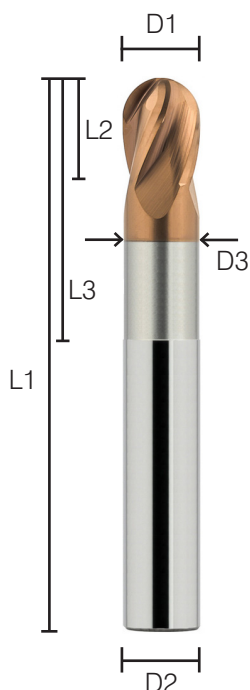
D1 Dia.	D2 Dia. (h6)	L1 OAL	L2 LOC	D3 Neck Dia.	L3 LON	T1 Taper Angle	L4 LOT	No. of Flutes	Part #
1/32	1/4	2.25	0.032	0.029	0.062	1.5	0.630	2	915-0031-2N.63
1/32	1/4	2.75	0.032	0.029	0.062	1.5	1.015	2	915-0031-2N1.01
1/32	1/4	3.0	0.032	0.029	0.062	3.0	1.550	2	930-0031-2N1.55
1/32	1/4	2.5	0.032	0.029	0.062	5.0	1.150	2	950-0031-2N1.15
1/16	1/4	2.25	0.062	0.059	0.125	1.5	0.630	2	915-0062-2N.63
1/16	1/4	2.75	0.062	0.059	0.125	1.5	1.015	2	915-0062-2N1.0
1/16	1/4	3.0	0.062	0.059	0.125	3.0	1.645	2	930-0062-2N1.64
1/16	1/4	2.5	0.062	0.059	0.125	5.0	1.216	2	950-0062-2N1.21
3/32	1/4	2.25	0.093	0.089	0.160	1.5	0.591	2	915-0093-2N.59
3/32	1/4	2.75	0.093	0.089	0.160	1.5	1.180	2	915-0093-2N1.18
3/32	1/4	3.0	0.093	0.089	0.160	3.0	1.696	2	930-0093-2N1.69
3/32	1/4	3.0	0.093	0.089	0.160	3.0	1.696	4	930-0093-4N1.69
3/32	1/4	2.5	0.093	0.089	0.160	5.0	1.081	2	950-0093-2N1.08
3/32	1/4	2.5	0.093	0.089	0.160	5.0	1.081	4	950-0093-4N1.08
1/8	1/4	2.75	0.125	0.121	0.200	1.5	1.180	2	915-0125-2N1.18
1/8	1/4	3.0	0.125	0.121	0.200	1.5	1.575	2	915-0125-2N1.57
1/8	1/4	3.5	0.125	0.121	0.200	1.5	2.020	2	915-0125-2N2.02
1/8	1/4	3.0	0.125	0.121	0.200	3.0	1.425	2	930-0125-2N1.42
1/8	1/4	3.0	0.125	0.121	0.200	3.0	1.425	4	930-0125-4N1.42
1/8	1/4	2.5	0.125	0.121	0.200	5.0	0.937	2	950-0125-2N.93

Ball Nose Tapered Shank HV



	D1 Dia.	D2 Dia. (h6)	L1 OAL	L2 LOC	D3 Neck Dia.	L3 LON	T1 Taper Angle	L4 LOT	No. of Flutes	Part #
in	3/16	5/16	3.0	0.187	0.184	0.310	1.5	1.100	2	915-0187-2N1.10
	3/16	5/16	3.5	0.187	0.184	0.310	1.5	1.600	2	915-0187-2N1.60
	3/16	5/16	4.25	0.187	0.184	0.310	1.5	2.300	2	915-0187-2N2.30
	3/16	5/16	3.5	0.187	0.184	0.310	3.0	1.536	2	930-0187-2N1.53
	3/16	5/16	2.5	0.187	0.184	0.310	5.0	1.044	2	950-0187-2N1.04
	1/4	3/8	4.0	0.312	0.245	0.437	1.5	2.047	2	915-0250-2N2.04
	1/4	3/8	4.0	0.312	0.245	0.437	1.5	2.047	4	915-0250-4N2.04
	1/4	3/8	5.0	0.312	0.245	0.437	1.5	2.550	2	915-0250-2N2.55
	1/4	3/8	3.5	0.312	0.245	0.437	3.0	1.677	2	930-0250-2N1.67
	1/4	3/8	3.0	0.312	0.245	0.437	5.0	1.186	2	950-0250-2N1.18
	5/16	7/16	4.0	0.400	0.305	0.550	3.0	1.814	2	930-0312-2N1.81
	3/8	1/2	5.0	0.450	0.367	0.625	1.5	2.965	2	915-0375-2N2.96
	3/8	1/2	5.0	0.450	0.367	0.625	1.5	2.965	4	915-0375-4N2.96
	3/8	1/2	4.5	0.450	0.367	0.625	3.0	1.894	2	930-0375-2N1.89
	1/2	5/8	6.3	0.625	0.490	0.875	1.5	3.453	4	915-0500-4N3.45

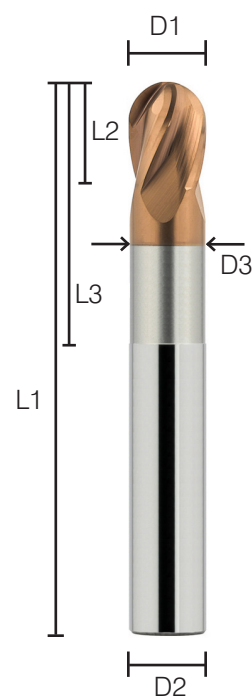
HV Ball Nose 0.5 - 2.0 mm



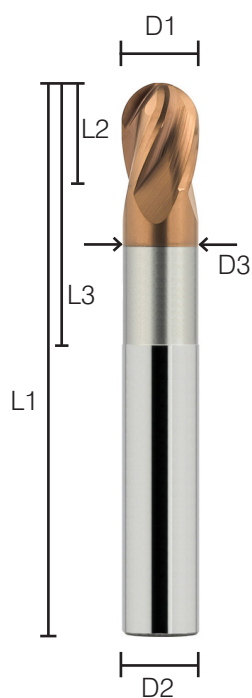
mm	D1 Dia.	D2 Dia. (h6)	L1 OAL	L2 LOC	D3 Neck Dia.	L3 LON	No. of Flutes	Part #
	0.5	4.0	50.0	0.5	0.47	2.0	2	900-005-202N2
	0.5	4.0	50.0	0.5	0.47	3.0	2	900-005-202N3
	0.5	4.0	50.0	0.5	0.47	4.0	2	900-005-202N4
	0.5	4.0	50.0	0.5	0.47	5.0	2	900-005-202N5
	0.5	4.0	50.0	0.5	0.47	6.0	2	900-005-202N6
	0.5	4.0	50.0	0.5	0.47	8.0	2	900-005-202N8
	0.8	4.0	50.0	0.8	0.95	2.0	2	900-008-202N2
	0.8	4.0	50.0	0.8	0.95	4.0	2	900-008-202N4
	1.0	4.0	50.0	1.0	0.95	3.0	2	900-010-202N3
	1.0	4.0	50.0	1.0	0.95	4.0	2	900-010-202N4
	1.0	4.0	50.0	1.0	0.95	6.0	2	900-010-202N6
	1.0	4.0	50.0	1.0	0.95	8.0	2	900-010-202N8
	1.0	4.0	50.0	1.0	0.95	10.0	2	900-010-202N10
	1.0	4.0	50.0	1.0	0.95	12.0	2	900-010-202N12
	1.0	4.0	60.0	1.0	0.95	14.0	2	900-010-202N14
	1.0	4.0	60.0	1.0	0.95	16.0	2	900-010-202N16
	1.5	4.0	50.0	1.5	1.44	4.0	2	900-015-202N4
	1.5	4.0	50.0	1.5	1.44	6.0	2	900-015-202N6
	1.5	4.0	50.0	1.5	1.44	8.0	2	900-015-202N8
	1.5	4.0	50.0	1.5	1.44	10.0	2	900-015-202N10
	1.5	4.0	55.0	1.5	1.44	12.0	2	900-015-202N12
	1.5	4.0	55.0	1.5	1.44	14.0	2	900-015-202N14
	1.5	4.0	60.0	1.5	1.44	16.0	2	900-015-202N16
	1.5	4.0	60.0	1.5	1.44	20.0	2	900-015-202N20
	2.0	4.0	50.0	2.0	1.95	6.0	2	900-020-202N6
	2.0	4.0	50.0	2.0	1.95	6.0	4	900-020-402N6
	2.0	4.0	50.0	2.0	1.95	8.0	2	900-020-202N8
	2.0	4.0	50.0	2.0	1.95	8.0	4	900-020-402N8
	2.0	4.0	50.0	2.0	1.95	10.0	2	900-020-202N10
	2.0	4.0	50.0	2.0	1.95	10.0	4	900-020-402N10
	2.0	4.0	50.0	2.0	1.95	12.0	2	900-020-202N12
	2.0	4.0	50.0	2.0	1.95	12.0	4	900-020-402N12
	2.0	4.0	55.0	2.0	1.95	14.0	2	900-020-202N14
	2.0	4.0	60.0	2.0	1.95	16.0	2	900-020-202N16
	2.0	4.0	60.0	2.0	1.95	18.0	2	900-020-202N18
	2.0	4.0	60.0	2.0	1.95	20.0	2	900-020-202N20

HV Ball Nose 3.0 - 5.0 mm

mm	D1 Dia.	D2 Dia. (h6)	L1 OAL	L2 LOC	D3 Neck Dia.	L3 LON	No. of Flutes	Part #
	3.0	6.0	50.0	3.0	2.90	8.0	2	900-030-202N8
	3.0	6.0	50.0	3.0	2.90	8.0	4	900-030-402N8
	3.0	6.0	60.0	3.0	2.90	10.0	2	900-030-202N10
	3.0	6.0	60.0	3.0	2.90	10.0	4	900-030-402N10
	3.0	6.0	60.0	3.0	2.90	12.0	2	900-030-202N12
	3.0	6.0	60.0	3.0	2.90	12.0	4	900-030-402N12
	3.0	6.0	60.0	3.0	2.90	14.0	2	900-030-202N14
	3.0	6.0	60.0	3.0	2.90	14.0	4	900-030-402N14
	3.0	6.0	65.0	3.0	2.90	16.0	2	900-030-202N16
	3.0	6.0	65.0	3.0	2.90	18.0	2	900-030-202N18
	3.0	6.0	70.0	3.0	2.90	20.0	2	900-030-202N20
	3.0	6.0	70.0	3.0	2.90	25.0	2	900-030-202N25
	3.0	6.0	70.0	3.0	2.90	30.0	2	900-030-202N30
	4.0	6.0	50.0	4.0	3.85	10.0	2	900-040-202N10
	4.0	6.0	50.0	4.0	3.85	10.0	4	900-040-402N10
	4.0	6.0	60.0	4.0	3.85	16.0	2	900-040-202N16
	4.0	6.0	60.0	4.0	3.85	16.0	4	900-040-402N16
	4.0	6.0	65.0	4.0	3.85	20.0	2	900-040-202N20
	4.0	6.0	65.0	4.0	3.85	20.0	4	900-040-402N20
	4.0	6.0	70.0	4.0	3.85	25.0	2	900-040-202N25
	4.0	6.0	70.0	4.0	3.85	25.0	4	900-040-402N25
	4.0	6.0	70.0	4.0	3.85	30.0	2	900-040-202N30
	4.0	6.0	80.0	4.0	3.85	35.0	2	900-040-202N35
	4.0	6.0	90.0	4.0	3.85	40.0	2	900-040-202N40
	5.0	6.0	65.0	6.0	4.85	20.0	2	900-050-202N20
	5.0	6.0	65.0	6.0	4.85	20.0	4	900-050-402N20
	5.0	6.0	65.0	6.0	4.85	25.0	2	900-050-202N25
	5.0	6.0	65.0	6.0	4.85	25.0	4	900-050-402N25
	5.0	6.0	70.0	6.0	4.85	30.0	4	900-050-402N30
	5.0	6.0	80.0	6.0	4.85	35.0	2	900-050-202N35
	5.0	6.0	90.0	6.0	4.85	40.0	2	900-050-202N40
	5.0	6.0	65.0	6.0	4.85	25.0	2	900-050-2BN25L65
	5.0	6.0	70.0	6.0	4.85	30.0	2	900-050-2BN30L70
	5.0	6.0	80.0	6.0	4.85	35.0	2	900-050-2BN35L80
	5.0	6.0	90.0	6.0	4.85	40.0	2	900-050-2BN40L90
	5.0	6.0	90.0	6.0	4.85	45.0	2	900-050-2BN45L90
	5.0	6.0	100.0	6.0	4.85	50.0	2	900-050-2BN50L100



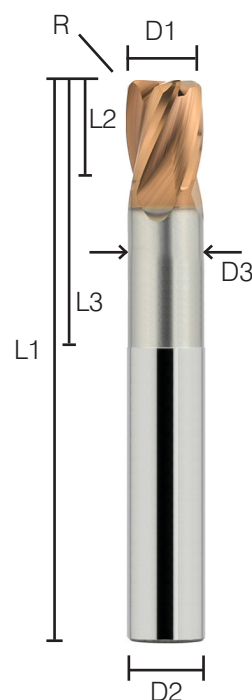
HV Ball Nose 6.0 - 12.0 mm



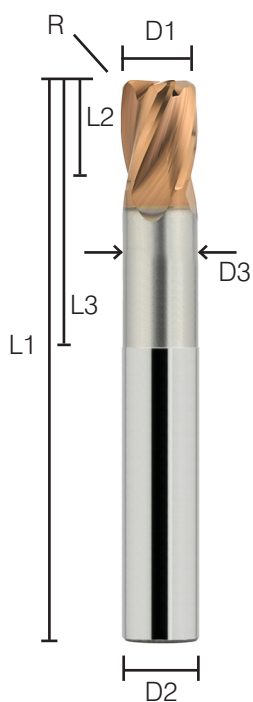
mm	D1 Dia.	D2 Dia. (h6)	L1 OAL	L2 LOC	D3 Neck Dia.	L3 LON	No. of Flutes	Part #
	6.0	6.0	60.0	7.0	5.80	20.0	2	900-060-202N20
	6.0	6.0	60.0	7.0	5.80	20.0	4	900-060-402N20
	6.0	6.0	70.0	7.0	5.80	30.0	2	900-060-202N30
	6.0	6.0	70.0	7.0	5.80	30.0	4	900-060-402N30
	6.0	6.0	80.0	7.0	5.80	40.0	4	900-060-402N40
	6.0	6.0	90.0	7.0	5.80	50.0	2	900-060-202N50
	6.0	6.0	90.0	7.0	5.80	50.0	4	900-060-402N50
	6.0	6.0	100.0	7.0	5.80	60.0	2	900-060-202N60
	8.0	8.0	60.0	9.0	7.80	25.0	2	900-080-202N20
	8.0	8.0	60.0	9.0	7.80	25.0	4	900-080-402N20
	8.0	8.0	80.0	9.0	7.80	40.0	2	900-080-202N40
	8.0	8.0	80.0	9.0	7.80	40.0	4	900-080-402N40
	10.0	10.0	65.0	12.0	9.70	20.0	2	900-100-202N20
	10.0	10.0	80.0	12.0	9.70	25.0	2	900-100-202N25
	10.0	10.0	80.0	12.0	9.70	25.0	4	900-100-402N25
	10.0	10.0	110.0	12.0	9.70	50.0	2	900-100-202N50
	10.0	10.0	110.0	12.0	9.70	50.0	4	900-100-402N50
	12.0	12.0	80.0	14.0	11.70	30.0	2	900-120-202N30
	12.0	12.0	80.0	14.0	11.70	30.0	4	900-120-402N30
	12.0	12.0	109.0	14.0	11.70	50.0	2	900-120-202N50
	12.0	12.0	109.0	14.0	11.70	50.0	4	900-120-402N50

HV Corner Radius 1.0 - 3.0 mm

D1 Dia.	D2 Dia. (h6)	L1 OAL	L2 LOC	D3 Neck Dia.	L3 LON	R Radius	No. of Flutes	Part #
1.0	4.0	50.0	1.0	0.95	4.0	0.1	2	900-010-2R.1N4
1.0	4.0	50.0	1.0	0.95	4.0	0.2	2	900-010-2R.2N4
1.0	4.0	50.0	1.0	0.95	4.0	0.3	2	900-010-2R.3N4
1.0	4.0	50.0	1.0	0.95	6.0	0.1	2	900-010-2R.1N6
1.0	4.0	50.0	1.0	0.95	6.0	0.2	2	900-010-2R.2N6
1.0	4.0	50.0	1.0	0.95	6.0	0.3	2	900-010-2R.3N6
1.5	4.0	50.0	1.5	1.44	6.0	0.1	2	900-015-2R.1N6
1.5	4.0	50.0	1.5	1.44	6.0	0.2	2	900-015-2R.2N6
1.5	4.0	50.0	1.5	1.44	6.0	0.3	2	900-015-2R.3N6
1.5	4.0	50.0	1.5	1.44	10.0	0.1	2	900-015-2R.1N10
1.5	4.0	50.0	1.5	1.44	10.0	0.2	2	900-015-2R.2N10
1.5	4.0	50.0	1.5	1.44	10.0	0.3	2	900-015-2R.3N10
1.5	4.0	50.0	1.5	1.44	15.0	0.1	2	900-015-2R.1N15
1.5	4.0	50.0	1.5	1.44	15.0	0.2	2	900-015-2R.2N15
1.5	4.0	50.0	1.5	1.44	15.0	0.3	2	900-015-2R.3N15
2.0	4.0	50.0	2.0	1.95	6.0	0.3	2	900-020-2R.3N6
2.0	4.0	50.0	2.0	1.95	6.0	0.5	2	900-020-2R.5N6
2.0	4.0	50.0	2.0	1.95	6.0	0.5	4	900-020-4R.5N6
2.0	4.0	50.0	2.0	1.95	8.0	0.5	2	900-020-2R.5N8
2.0	4.0	50.0	2.0	1.95	10.0	0.5	2	900-020-2R.5N10
2.0	4.0	60.0	2.0	1.95	10.0	0.5	4	900-020-4R.5N10
2.0	4.0	50.0	2.0	1.95	12.0	0.5	2	900-020-2R.5N12
2.0	4.0	50.0	2.0	1.95	15.0	0.5	2	900-020-2R.5N15
2.0	4.0	50.0	2.0	1.95	15.0	0.5	4	900-020-4R.5N15
2.0	4.0	60.0	2.0	1.95	20.0	0.5	4	900-020-4R.5N20
2.0	4.0	60.0	2.0	1.95	25.0	0.5	4	900-020-4R.5N25
3.0	6.0	50.0	3.0	2.90	10.0	0.3	4	900-030-4R.3N10
3.0	6.0	60.0	3.0	2.90	15.0	0.3	4	900-030-4R.3N15
3.0	6.0	60.0	3.0	2.90	20.0	0.3	4	900-030-4R.3N20
3.0	6.0	65.0	3.0	2.90	25.0	0.3	4	900-030-4R.3N25
3.0	6.0	70.0	3.0	2.90	30.0	0.3	4	900-030-4R.3N30
3.0	6.0	50.0	3.0	2.90	8.0	0.5	2	900-030-2R.5N8
3.0	6.0	50.0	3.0	2.90	10.0	0.5	2	900-030-2R.5N10
3.0	6.0	50.0	3.0	2.90	10.0	0.5	4	900-030-4R.5N10
3.0	6.0	60.0	3.0	2.90	15.0	0.5	4	900-030-4R.5N15
3.0	6.0	60.0	3.0	2.90	12.0	0.5	2	900-030-2R.5N12
3.0	6.0	60.0	3.0	2.90	14.0	0.5	2	900-030-2R.5N14
3.0	6.0	60.0	3.0	2.90	16.0	0.5	2	900-030-2R.5N16
3.0	6.0	60.0	3.0	2.90	20.0	0.5	4	900-030-4R.5N20
3.0	6.0	65.0	3.0	2.90	25.0	0.5	4	900-030-4R.5N25
3.0	6.0	70.0	3.0	2.90	30.0	0.5	4	900-030-4R.5N30



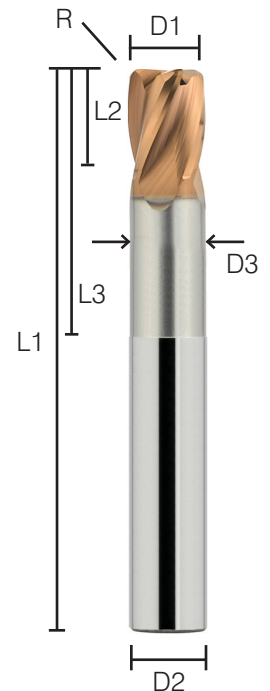
HV Corner Radius 4.0 - 6.0 mm



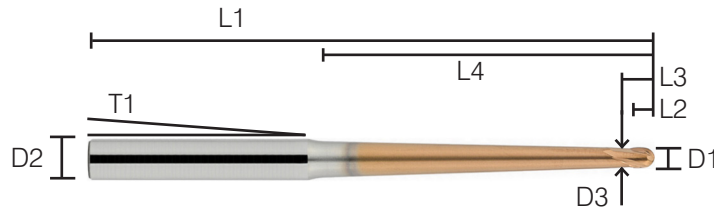
	D1 Dia.	D2 Dia. (h6)	L1 OAL	L2 LOC	D3 Neck Dia.	L3 LON	R Radius	No. of Flutes	Part #
mm	4.0	6.0	50.0	4.0	3.85	10	0.5	2	900-040-2R.5N10
	4.0	6.0	50.0	4.0	3.85	12	0.5	2	900-040-2R.5N12
	4.0	6.0	50.0	4.0	3.85	12	0.5	4	900-040-4R.5N12
	4.0	6.0	60.0	4.0	3.85	16	0.5	2	900-040-2R.5N16
	4.0	6.0	65.0	4.0	3.85	20	0.5	2	900-040-2R.5N20
	4.0	6.0	60.0	4.0	3.85	20	0.5	4	900-040-4R.5N20
	4.0	6.0	70.0	4.0	3.85	25	0.5	2	900-040-2R.5N25
	4.0	6.0	70.0	4.0	3.85	30	0.5	4	900-040-4R.5N30
	4.0	6.0	80.0	4.0	3.85	35	0.5	2	900-040-2R.5N35
	4.0	6.0	50.0	4.0	3.85	12	1.0	4	900-040-4R1N12
	4.0	6.0	65.0	4.0	3.85	20	1.0	4	900-040-4R1N20
	4.0	6.0	70.0	4.0	3.85	30	1.0	4	900-040-4R1N30
	5.0	6.0	60.0	6.0	4.85	15	0.5	4	900-050-4R.5N15
	5.0	6.0	65.0	6.0	4.85	20	0.5	4	900-050-4R.5N20
	5.0	6.0	70.0	6.0	4.85	30	0.5	4	900-050-4R.5N30
	6.0	6.0	60.0	7.0	5.80	18	0.5	2	900-060-2R.5N18
	6.0	6.0	60.0	7.0	5.80	18	0.5	4	900-060-4R.5N18
	6.0	6.0	60.0	7.0	5.80	18	0.5	6	900-060-6R.5N18
	6.0	6.0	70.0	7.0	5.80	30	0.5	4	900-060-4R.5N30
	6.0	6.0	80.0	7.0	5.80	40	0.5	2	900-060-2R.5N40
	6.0	6.0	80.0	7.0	5.80	40	0.5	4	900-060-4R.5N40
	6.0	6.0	90.0	7.0	5.80	50	0.5	4	900-060-4R.5N50
	6.0	6.0	60.0	7.0	5.80	18	1.0	2	900-060-2R1N18
	6.0	6.0	60.0	7.0	5.80	18	1.0	4	900-060-4R1N18
	6.0	6.0	60.0	7.0	5.80	18	1.0	6	900-060-6R1N18
	6.0	6.0	70.0	7.0	5.80	30	1.0	4	900-060-4R1N30
	6.0	6.0	80.0	7.0	5.80	40	1.0	4	900-060-4R1N40
	6.0	6.0	90.0	7.0	5.80	50	1.0	4	900-060-4R1N50
	6.0	6.0	70.0	7.0	5.80	30	2.0	2	900-060-2R2N30
	6.0	6.0	70.0	7.0	5.80	30	2.0	4	900-060-4R2N30

HV Corner Radius 8.0 - 12.0 mm

	D1 Dia.	D2 Dia. (h6)	L1 OAL	L2 LOC	D3 Neck Dia.	L3 LON	R Radius	No. of Flutes	Part #
mm	8.0	8.0	80.0	9.0	7.80	25.0	0.5	2	900-080-2R.5N25
	8.0	8.0	80.0	9.0	7.80	25.0	0.5	4	900-080-4R.5N25
	8.0	8.0	80.0	9.0	7.80	25.0	0.5	6	900-080-6R.5N25
	8.0	8.0	100.0	9.0	7.80	50.0	0.5	4	900-080-4R.5N50
	8.0	8.0	80.0	9.0	7.80	25.0	1.0	4	900-080-4R1N25
	8.0	8.0	80.0	9.0	7.80	25.0	1.0	6	900-080-6R1N25
	8.0	8.0	100.0	9.0	7.80	50.0	1.0	4	900-080-4R1N50
	8.0	8.0	80.0	9.0	7.80	25.0	2.0	4	900-080-4R2N25
	8.0	8.0	80.0	9.0	7.80	25.0	2.0	6	900-080-6R2N25
	8.0	8.0	100.0	9.0	7.80	50.0	2.0	4	900-080-4R2N50
	10.0	10.0	80.0	12.0	9.70	30.0	0.5	4	900-100-4R.5N30
	10.0	10.0	80.0	12.0	9.70	30.0	0.5	6	900-100-6R.5N30
	10.0	10.0	110.0	12.0	9.70	50.0	0.5	2	900-100-2R.5N50
	10.0	10.0	110.0	12.0	9.70	50.0	0.5	4	900-100-4R.5N50
	10.0	10.0	80.0	12.0	9.70	30.0	1.0	4	900-100-4R1N30
	10.0	10.0	80.0	12.0	9.70	30.0	1.0	6	900-100-6R1N30
	10.0	10.0	110.0	12.0	9.70	50.0	1.0	4	900-100-4R1N50
	10.0	10.0	80.0	12.0	9.70	30.0	2.0	2	900-100-2R2N30
	10.0	10.0	80.0	12.0	9.70	30.0	2.0	4	900-100-4R2N30
	10.0	10.0	80.0	12.0	9.70	30.0	2.0	6	900-100-6R2N30
	10.0	10.0	110.0	12.0	9.70	50.0	2.0	4	900-100-4R2N50
	10.0	10.0	80.0	12.0	9.70	30.0	3.0	4	900-100-4R3N30
	10.0	10.0	80.0	12.0	9.70	30.0	3.0	6	900-100-6R3N30
	10.0	10.0	110.0	12.0	9.70	50.0	3.0	4	900-100-4R3N50
	12.0	12.0	110.0	14.0	11.70	50.0	0.5	2	900-120-2R.5N50
	12.0	12.0	110.0	14.0	11.70	50.0	0.5	4	900-120-4R.5N50
	12.0	12.0	110.0	14.0	11.70	50.0	0.5	6	900-120-6R.5N50
	12.0	12.0	110.0	26.0	-	-	1.0	2	900-120-2R1
	12.0	12.0	110.0	14.0	11.70	35.0	1.0	2	900-120-2R1N35
	12.0	12.0	110.0	14.0	11.70	50.0	1.0	2	900-120-2R1N50
	12.0	12.0	110.0	14.0	11.70	50.0	1.0	4	900-120-4R1N50
	12.0	12.0	110.0	14.0	11.70	50.0	1.0	6	900-120-6R1N50
	12.0	12.0	110.0	14.0	11.70	50.0	1.5	4	900-120-4R1.5N50
	12.0	12.0	110.0	14.0	11.70	50.0	2.0	2	900-120-2R2N50
	12.0	12.0	110.0	14.0	11.70	50.0	2.0	4	900-120-4R2N50
	12.0	12.0	110.0	14.0	11.70	50.0	2.0	6	900-120-6R2N50
	12.0	12.0	110.0	14.0	11.70	50.0	3.0	4	900-120-4R3N50
	12.0	12.0	110.0	14.0	11.70	50.0	3.0	6	900-120-6R3N50
	12.0	12.0	110.0	14.0	11.70	50.0	4.0	4	900-120-4R4N50
	12.0	12.0	110.0	14.0	11.70	50.0	4.0	6	900-120-6R4N50

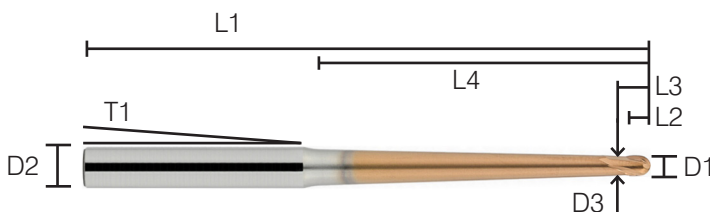


HV Tapered Reach BN 1.0 - 4.0 mm



D1 Dia.	D2 Dia. (h6)	L1 OAL	L2 LOC	D3 Neck Dia.	L3 LON	T1 Taper Angle	L4 LOT	No. of Flutes	Part #
1.0	6.0	50.0	1.0	0.95	2.0	1.5	10.0	2	915-010-202N10
1.0	6.0	60.0	1.0	0.95	2.0	1.5	15.0	2	915-010-202N15
1.0	6.0	65.0	1.0	0.95	2.0	1.5	20.0	2	915-010-202N20
1.0	6.0	70.0	1.0	0.95	2.0	1.5	25.0	2	915-010-202N25
1.0	6.0	80.0	1.0	0.95	2.0	3.0	40.0	2	930-010-202N40
1.0	6.0	65.0	1.0	0.95	2.0	5.0	30.8	2	950-010-202N31
1.5	6.0	60.0	1.5	1.44	3.0	1.5	10.0		915-015-202N10
1.5	6.0	60.0	1.5	1.44	3.0	1.5	15.0	2	915-015-202N15
1.5	6.0	65.0	1.5	1.44	3.0	1.5	20.0	2	915-015-202N20
1.5	6.0	70.0	1.5	1.44	3.0	1.5	25.0	2	915-015-202N25
1.5	6.0	80.0	1.5	1.44	3.0	3.0	42.0	2	930-015-202N42
1.5	6.0	65.0	1.5	1.44	3.0	5.0	29.0	2	950-015-202N29
2.0	6.0	60.0	2.0	1.95	4.0	1.5	15.0		915-020-202N15
2.0	6.0	65.0	2.0	1.95	4.0	1.5	20.0	2	915-020-202N20
2.0	6.0	70.0	2.0	1.95	4.0	1.5	30.0	2	915-020-202N30
2.0	6.0	80.0	2.0	1.95	4.0	1.5	40.0	2	915-020-202N40
2.0	6.0	80.0	2.0	1.95	4.0	3.0	42.6	2	930-020-202N42
2.0	6.0	80.0	2.0	1.95	4.0	3.0	42.6	2	930-020-402N42
2.0	6.0	60.0	2.0	1.95	4.0	5.0	27.2	4	950-020-202N27
2.0	6.0	60.0	2.0	1.95	4.0	5.0	27.2	2	950-020-402N27
2.0	6.0	60.0	2.0	1.95	4.0	8.0	18.5	2	980-020-202N19
3.0	6.0	70.0	3.0	2.90	5.0	1.5	30.0	2	915-030-202N30
3.0	6.0	80.0	3.0	2.90	5.0	1.5	40.0	2	915-030-202N40
3.0	6.0	90.0	3.0	2.90	5.0	1.5	50.0	2	915-030-202N50
3.0	6.0	70.0	3.0	2.90	5.0	3.0	34.5	2	930-030-202N35
3.0	6.0	70.0	3.0	2.90	5.0	3.0	34.5	4	930-030-402N35
3.0	6.0	60.0	3.0	2.90	5.0	5.0	22.7	2	950-030-202N23
3.0	6.0	60.0	3.0	2.90	5.0	5.0	22.7	4	950-030-402N23
4.0	6.0	70.0	4.0	3.85	7.0	1.5	30.0	2	915-040-202N30
4.0	6.0	80.0	4.0	3.85	7.0	1.5	40.0	2	915-040-202N40
4.0	6.0	90.0	4.0	3.85	7.0	1.5	48.0	2	915-040-202N48
4.0	6.0	70.0	4.0	3.85	7.0	3.0	27.5	2	930-040-202N28
4.0	6.0	70.0	4.0	3.85	7.0	3.0	27.5	4	930-040-402N28
4.0	6.0	60.0	4.0	3.85	7.0	5.0	19.3	2	950-040-202N19
4.0	6.0	60.0	4.0	3.85	7.0	5.0	19.3	4	950-040-402N19

HV Tapered Reach BN 5.0 - 12.0 mm

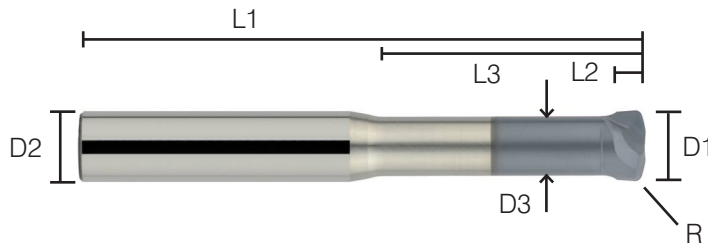


	D1 Dia.	D2 Dia. (h6)	L1 OAL	L2 LOC	D3 Neck Dia.	L3 LON	T1 Taper Angle	L4 LOT	No. of Flutes	Part #
mm	5.0	8.0	90.0	6.0	4.85	9.0	1.5	40.0	2	915-050-202N40
	5.0	8.0	110.0	6.0	4.85	9.0	1.5	60.0	2	915-050-202N60
	5.0	8.0	90.0	6.0	4.85	9.0	3.0	39.0	2	930-050-202N39
	5.0	8.0	90.0	6.0	4.85	9.0	3.0	39.0	4	930-050-402N39
	5.0	8.0	70.0	6.0	4.85	9.0	5.0	27.0	2	950-050-202N27
	5.0	8.0	70.0	6.0	4.85	9.0	5.0	27.0	4	950-050-402N27
	6.0	8.0	100.0	7.0	5.80	11.0	1.5	53.0	2	915-060-202N53
	6.0	8.0	100.0	7.0	5.80	11.0	1.5	53.0	4	915-060-402N53
	6.0	8.0	130.0	7.0	5.80	11.0	1.5	53.0	2	915-06A-202N53
	6.0	8.0	100.0	7.0	5.80	11.0	1.5	53.0	2	915-B60-202N53
	6.0	8.0	100.0	7.0	5.80	11.0	1.5	53.0	4	915-B60-402N53
	6.0	8.0	90.0	7.0	5.80	11.0	3.0	32.0	2	930-060-202N32
	6.0	8.0	90.0	7.0	5.80	11.0	3.0	32.0	4	930-060-402N32
	6.0	8.0	70.0	7.0	5.80	11.0	5.0	23.5	2	950-060-202N23
	6.0	8.0	70.0	7.0	5.80	11.0	5.0	23.5	4	950-060-402N23
	8.0	10.0	120.0	9.0	7.80	14.0	1.5	56.0	2	915-080-202N56
	8.0	10.0	120.0	9.0	7.80	14.0	1.5	56.0	4	915-080-402N56
	8.0	10.0	100.0	9.0	7.80	14.0	3.0	35.0	2	930-080-202N35
	8.0	10.0	100.0	9.0	7.80	14.0	3.0	35.0	4	930-080-402N35
	10.0	12.0	130.0	12.0	9.70	18.0	1.5	62.0	2	915-100-202N62
	10.0	12.0	130.0	12.0	9.70	18.0	1.5	62.0	4	915-100-402N62
	10.0	12.0	110.0	12.0	9.70	18.0	3.0	40.0	2	930-100-202N40
	10.0	12.0	110.0	12.0	9.70	18.0	3.0	40.0	4	930-100-402N40
	12.0	16.0	160.0	14.0	11.70	22.0	1.5	99.9	2	915-120-202N99
	12.0	16.0	160.0	14.0	11.70	22.0	1.5	99.9	4	915-120-402N99
	12.0	16.0	140.0	14.0	11.70	22.0	3.0	63.0	2	930-120-202N63
	12.0	16.0	140.0	14.0	11.70	22.0	3.0	63.0	4	930-120-402N63

Imperial HV Feed Mill

High Feed Mill series of cutters are specifically designed for high feed roughing. This series features geometry that takes advantage of the chip thinning process, resulting in reduced radial cutting forces and swift chip evacuation. The unique cutting motion enables the utilization of heavy chip loads, achieving extraordinary material removal rates in the correct application.

- 2 flute high feed end mill
- Ultrafine, wear resistant carbide
- Ideal for very high feed rates
- Suitable for a wide range of materials

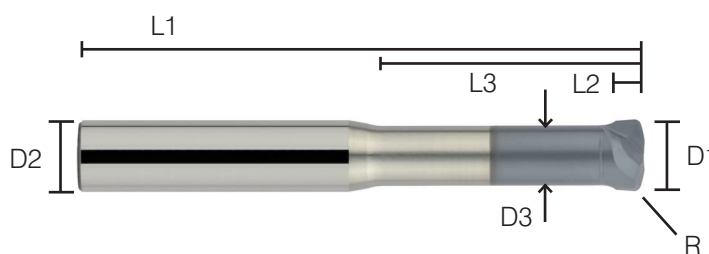


	D1 Dia.	D2 Dia. (h6)	L1 OAL	L2 LOC	D3 Dia. of Neck	L3 LOR	MAX DOC	R Radius	Coated Part #
in	1/8	1/4	2.0	0.042	0.10	0.55	0.006	0.012	656-0125-2R12
	1/8	1/4	2.5	0.042	0.10	0.85	0.006	0.012	657-0125-2R12
	3/16	1/4	2.0	0.075	0.16	0.66	0.009	0.019	655-0187-2R19
	3/16	1/4	2.5	0.075	0.16	1.10	0.009	0.019	656-0187-2R19
	3/16	1/4	3.0	0.075	0.16	1.50	0.009	0.019	657-0187-2R19
	1/4	1/4	2.5	0.104	0.21	0.77	0.013	0.025	655-0250-2R25
	1/4	1/4	3.0	0.104	0.21	1.30	0.013	0.025	656-0250-2R25
	1/4	1/4	3.5	0.104	0.21	1.75	0.013	0.025	657-0250-2R25
	5/16	5/16	2.5	0.12	0.26	0.85	0.016	0.031	655-0312-2R31
	5/16	5/16	3.0	0.12	0.26	1.60	0.016	0.031	656-0312-2R31
	5/16	5/16	3.5	0.12	0.26	2.10	0.016	0.031	657-0312-2R31
	3/8	3/8	3.0	0.135	0.31	1.10	0.019	0.038	655-0375-2R38
	3/8	3/8	3.5	0.135	0.31	1.85	0.019	0.038	656-0375-2R38
	3/8	3/8	4.0	0.135	0.31	2.35	0.019	0.038	657-0375-2R38
	1/2	1/2	3.5	0.167	0.42	1.30	0.025	0.050	655-0500-2R50
	1/2	1/2	4.0	0.167	0.42	1.85	0.025	0.050	656-0500-2R50
	1/2	1/2	4.5	0.167	0.42	2.60	0.025	0.050	657-0500-2R50
	5/8	5/8	3.5	0.216	0.53	1.60	0.031	0.063	655-0625-2R63
	5/8	5/8	4.0	0.216	0.53	2.35	0.031	0.063	656-0625-2R63
	5/8	5/8	5.0	0.216	0.53	2.85	0.031	0.063	657-0625-2R63

Metric HV Feed Mill

High Feed Mill series of cutters are specifically designed for high feed roughing. This series features geometry that takes advantage of the chip thinning process, resulting in reduced radial cutting forces and swift chip evacuation. The unique cutting motion enables the utilization of heavy chip loads, achieving extraordinary material removal rates in the correct application.

- 2 flute high feed end mill
- Ultrafine, wear resistant carbide
- Ideal for very high feed rates
- Suitable for a wide range of materials



	D1 Dia.	D2 Dia. (h6)	L1 OAL	L2 LOC	D3 Dia. of Neck	L3 LOR	MAX DOC	R Radius	Coated Part #
mm	3.0	6.0	50.0	1.0	2.5	6.0	0.15	0.3	655-030-2R.3N6
	3.0	6.0	60.0	1.0	2.5	12.0	0.15	0.3	656-030-2R.3N12
	4.0	6.0	60.0	1.5	3.4	15.0	0.20	0.4	656-040-2R.4N15
	4.0	6.0	70.0	1.5	3.4	24.0	0.20	0.4	657-040-2R.4N24
	4.0	6.0	80.0	1.5	3.4	34.0	0.20	0.4	658-040-2R.4N34
	6.0	6.0	80.0	2.5	5.0	19.0	0.30	0.6	656-060-2R.6N19
	6.0	6.0	80.0	2.5	5.0	35.0	0.30	0.6	657-060-2R.6N35
	6.0	6.0	80.0	2.5	5.0	42.0	0.30	0.6	658-060-2R.6N42
	8.0	8.0	65.0	3.0	6.7	24.0	0.40	0.8	656-080-2R.8N24
	8.0	8.0	80.0	3.0	6.7	40.0	0.40	0.8	657-080-2R.8N40
	8.0	8.0	90.0	3.0	6.7	51.0	0.40	0.8	658-080-2R.8N51
	10.0	10.0	70.0	3.5	8.5	28.5	0.50	1.0	656-100-2R1N28
	10.0	10.0	90.0	3.5	8.5	45.0	0.50	1.0	657-100-2R1N45
	10.0	10.0	100.0	3.5	8.5	56.5	0.50	1.0	658-100-2R1N56
	12.0	12.0	80.0	4.0	10.0	34.0	0.60	1.2	656-120-2R12N34
	12.0	12.0	100.0	4.0	10.0	50.0	0.60	1.2	657-120-2R12N50
	12.0	12.0	110.0	4.0	10.0	61.0	0.60	1.2	658-120-2R12N61
	16.0	16.0	90.0	5.5	13.5	39.0	0.80	1.6	656-160-2R1.6N39
	16.0	16.0	110.0	5.5	13.5	58.0	0.80	1.6	657-160-2R1.6N58
	16.0	16.0	140.0	5.5	13.5	77.0	0.80	1.6	658-160-2R1.6N77

PRODRILL

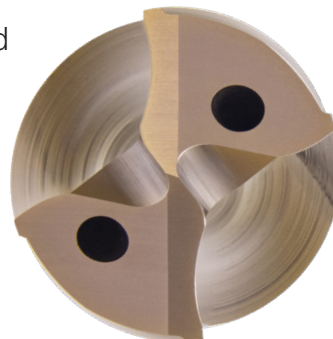
The **ProDrill** is your ultimate solution for high-performance drilling across a wide range of workpiece materials. Designed to optimize productivity and process reliability, this exceptional tool is engineered to exceed expectations.

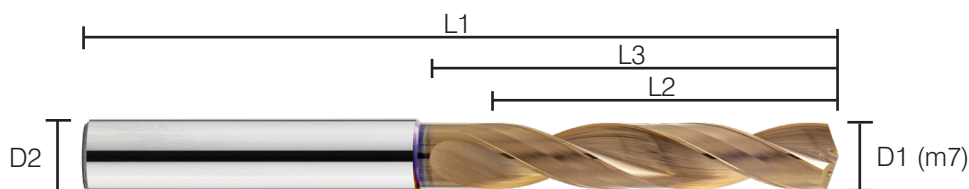
Key Features:

- Innovative point geometry efficiently breaks chips, enabling high penetration rates and enhanced chip evacuation
- Point thinning grinds minimize cutting forces and improve self-centering
- Edge preparation protects the cutting edge, allowing for exceptional tool life
- Premium submicron carbide grade offers remarkable wear resistance
- Double margin design enhances drill stability, hole quality, and reduces friction
- NanoCoat PVD Coating, with its exceptional temperature resistance, lubricity, and wear resistance, guarantees prolonged tool life
- Polished PVD coating facilitates smooth cutting action, efficient chip evacuation, and reduced heat buildup
- Extended length 5xDL series offers additional flexibility to your drilling operation
- Currently unavailable sizes can quickly be created and stocked should you not find the tool you need



Visit [deboertool.com](https://www.deboertool.com) for intuitive tools to search and find the drill you need

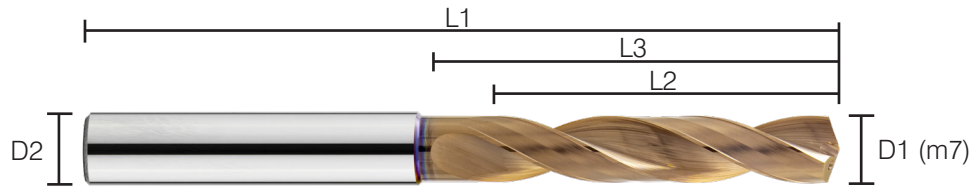




	D1 Dia. (m7)	D1 (in) Dia. (m7)	L2 Flute Len.		L3 Rollout Len.		D2 Dia. (h6)	L1 OAL	Part #
mm	3	0.1181	16.6	3xD	20	×	6	62	PD-1D4BB
	3	0.1181	16.6	3xD	20	•	6	62	PD-69097
	3	0.1181	24.6	5xD	28	×	6	66	PD-21112
	3	0.1181	24.6	5xD	28	•	6	66	PD-BB757
	3	0.1181	24.6	5xDL	28	•	6	125	PD-C50B1
	3	0.1181	30.6	8xD	34	•	6	72	PD-7CD0D
	3	0.1181	50.6	12xD	54	•	6	92	PD-58A08
	3.175	1/8	0.125	3xD	20	×	6	62	PD-57B8E
	3.175	1/8	0.125	3xD	20	•	6	62	PD-750DA
	3.175	1/8	0.125	5xD	28	×	6	66	PD-5C79B
	3.175	1/8	0.125	5xD	28	•	6	66	PD-6A4E3
	3.175	1/8	0.125	5xDL	28	•	6	125	PD-6F989
	3.175	1/8	0.125	8xD	34	•	6	72	PD-D64A4
	3.175	1/8	0.125	12xD	54	•	6	92	PD-A59CA
	3.3	0.1299	16.5	3xD	20	×	6	62	PD-6F1B5
	3.3	0.1299	16.5	3xD	20	•	6	62	PD-EE5B5
	3.3	0.1299	24.5	5xD	28	×	6	66	PD-70746
	3.3	0.1299	24.5	5xD	28	•	6	66	PD-45C2F
	3.3	0.1299	24.5	5xDL	28	•	6	125	PD-C46F0
	3.3	0.1299	30.5	8xD	34	•	6	72	PD-EBB08
	3.3	0.1299	50.5	12xD	54	•	6	92	PD-43584
	3.4	0.1339	16.5	3xD	20	×	6	62	PD-53A31
	3.4	0.1339	16.5	3xD	20	•	6	62	PD-FC353
	3.4	0.1339	24.5	5xD	28	×	6	66	PD-469EB
	3.4	0.1339	24.5	5xD	28	•	6	66	PD-184CF
	3.4	0.1339	24.5	5xDL	28	•	6	125	PD-A2B9F
	3.4	0.1339	30.5	8xD	34	•	6	72	PD-44957
	3.4	0.1339	50.5	12xD	54	•	6	92	PD-E2BD6
	3.5	0.1378	16.5	3xD	20	×	6	62	PD-81064
	3.5	0.1378	16.5	3xD	20	•	6	62	PD-4FC7C
	3.5	0.1378	24.5	5xD	28	×	6	66	PD-FB564
	3.5	0.1378	24.5	5xD	28	•	6	66	PD-D8345
	3.5	0.1378	24.5	5xDL	28	•	6	125	PD-95E99
	3.5	0.1378	30.5	8xD	34	•	6	72	PD-CD681
	3.5	0.1378	50.5	12xD	54	•	6	92	PD-A2BBF

× Solid Carbide (Non-coolant)

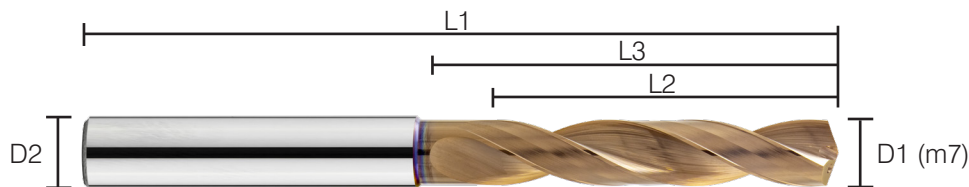
• Coolant Through Carbide



	D1		D1 (in)	L2		L3		D2	L1	
	Dia. (m7)		Dia. (m7)	Flute Len.		Rollout Len.		Dia. (h6)	OAL	Part #
mm	3.5719	9/64	0.1406	16.3	3xD	20	×	6	62	PD-1D43D
	3.5719	9/64	0.1406	16.3	3xD	20	●	6	62	PD-5C814
	3.5719	9/64	0.1406	24.3	5xD	28	×	6	66	PD-EF401
	3.5719	9/64	0.1406	24.3	5xD	28	●	6	66	PD-EDA19
	3.5719	9/64	0.1406	24.3	5xDL	28	●	6	125	PD-27B2A
	3.5719	9/64	0.1406	30.3	8xD	34	●	6	72	PD-92AA5
	3.5719	9/64	0.1406	50.3	12xD	54	●	6	92	PD-E9931
	3.6		0.1417	16.3	3xD	20	×	6	62	PD-7B224
	3.6		0.1417	16.3	3xD	20	●	6	62	PD-FE12E
	3.6		0.1417	24.3	5xD	28	×	6	66	PD-8EDA9
	3.6		0.1417	24.3	5xD	28	●	6	66	PD-A5DCF
	3.6		0.1417	24.3	5xDL	28	●	6	125	PD-204AD
	3.6		0.1417	30.3	8xD	34	●	6	72	PD-6018F
	3.6		0.1417	50.3	12xD	54	●	6	92	PD-75499
	3.7		0.1457	16.1	3xD	20	×	6	62	PD-5871D
	3.7		0.1457	16.1	3xD	20	●	6	62	PD-E3519
	3.7		0.1457	24.1	5xD	28	×	6	66	PD-8F4ED
	3.7		0.1457	24.1	5xD	28	●	6	66	PD-F5C46
	3.7		0.1457	24.1	5xDL	28	●	6	125	PD-1CC12
	3.7		0.1457	39.1	8xD	43	●	6	81	PD-59B6C
	3.7		0.1457	50.1	12xD	54	●	6	92	PD-F0890
	3.8		0.1496	20.0	3xD	24	×	6	66	PD-4C045
	3.8		0.1496	20.0	3xD	24	●	6	66	PD-C2665
	3.8		0.1496	32.0	5xD	36	×	6	74	PD-8DA87
	3.8		0.1496	32.0	5xD	36	●	6	74	PD-2B693
	3.8		0.1496	32.0	5xDL	36	●	6	125	PD-892BC
	3.8		0.1496	39.0	8xD	43	●	6	81	PD-66E7B
	3.8		0.1496	60.0	12xD	64	●	6	102	PD-DC198
	3.9		0.1535	19.8	3xD	24	×	6	66	PD-D722F
3.9		0.1535	19.8	3xD	24	●	6	66	PD-A33E4	
3.9		0.1535	31.8	5xD	36	×	6	74	PD-187D7	
3.9		0.1535	31.8	5xD	36	●	6	74	PD-B57B9	
3.9		0.1535	31.8	5xDL	36	●	6	125	PD-38880	
3.9		0.1535	38.8	8xD	43	●	6	81	PD-78B2C	
3.9		0.1535	59.8	12xD	64	●	6	102	PD-E531D	

× Solid Carbide (Non-coolant)

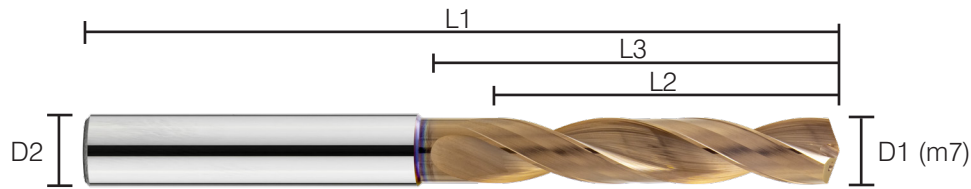
• Coolant Through Carbide



	D1		D1 (in)	L2		L3		D2		L1		Part #
	Dia. (m7)		Dia. (m7)	Flute Len.		Rollout Len.		Dia. (h6)		OAL		
mm	4		0.1575	19.6	3xD	24	×	6		66		PD-23D8C
	4		0.1575	19.6	3xD	24	●	6		66		PD-29546
	4		0.1575	31.6	5xD	36	×	6		74		PD-A5F6B
	4		0.1575	31.6	5xD	36	●	6		74		PD-B19E7
	4		0.1575	31.6	5xDL	36	●	6		164		PD-3B868
	4		0.1575	38.6	8xD	43	●	6		81		PD-9D6F6
	4		0.1575	59.6	12xD	64	●	6		102		PD-2FE8A
	4.1		0.1614	19.5	3xD	24	×	6		66		PD-8D56E
	4.1		0.1614	19.5	3xD	24	●	6		66		PD-3C55D
	4.1		0.1614	31.5	5xD	36	×	6		74		PD-8DBE4
	4.1		0.1614	31.5	5xD	36	●	6		74		PD-4DEF4
	4.1		0.1614	31.5	5xDL	36	●	6		164		PD-D595B
	4.1		0.1614	38.5	8xD	43	●	6		81		PD-10476
	4.1		0.1614	59.5	12xD	64	●	6		102		PD-DD00B
	4.2		0.1654	19.5	3xD	24	×	6		66		PD-50772
	4.2		0.1654	19.5	3xD	24	●	6		66		PD-85835
	4.2		0.1654	31.5	5xD	36	×	6		74		PD-4ED28
	4.2		0.1654	31.5	5xD	36	●	6		74		PD-8FBB1
	4.2		0.1654	31.5	5xDL	36	●	6		164		PD-FFA86
	4.2		0.1654	38.5	8xD	43	●	6		81		PD-F014D
	4.2		0.1654	59.5	12xD	64	●	6		102		PD-38452
	4.3		0.1693	19.4	3xD	24	×	6		66		PD-DFFBA
	4.3		0.1693	19.4	3xD	24	●	6		66		PD-B73A5
	4.3		0.1693	31.4	5xD	36	×	6		74		PD-D118D
	4.3		0.1693	31.4	5xD	36	●	6		74		PD-202A9
	4.3		0.1693	31.4	5xDL	36	●	6		164		PD-863E0
	4.3		0.1693	38.4	8xD	43	●	6		81		PD-8F4AC
	4.3		0.1693	59.4	12xD	64	●	6		102		PD-AAA0D
4.3656	11/64	0.1719	19.4	3xD	24	×	6		66		PD-37A01	
4.3656	11/64	0.1719	19.4	3xD	24	●	6		66		PD-529C4	
4.3656	11/64	0.1719	31.4	5xD	36	×	6		74		PD-276BF	
4.3656	11/64	0.1719	31.4	5xD	36	●	6		74		PD-EB51C	
4.3656	11/64	0.1719	31.4	5xDL	36	●	6		164		PD-EF91E	
4.3656	11/64	0.1719	38.4	8xD	43	●	6		81		PD-35F79	
4.3656	11/64	0.1719	59.4	12xD	64	●	6		102		PD-EF406	

× Solid Carbide (Non-coolant)

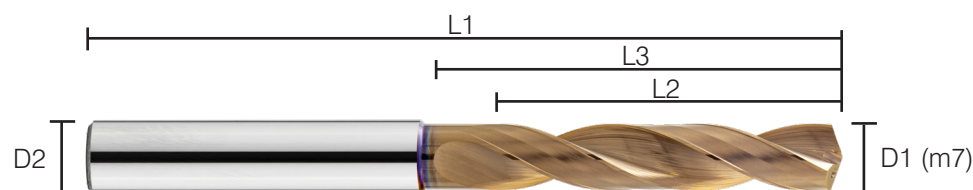
• Coolant Through Carbide



	D1		D1 (in)	L2		L3		D2	L1	
	Dia. (m7)		Dia. (m7)	Flute Len.		Rollout Len.		Dia. (h6)	OAL	Part #
mm	4.4		0.1732	19.3	3xD	24	×	6	66	PD-F04A7
	4.4		0.1732	19.3	3xD	24	●	6	66	PD-55654
	4.4		0.1732	31.3	5xD	36	×	6	74	PD-6AA37
	4.4		0.1732	31.3	5xD	36	●	6	74	PD-1A2DE
	4.4		0.1732	31.3	5xDL	36	●	6	164	PD-4C7AE
	4.4		0.1732	38.3	8xD	43	●	6	81	PD-56AC4
	4.4		0.1732	59.3	12xD	64	●	6	102	PD-7B459
	4.5		0.1772	19.3	3xD	24	×	6	66	PD-E6B6B
	4.5		0.1772	19.3	3xD	24	●	6	66	PD-70FD0
	4.5		0.1772	31.3	5xD	36	×	6	74	PD-5089D
	4.5		0.1772	31.3	5xD	36	●	6	74	PD-EF8A4
	4.5		0.1772	31.3	5xDL	36	●	6	164	PD-E3B0C
	4.5		0.1772	38.3	8xD	43	●	6	81	PD-12E96
	4.5		0.1772	59.3	12xD	64	●	6	102	PD-73F17
	4.6		0.1811	19.1	3xD	24	×	6	66	PD-B67E8
	4.6		0.1811	19.1	3xD	24	●	6	66	PD-1B991
	4.6		0.1811	31.1	5xD	36	×	6	74	PD-5493B
	4.6		0.1811	31.1	5xD	36	●	6	74	PD-F6820
	4.6		0.1811	31.1	5xDL	36	●	6	164	PD-A2E4B
	4.6		0.1811	38.1	8xD	43	●	6	81	PD-3E4C1
	4.6		0.1811	59.1	12xD	64	●	6	102	PD-9816C
	4.7625	3/16	0.1875	22.9	3xD	28	×	6	66	PD-BC652
	4.7625	3/16	0.1875	22.9	3xD	28	●	6	66	PD-737B5
	4.7625	3/16	0.1875	38.9	5xD	44	×	6	82	PD-6A026
	4.7625	3/16	0.1875	38.9	5xD	44	●	6	82	PD-2E34F
	4.7625	3/16	0.1875	38.9	5xDL	44	●	6	164	PD-DF1EA
	4.7625	3/16	0.1875	51.9	8xD	57	●	6	95	PD-60084
	4.7625	3/16	0.1875	72.9	12xD	78	●	6	116	PD-9F7E6
	4.8		0.189	22.8	3xD	28	×	6	66	PD-98302
	4.8		0.189	22.8	3xD	28	●	6	66	PD-19D74
	4.8		0.189	38.8	5xD	44	×	6	82	PD-4B034
	4.8		0.189	38.8	5xD	44	●	6	82	PD-BB524
4.8		0.189	38.8	5xDL	44	●	6	164	PD-D60C3	
4.8		0.189	51.8	8xD	57	●	6	95	PD-E9696	
4.8		0.189	72.8	12xD	78	●	6	116	PD-85693	

× Solid Carbide (Non-coolant)

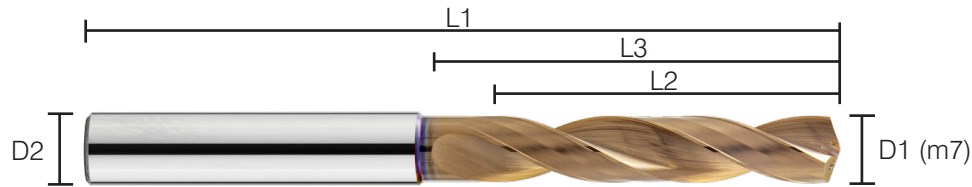
• Coolant Through Carbide



	D1 Dia. (m7)	D1 (in) Dia. (m7)	L2 Flute Len.	L3 Rollout Len.		D2 Dia. (h6)	L1 OAL	Part #		
mm	5	0.1969	22.5	3xD	28	×	6	66	PD-B02BE	
	5	0.1969	22.5	3xD	28	●	6	66	PD-33CC1	
	5	0.1969	38.5	5xD	44	×	6	82	PD-2397B	
	5	0.1969	38.5	5xD	44	●	6	82	PD-12232	
	5	0.1969	38.5	5xDL	44	●	6	164	PD-25C50	
	5	0.1969	51.5	8xD	57	●	6	95	PD-BBBDB	
	5	0.1969	72.5	12xD	78	●	6	116	PD-B105C	
	5.1	0.2008	22.5	3xD	28	×	6	66	PD-F1C77	
	5.1	0.2008	22.5	3xD	28	●	6	66	PD-11BAF	
	5.1	0.2008	38.5	5xD	44	×	6	82	PD-763D6	
	5.1	0.2008	38.5	5xD	44	●	6	82	PD-F6E7B	
	5.1	0.2008	38.5	5xDL	44	●	6	164	PD-625B7	
	5.1	0.2008	51.5	8xD	57	●	6	95	PD-5F06C	
	5.1	0.2008	72.5	12xD	78	●	6	116	PD-1858D	
	5.1594	13/64	0.2031	22.4	3xD	28	×	6	66	PD-7E6C2
	5.1594	13/64	0.2031	22.4	3xD	28	●	6	66	PD-5D23E
	5.1594	13/64	0.2031	38.4	5xD	44	×	6	82	PD-E4866
	5.1594	13/64	0.2031	38.4	5xD	44	●	6	82	PD-3A290
	5.1594	13/64	0.2031	38.4	5xDL	44	●	6	164	PD-CFFC1
	5.1594	13/64	0.2031	51.4	8xD	57	●	6	95	PD-760F0
	5.1594	13/64	0.2031	72.4	12xD	78	●	6	116	PD-2DCE2
	5.2		0.2047	22.4	3xD	28	×	6	66	PD-3F19E
	5.2		0.2047	22.4	3xD	28	●	6	66	PD-B8CF7
	5.2		0.2047	38.4	5xD	44	×	6	82	PD-FBF08
	5.2		0.2047	38.4	5xD	44	●	6	82	PD-E00B4
	5.2		0.2047	38.4	5xDL	44	●	6	164	PD-953A3
	5.2		0.2047	51.4	8xD	57	●	6	95	PD-A7151
	5.2		0.2047	72.4	12xD	78	●	6	116	PD-A65F9
	5.3		0.2087	22.3	3xD	28	×	6	66	PD-4C183
	5.3		0.2087	22.3	3xD	28	●	6	66	PD-509D5
	5.3		0.2087	38.3	5xD	44	×	6	82	PD-D9FA4
	5.3		0.2087	38.3	5xD	44	●	6	82	PD-2D68E
	5.3		0.2087	38.3	5xDL	44	●	6	164	PD-4A424
	5.3		0.2087	51.3	8xD	57	●	6	95	PD-93C16
	5.3		0.2087	72.3	12xD	78	●	6	116	PD-6BC67

× Solid Carbide (Non-coolant)

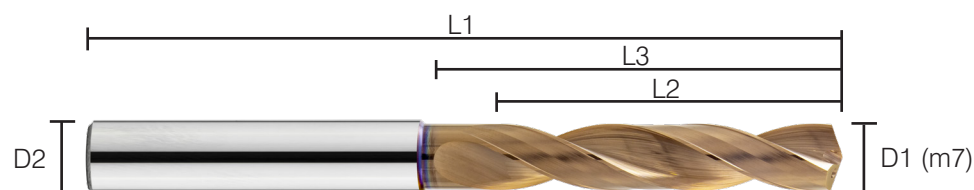
• Coolant Through Carbide



	D1 Dia. (m7)	D1 (in) Dia. (m7)	L2 Flute Len.	L3 Rollout Len.		D2 Dia. (h6)	L1 OAL	Part #		
mm	5.4	0.2126	22.2	3xD	28	×	6	66	PD-C406A	
	5.4	0.2126	22.2	3xD	28	●	6	66	PD-535AD	
	5.4	0.2126	38.2	5xD	44	×	6	82	PD-D72A4	
	5.4	0.2126	38.2	5xD	44	●	6	82	PD-72CAA	
	5.4	0.2126	38.2	5xDL	44	●	6	164	PD-51ED9	
	5.4	0.2126	51.2	8xD	57	●	6	95	PD-8CD53	
	5.4	0.2126	72.2	12xD	78	●	6	116	PD-40E3F	
	5.5	0.2165	22.1	3xD	28	×	6	66	PD-76FE5	
	5.5	0.2165	22.1	3xD	28	●	6	66	PD-7B898	
	5.5	0.2165	38.1	5xD	44	×	6	82	PD-33D4A	
	5.5	0.2165	38.1	5xD	44	●	6	82	PD-F9C36	
	5.5	0.2165	38.1	5xDL	44	●	6	164	PD-D532E	
	5.5	0.2165	51.1	8xD	57	●	6	95	PD-6047B	
	5.5	0.2165	72.1	12xD	78	●	6	116	PD-74BBE	
	5.5563	7/32	0.2188	22.1	3xD	28	×	6	66	PD-C8886
	5.5563	7/32	0.2188	22.1	3xD	28	●	6	66	PD-DAA39
	5.5563	7/32	0.2188	38.1	5xD	44	×	6	82	PD-65CB3
	5.5563	7/32	0.2188	38.1	5xD	44	●	6	82	PD-FBE5C
	5.5563	7/32	0.2188	38.1	5xDL	44	●	6	164	PD-E2691
	5.5563	7/32	0.2188	51.1	8xD	57	●	6	95	PD-69520
	5.5563	7/32	0.2188	72.1	12xD	78	●	6	116	PD-13C68
	5.7		0.2244	22.0	3xD	28	×	6	66	PD-669F1
	5.7		0.2244	22.0	3xD	28	●	6	66	PD-27D44
	5.7		0.2244	38.0	5xD	44	×	6	82	PD-3EA58
	5.7		0.2244	38.0	5xD	44	●	6	82	PD-8B02E
	5.7		0.2244	38.0	5xDL	44	●	6	164	PD-D26C4
	5.7		0.2244	51.0	8xD	57	●	6	95	PD-C67D2
	5.7		0.2244	72.0	12xD	78	●	6	116	PD-D8DB9
	5.8		0.2283	22.0	3xD	28	×	6	66	PD-CBD2C
	5.8		0.2283	22.0	3xD	28	●	6	66	PD-AF3A9
	5.8		0.2283	38.0	5xD	44	×	6	82	PD-2EDC6
	5.8		0.2283	38.0	5xD	44	●	6	82	PD-160C1
5.8		0.2283	38.0	5xDL	44	●	6	164	PD-2B292	
5.8		0.2283	51.0	8xD	57	●	6	95	PD-F56F1	
5.8		0.2283	72.0	12xD	78	●	6	116	PD-503F0	

× Solid Carbide (Non-coolant)

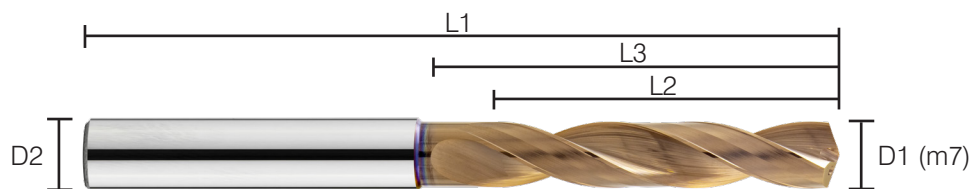
• Coolant Through Carbide



	D1 Dia. (m7)	D1 (in) Dia. (m7)	L2 Flute Len.		L3 Rollout Len.		D2 Dia. (h6)	L1 OAL	Part #
mm	6	0.2362	21.9	3xD	28	×	8	69	PD-B616E
	6	0.2362	21.9	3xD	28	•	6	69	PD-9C46E
	6	0.2362	37.9	5xD	44	×	6	82	PD-F9E0E
	6	0.2362	37.9	5xD	44	•	8	91	PD-D80D8
	6	0.2362	37.9	5xDL	44	•	6	164	PD-21EB6
	6	0.2362	50.9	8xD	57	•	6	95	PD-6B36D
	6	0.2362	71.9	12xD	78	•	6	116	PD-86CA0
	6.1	0.2402	27.8	3xD	34	×	8	79	PD-401F3
	6.1	0.2402	27.8	3xD	34	•	8	79	PD-C5699
	6.1	0.2402	46.8	5xD	53	×	8	91	PD-648DC
	6.1	0.2402	46.8	5xD	53	•	8	91	PD-9D632
	6.1	0.2402	46.8	5xDL	53	•	8	164	PD-CBDFC
	6.1	0.2402	69.8	8xD	76	•	8	114	PD-FF023
	6.1	0.2402	101.8	12xD	108	•	8	146	PD-48A57
	6.2	0.2441	27.8	3xD	34	×	8	79	PD-566B9
	6.2	0.2441	27.8	3xD	34	•	8	79	PD-7411B
	6.2	0.2441	46.8	5xD	53	×	8	91	PD-69F04
	6.2	0.2441	46.8	5xD	53	•	8	91	PD-2C5A3
	6.2	0.2441	46.8	5xDL	53	•	8	164	PD-E574E
	6.2	0.2441	69.8	8xD	76	•	8	114	PD-43363
	6.2	0.2441	101.8	12xD	108	•	8	146	PD-B9ACB
	6.35	1/4	0.25	3xD	34	×	8	79	PD-A5AB1
	6.35	1/4	0.25	3xD	34	•	8	79	PD-5A98A
	6.35	1/4	0.25	5xD	53	×	8	91	PD-DF655
	6.35	1/4	0.25	5xD	53	•	8	91	PD-F9862
	6.35	1/4	0.25	5xDL	53	•	8	164	PD-D1CB0
	6.35	1/4	0.25	8xD	76	•	8	114	PD-D354A
	6.35	1/4	0.25	12xD	108	•	8	146	PD-FF65C
	6.5	0.2559	27.6	3xD	34	×	8	79	PD-CE784
	6.5	0.2559	27.6	3xD	34	•	8	79	PD-32154
	6.5	0.2559	46.6	5xD	53	×	8	91	PD-6A4CF
	6.5	0.2559	46.6	5xD	53	•	8	91	PD-18163
	6.5	0.2559	69.6	8xD	76	•	8	114	PD-47D3A
	6.5	0.2559	101.6	12xD	108	•	8	146	PD-935C2

× Solid Carbide (Non-coolant)

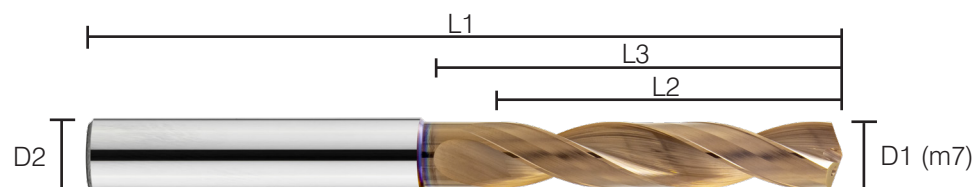
• Coolant Through Carbide



	D1		D1 (in)	L2		L3		D2	L1	
	Dia. (m7)		Dia. (m7)	Flute Len.		Rollout Len.		Dia. (h6)	OAL	Part #
mm	6.7		0.2638	27.1	3xD	34	×	8	79	PD-9E306
	6.7		0.2638	27.1	3xD	34	●	8	79	PD-E6331
	6.7		0.2638	46.1	5xD	53	×	8	91	PD-E5AF1
	6.7		0.2638	46.1	5xD	53	●	8	91	PD-FD4FE
	6.7		0.2638	69.1	8xD	76	●	8	114	PD-CDB63
	6.7		0.2638	101.1	12xD	108	●	8	146	PD-6E995
	6.7469	17/64	0.2656	27.0	3xD	34	×	8	79	PD-19195
	6.7469	17/64	0.2656	27.0	3xD	34	●	8	79	PD-D366B
	6.7469	17/64	0.2656	46.0	5xD	53	×	8	91	PD-E9001
	6.7469	17/64	0.2656	46.0	5xD	53	●	8	91	PD-69420
	6.7469	17/64	0.2656	46.0	5xDL	53	●	8	164	PD-B93F7
	6.7469	17/64	0.2656	69.0	8xD	76	●	8	114	PD-258E9
	6.7469	17/64	0.2656	101.0	12xD	108	●	8	146	PD-6F971
	6.8		0.2677	26.8	3xD	34	×	8	79	PD-4D4A0
	6.8		0.2677	26.8	3xD	34	●	8	79	PD-B062C
	6.8		0.2677	45.8	5xD	53	×	8	91	PD-F9C21
	6.8		0.2677	45.8	5xD	53	●	8	91	PD-8AD0A
	6.8		0.2677	68.8	8xD	76	●	8	114	PD-56B77
	6.8		0.2677	100.8	12xD	108	●	8	146	PD-CB27E
	6.9		0.2717	26.6	3xD	34	×	8	79	PD-C2E25
	6.9		0.2717	26.6	3xD	34	●	8	79	PD-BC04B
	6.9		0.2717	45.6	5xD	53	×	8	91	PD-DDDC2
	6.9		0.2717	45.6	5xD	53	●	8	91	PD-A30C8
	6.9		0.2717	68.6	8xD	76	●	8	114	PD-88C83
	6.9		0.2717	100.6	12xD	108	●	8	146	PD-F161A
	7		0.2756	26.3	3xD	34	×	8	79	PD-191EF
	7		0.2756	26.3	3xD	34	●	8	79	PD-4475C
	7		0.2756	45.3	5xD	53	×	8	91	PD-F2EA1
	7		0.2756	45.3	5xD	53	●	8	91	PD-D0ECC
	7		0.2756	68.3	8xD	76	●	8	114	PD-33AFB
	7		0.2756	100.3	12xD	108	●	8	146	PD-45C45

× Solid Carbide (Non-coolant)

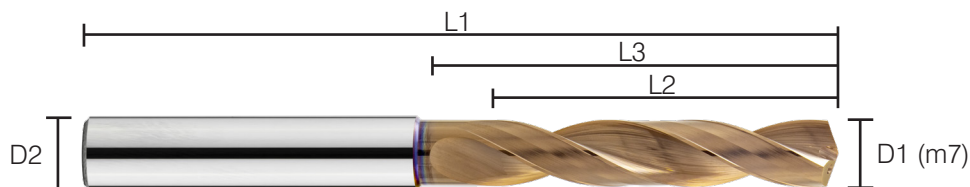
• Coolant Through Carbide



	D1 Dia. (m7)	D1 (in) Dia. (m7)	L2 Flute Len.		L3 Rollout Len.		D2 Dia. (h6)	L1 OAL	Part #
mm	7.1438	9/32	0.2813	3xD	41	×	8	79	PD-3846C
	7.1438	9/32	0.2813	3xD	41	•	8	79	PD-98E65
	7.1438	9/32	0.2813	5xD	53	×	8	91	PD-E3ACD
	7.1438	9/32	0.2813	5xD	53	•	8	91	PD-12F7F
	7.1438	9/32	0.2813	8xD	76	•	8	114	PD-8C816
	7.1438	9/32	0.2813	12xD	108	•	8	146	PD-E9EA2
	7.2		0.2835	3xD	41	×	8	79	PD-A42AA
	7.2		0.2835	3xD	41	•	8	79	PD-AC321
	7.2		0.2835	5xD	53	×	8	91	PD-26FAE
	7.2		0.2835	5xD	53	•	8	91	PD-948AD
	7.2		0.2835	8xD	76	•	8	114	PD-7E418
	7.2		0.2835	12xD	108	•	8	146	PD-27970
	7.3		0.2874	3xD	41	×	8	79	PD-61DE5
	7.3		0.2874	3xD	41	•	8	79	PD-F2CD7
	7.3		0.2874	5xD	53	×	8	91	PD-38373
	7.3		0.2874	5xD	53	•	8	91	PD-2B502
	7.3		0.2874	8xD	76	•	8	114	PD-DE7F9
	7.3		0.2874	12xD	108	•	8	146	PD-4F7FF
	7.4		0.2913	3xD	41	×	8	79	PD-9A5C5
	7.4		0.2913	3xD	41	•	8	79	PD-FFFF4
	7.4		0.2913	5xD	53	×	8	91	PD-58379
	7.4		0.2913	5xD	53	•	8	91	PD-31A86
	7.4		0.2913	8xD	76	•	8	114	PD-19643
	7.4		0.2913	12xD	108	•	8	146	PD-F2FA4
	7.5		0.2953	3xD	41	×	8	79	PD-31EB8
	7.5		0.2953	3xD	41	•	8	79	PD-96CB0
	7.5		0.2953	5xD	53	×	8	91	PD-E407A
	7.5		0.2953	5xD	53	•	8	91	PD-E2F83
	7.5		0.2953	8xD	76	•	8	114	PD-DA8AD
	7.5		0.2953	12xD	108	•	8	146	PD-687B3

× Solid Carbide (Non-coolant)

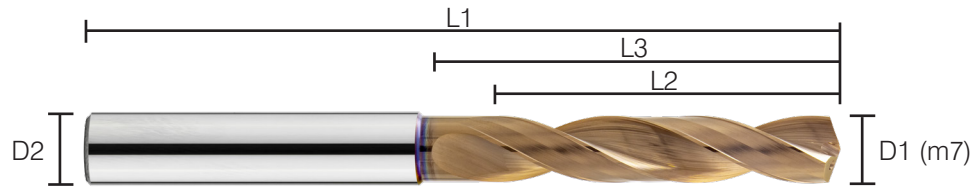
• Coolant Through Carbide



	D1 Dia. (m7)	D1 (in) Dia. (m7)	L2 Flute Len.		L3 Rollout Len.		D2 Dia. (h6)	L1 OAL	Part #
mm	7.5406	19/64	0.2969	3xD	41	×	8	79	PD-3AD85
	7.5406	19/64	0.2969	3xD	41	•	8	79	PD-15DE0
	7.5406	19/64	0.2969	5xD	53	×	8	91	PD-F22E7
	7.5406	19/64	0.2969	5xD	53	•	8	91	PD-D4A07
	7.5406	19/64	0.2969	8xD	76	•	8	114	PD-2E329
	7.5406	19/64	0.2969	12xD	108	•	8	146	PD-FCCF9
	7.7	0.3031	33.1	3xD	41	×	8	79	PD-F64A5
	7.7	0.3031	33.1	3xD	41	•	8	79	PD-F3598
	7.7	0.3031	45.1	5xD	53	×	8	91	PD-59E02
	7.7	0.3031	45.1	5xD	53	•	8	91	PD-F5FF9
	7.7	0.3031	68.1	8xD	76	•	8	114	PD-28878
	7.7	0.3031	100.1	12xD	108	•	8	146	PD-C3A2B
	7.8	0.3071	33.1	3xD	41	×	8	79	PD-86D6A
	7.8	0.3071	33.1	3xD	41	•	8	79	PD-AAA66
	7.8	0.3071	45.1	5xD	53	×	8	91	PD-CCAE2
	7.8	0.3071	45.1	5xD	53	•	8	91	PD-27C81
	7.8	0.3071	68.1	8xD	76	•	8	114	PD-9FE79
	7.8	0.3071	100.1	12xD	108	•	8	146	PD-D4C75
	7.9	0.311	33.0	3xD	41	×	8	79	PD-8EB8E
	7.9	0.311	33.0	3xD	41	•	8	79	PD-9AB61
	7.9	0.311	45.0	5xD	53	×	8	91	PD-74A99
	7.9	0.311	45.0	5xD	53	•	8	91	PD-B37DA
	7.9	0.311	68.0	8xD	76	•	8	114	PD-B7EA0
	7.9	0.311	100.0	12xD	108	•	8	146	PD-96529
	7.9375	5/16	0.3125	3xD	41	×	8	79	PD-7AED5
	7.9375	5/16	0.3125	3xD	41	•	8	79	PD-56BD1
	7.9375	5/16	0.3125	5xD	53	×	8	91	PD-A1826
	7.9375	5/16	0.3125	5xD	53	•	8	91	PD-7412C
	7.9375	5/16	0.3125	5xDL	53	•	8	164	PD-FA815
	7.9375	5/16	0.3125	8xD	76	•	8	114	PD-244E2
	7.9375	5/16	0.3125	12xD	108	•	8	146	PD-9F403

× Solid Carbide (Non-coolant)

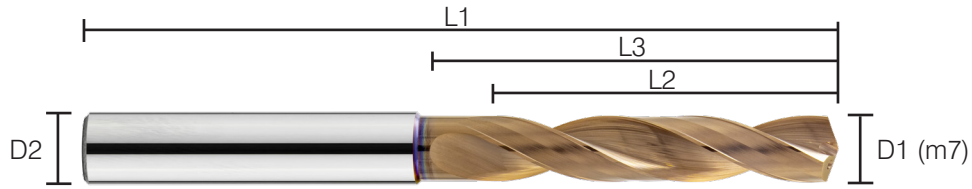
• Coolant Through Carbide



	D1 Dia. (m7)	D1 (in) Dia. (m7)	L2 Flute Len.		L3 Rollout Len.		D2 Dia. (h6)	L1 OAL	Part #
mm	8	0.315	33.0	3xD	41	×	10	79	PD-5AB21
	8	0.315	33.0	3xD	41	•	8	79	PD-3D7C3
	8	0.315	45.0	5xD	53	×	10	91	PD-D6C73
	8	0.315	45.0	5xD	53	•	8	91	PD-308CD
	8	0.315	68.0	8xD	76	•	8	114	PD-16495
	8	0.315	100.0	12xD	108	•	8	146	PD-37405
	8.2	0.3228	38.8	3xD	47	×	10	89	PD-1E049
	8.2	0.3228	38.8	3xD	47	•	10	89	PD-F69B5
	8.2	0.3228	52.8	5xD	61	×	10	103	PD-4EAD9
	8.2	0.3228	52.8	5xD	61	•	10	103	PD-F07D6
	8.2	0.3228	86.8	8xD	95	•	10	142	PD-D2689
	8.2	0.3228	111.8	12xD	120	•	10	162	PD-E552C
	8.3344	21/64	0.3281	3xD	47	×	10	89	PD-8CD2A
	8.3344	21/64	0.3281	3xD	47	•	10	89	PD-F8DBC
	8.3344	21/64	0.3281	5xD	61	×	10	103	PD-7A3C9
	8.3344	21/64	0.3281	5xD	61	•	10	103	PD-94C2B
	8.3344	21/64	0.3281	8xD	95	•	10	142	PD-6D180
	8.3344	21/64	0.3281	12xD	120	•	10	162	PD-5C04F
	8.5	0.3346	38.6	3xD	47	×	10	89	PD-76A51
	8.5	0.3346	38.6	3xD	47	•	10	89	PD-BB383
	8.5	0.3346	52.6	5xD	61	×	10	103	PD-52015
	8.5	0.3346	52.6	5xD	61	•	10	103	PD-9718F
	8.5	0.3346	86.6	8xD	95	•	10	142	PD-9D88C
	8.5	0.3346	111.6	12xD	120	•	10	162	PD-1F18F
	8.6	0.3386	38.4	3xD	47	×	10	89	PD-8EB04
	8.6	0.3386	38.4	3xD	47	•	10	89	PD-FDBA6
	8.6	0.3386	52.4	5xD	61	×	10	103	PD-B1DDE
	8.6	0.3386	52.4	5xD	61	•	10	103	PD-D93F2
	8.6	0.3386	86.4	8xD	95	•	10	142	PD-692F2
	8.6	0.3386	111.4	12xD	120	•	10	162	PD-76C98

× Solid Carbide (Non-coolant)

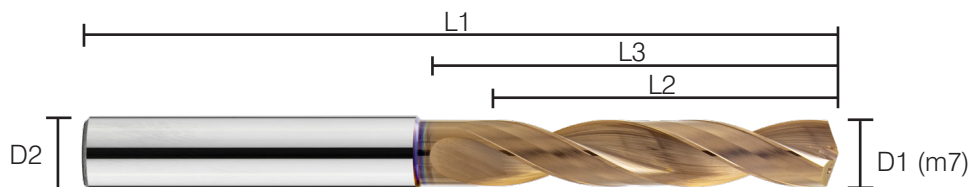
• Coolant Through Carbide



	D1		D1 (in)	L2	L3		D2	L1		
	Dia. (m7)		Dia. (m7)	Flute Len.	Rollout Len.		Dia. (h6)	OAL	Part #	
mm	8.7		0.3425	38.2	3xD	47	×	10	89	PD-49752
	8.7		0.3425	38.2	3xD	47	●	10	89	PD-E621B
	8.7		0.3425	52.2	5xD	61	×	10	103	PD-90623
	8.7		0.3425	52.2	5xD	61	●	10	103	PD-76FAF
	8.7		0.3425	86.2	8xD	95	●	10	142	PD-F300F
	8.7		0.3425	111.2	12xD	120	●	10	162	PD-F0398
	8.7313	11/32	0.3438	38.1	3xD	47	×	10	89	PD-DEE47
	8.7313	11/32	0.3438	38.1	3xD	47	●	10	89	PD-38E1B
	8.7313	11/32	0.3438	52.1	5xD	61	×	10	103	PD-D4710
	8.7313	11/32	0.3438	52.1	5xD	61	●	10	103	PD-A798E
	8.7313	11/32	0.3438	86.1	8xD	95	●	10	142	PD-4165B
	8.7313	11/32	0.3438	111.1	12xD	120	●	10	162	PD-CE3DC
	8.8		0.3465	37.9	3xD	47	×	10	89	PD-3C54E
	8.8		0.3465	37.9	3xD	47	●	10	89	PD-A1A0F
	8.8		0.3465	51.9	5xD	61	×	10	103	PD-A0967
	8.8		0.3465	51.9	5xD	61	●	10	103	PD-9B762
	8.8		0.3465	85.9	8xD	95	●	10	142	PD-FE8F4
	8.8		0.3465	110.9	12xD	120	●	10	162	PD-D99F3
	9		0.3543	37.5	3xD	47	×	10	89	PD-15104
	9		0.3543	37.5	3xD	47	●	10	89	PD-51311
	9		0.3543	51.5	5xD	61	×	10	103	PD-84C09
	9		0.3543	51.5	5xD	61	●	10	103	PD-C2F0F
	9		0.3543	85.5	8xD	95	●	10	142	PD-82683
	9		0.3543	110.5	12xD	120	●	10	162	PD-ED00B
	9.2		0.3622	37.4	3xD	47	×	10	89	PD-DECA6
	9.2		0.3622	37.4	3xD	47	●	10	89	PD-40DEB
	9.2		0.3622	51.4	5xD	61	×	10	103	PD-F085A
	9.2		0.3622	51.4	5xD	61	●	10	103	PD-9DCF4
9.2		0.3622	85.4	8xD	95	●	10	142	PD-B7D37	
9.2		0.3622	110.4	12xD	120	●	10	162	PD-AAD4F	

× Solid Carbide (Non-coolant)

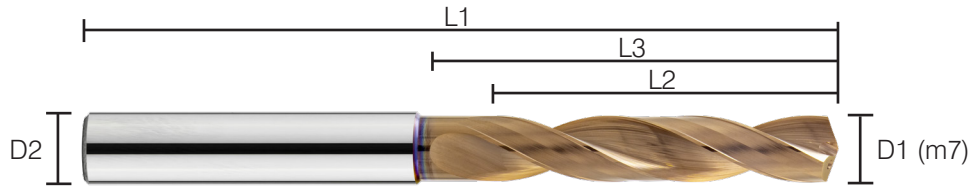
• Coolant Through Carbide



	D1 Dia. (m7)	D1 (in) Dia. (m7)	L2 Flute Len.	L3 Rollout Len.		D2 Dia. (h6)	L1 OAL	Part #		
mm	9.3	0.3661	37.4	3xD	47	×	10	89	PD-60A1D	
	9.3	0.3661	37.4	3xD	47	●	10	89	PD-385C5	
	9.3	0.3661	51.4	5xD	61	×	10	103	PD-1C98D	
	9.3	0.3661	51.4	5xD	61	●	10	103	PD-2B6E7	
	9.3	0.3661	85.4	8xD	95	●	10	142	PD-A3F33	
	9.3	0.3661	110.4	12xD	120	●	10	162	PD-B26F6	
	9.4	0.3701	37.4	3xD	47	×	10	89	PD-33F50	
	9.4	0.3701	37.4	3xD	47	●	10	89	PD-12FC1	
	9.4	0.3701	51.4	5xD	61	×	10	103	PD-B0B73	
	9.4	0.3701	51.4	5xD	61	●	10	103	PD-90195	
	9.4	0.3701	85.4	8xD	95	●	10	142	PD-C6E4F	
	9.4	0.3701	110.4	12xD	120	●	10	162	PD-CB3E5	
	9.525	3/8	0.375	37.4	3xD	47	×	10	89	PD-A237F
	9.525	3/8	0.375	37.4	3xD	47	●	10	89	PD-7B9B7
	9.525	3/8	0.375	51.4	5xD	61	×	10	103	PD-AADBBD
	9.525	3/8	0.375	51.4	5xD	61	●	10	103	PD-C34D6
	9.525	3/8	0.375	85.4	8xD	95	●	10	142	PD-DFA69
	9.525	3/8	0.375	110.4	12xD	120	●	10	162	PD-AC165
	9.7		0.3819	37.3	3xD	47	×	10	89	PD-BDF9E
	9.7		0.3819	37.3	3xD	47	●	10	89	PD-AE9A9
	9.7		0.3819	51.3	5xD	61	×	10	103	PD-40E49
	9.7		0.3819	51.3	5xD	61	●	10	103	PD-249DF
	9.7		0.3819	85.3	8xD	95	●	10	142	PD-12219
	9.7		0.3819	110.3	12xD	120	●	10	162	PD-580F3
	9.9219	25/64	0.3906	37.2	3xD	47	×	10	89	PD-D1F7A
	9.9219	25/64	0.3906	37.2	3xD	47	●	10	89	PD-4F977
	9.9219	25/64	0.3906	51.2	5xD	61	×	10	103	PD-8E4B3
	9.9219	25/64	0.3906	51.2	5xD	61	●	10	103	PD-E74E7
9.9219	25/64	0.3906	85.2	8xD	95	●	10	142	PD-C8AE4	
9.9219	25/64	0.3906	110.2	12xD	120	●	10	162	PD-A795A	

× Solid Carbide (Non-coolant)

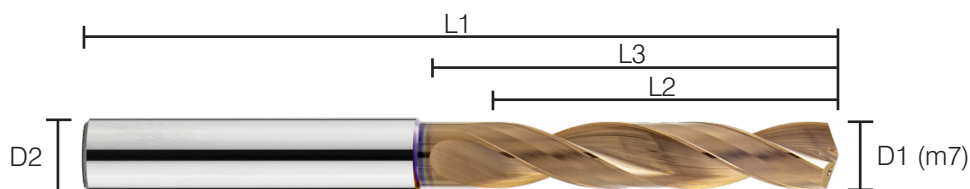
• Coolant Through Carbide



	D1		D1 (in)	L2		L3		D2	L1	
	Dia. (m7)		Dia. (m7)	Flute Len.		Rollout Len.		Dia. (h6)	OAL	Part #
mm	10		0.3937	37.2	3xD	47	×	12	94	PD-387A1
	10		0.3937	37.2	3xD	47	●	10	94	PD-A60C1
	10		0.3937	51.2	5xD	61	×	12	103	PD-155AA
	10		0.3937	51.2	5xD	61	●	10	103	PD-A5495
	10		0.3937	85.2	8xD	95	●	10	142	PD-4FE23
	10		0.3937	110.2	12xD	120	●	10	162	PD-FA1DF
	10.2		0.4016	44.9	3xD	55	×	12	103	PD-BD7A8
	10.2		0.4016	44.9	3xD	55	●	12	103	PD-C3CAD
	10.2		0.4016	60.9	5xD	71	×	12	118	PD-C8971
	10.2		0.4016	60.9	5xD	71	●	12	118	PD-C22E6
	10.2		0.4016	103.9	8xD	114	●	12	162	PD-7D4ED
	10.2		0.4016	145.9	12xD	156	●	12	204	PD-4B0A0
	10.3188	13/32	0.4063	44.8	3xD	55	×	12	103	PD-AD25E
	10.3188	13/32	0.4063	44.8	3xD	55	●	12	103	PD-9B33C
	10.3188	13/32	0.4063	60.8	5xD	71	×	12	118	PD-74E94
	10.3188	13/32	0.4063	60.8	5xD	71	●	12	118	PD-3F972
	10.3188	13/32	0.4063	103.8	8xD	114	●	12	162	PD-41341
	10.3188	13/32	0.4063	145.8	12xD	156	●	12	204	PD-3A87F
	10.4		0.4094	44.7	3xD	55	×	12	103	PD-35750
	10.4		0.4094	44.7	3xD	55	●	12	103	PD-64233
	10.4		0.4094	60.7	5xD	71	×	12	118	PD-B08C8
	10.4		0.4094	60.7	5xD	71	●	12	118	PD-44F6D
	10.4		0.4094	103.7	8xD	114	●	12	162	PD-7EB2C
	10.4		0.4094	145.7	12xD	156	●	12	204	PD-5FFE5
	10.5		0.4134	44.6	3xD	55	×	12	103	PD-1CFE7
	10.5		0.4134	44.6	3xD	55	●	12	103	PD-B9553
	10.5		0.4134	60.6	5xD	71	×	12	118	PD-77EFF
	10.5		0.4134	60.6	5xD	71	●	12	118	PD-31DE8
10.5		0.4134	103.6	8xD	114	●	12	162	PD-A519C	
10.5		0.4134	145.6	12xD	156	●	12	204	PD-DBB2B	

× Solid Carbide (Non-coolant)

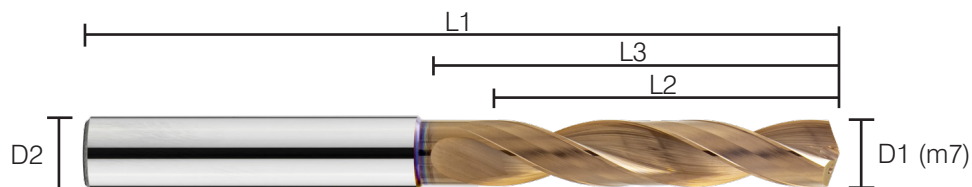
• Coolant Through Carbide



	D1		D1 (in)	L2	L3			D2	L1	Part #
	Dia. (m7)		Dia. (m7)	Flute Len.	Rollout Len.			Dia. (h6)	OAL	
mm	10.7156	27/64	0.4219	44.2	3xD	55	×	12	103	PD-F3C36
	10.7156	27/64	0.4219	44.2	3xD	55	●	12	103	PD-BB96F
	10.7156	27/64	0.4219	60.2	5xD	71	×	12	118	PD-84266
	10.7156	27/64	0.4219	60.2	5xD	71	●	12	118	PD-934F9
	10.7156	27/64	0.4219	103.2	8xD	114	●	12	162	PD-CF0C5
	10.7156	27/64	0.4219	145.2	12xD	156	●	12	204	PD-26572
	10.8		0.4252	44.1	3xD	55	×	12	103	PD-262B9
	10.8		0.4252	44.1	3xD	55	●	12	103	PD-F8AF4
	10.8		0.4252	60.1	5xD	71	×	12	118	PD-88416
	10.8		0.4252	60.1	5xD	71	●	12	118	PD-9887F
	10.8		0.4252	103.1	8xD	114	●	12	162	PD-434AE
	10.8		0.4252	145.1	12xD	156	●	12	204	PD-2C3E5
	10.9		0.4291	44.0	3xD	55	×	12	103	PD-3F607
	10.9		0.4291	44.0	3xD	55	●	12	103	PD-F49BB
	10.9		0.4291	60.0	5xD	71	×	12	118	PD-FD2D1
	10.9		0.4291	60.0	5xD	71	●	12	118	PD-A66E7
	10.9		0.4291	103.0	8xD	114	●	12	162	PD-5D742
	10.9		0.4291	145.0	12xD	156	●	12	204	PD-86758
	11		0.4331	43.8	3xD	55	×	12	103	PD-512C4
	11		0.4331	43.8	3xD	55	●	12	103	PD-A0373
	11		0.4331	59.8	5xD	71	×	12	118	PD-B306F
	11		0.4331	59.8	5xD	71	●	12	118	PD-257B5
	11		0.4331	102.8	8xD	114	●	12	162	PD-127A0
	11		0.4331	144.8	12xD	156	●	12	204	PD-78FA3
	11.1125	7/16	0.4375	43.8	3xD	55	×	12	103	PD-F8BBF
	11.1125	7/16	0.4375	43.8	3xD	55	●	12	103	PD-4C9B0
	11.1125	7/16	0.4375	59.8	5xD	71	×	12	118	PD-D29B9
	11.1125	7/16	0.4375	59.8	5xD	71	●	12	118	PD-256BA
	11.1125	7/16	0.4375	102.8	8xD	114	●	12	162	PD-4122E
	11.1125	7/16	0.4375	144.8	12xD	156	●	12	204	PD-2D76D

× Solid Carbide (Non-coolant)

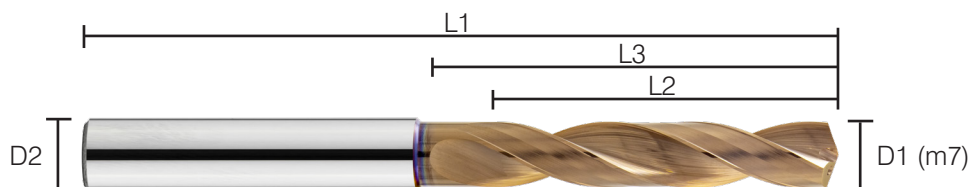
• Coolant Through Carbide



	D1 Dia. (m7)	D1 (in) Dia. (m7)	L2 Flute Len.	L3 Rollout Len.	D2 Dia. (h6)	L1 OAL	Part #			
mm	11.2	0.4409	43.8	3xD	55	×	12	103	PD-656B3	
	11.2	0.4409	43.8	3xD	55	●	12	103	PD-8CCB2	
	11.2	0.4409	59.8	5xD	71	×	12	118	PD-EAF12	
	11.2	0.4409	59.8	5xD	71	●	12	118	PD-EB146	
	11.2	0.4409	102.8	8xD	114	●	12	162	PD-93CFD	
	11.2	0.4409	144.8	12xD	156	●	12	204	PD-E0D35	
	11.5094	29/64	0.4531	43.7	3xD	55	×	12	103	PD-46B9C
	11.5094	29/64	0.4531	43.7	3xD	55	●	12	103	PD-D15A7
	11.5094	29/64	0.4531	59.7	5xD	71	×	12	118	PD-6987F
	11.5094	29/64	0.4531	59.7	5xD	71	●	12	118	PD-B7264
	11.5094	29/64	0.4531	102.7	8xD	114	●	12	162	PD-2B7B0
	11.5094	29/64	0.4531	144.7	12xD	156	●	12	204	PD-EED01
	11.7	0.4606	43.6	3xD	55	×	12	103	PD-62A1D	
	11.7	0.4606	43.6	3xD	55	●	12	103	PD-B0463	
	11.7	0.4606	59.6	5xD	71	×	12	118	PD-2E576	
	11.7	0.4606	59.6	5xD	71	●	12	118	PD-34A3F	
	11.7	0.4606	102.6	8xD	114	●	12	162	PD-E7FD3	
	11.7	0.4606	144.6	12xD	156	●	12	204	PD-F769F	
	11.8	0.4646	43.6	3xD	55	×	12	103	PD-E7D12	
	11.8	0.4646	43.6	3xD	55	●	12	103	PD-E9937	
	11.8	0.4646	59.6	5xD	71	×	12	118	PD-63333	
	11.8	0.4646	59.6	5xD	71	●	12	118	PD-846A6	
	11.8	0.4646	102.6	8xD	114	●	12	162	PD-FBD42	
	11.8	0.4646	144.6	12xD	156	●	12	204	PD-7DE72	
	11.9063	15/32	0.4688	43.5	3xD	55	×	12	103	PD-EA0D2
	11.9063	15/32	0.4688	43.5	3xD	55	●	12	103	PD-618A1
	11.9063	15/32	0.4688	59.5	5xD	71	×	12	118	PD-D9AE1
	11.9063	15/32	0.4688	59.5	5xD	71	●	12	118	PD-2FF5F
11.9063	15/32	0.4688	102.5	8xD	114	●	12	162	PD-8CEA4	
11.9063	15/32	0.4688	144.5	12xD	156	●	12	204	PD-C7CAB	

× Solid Carbide (Non-coolant)

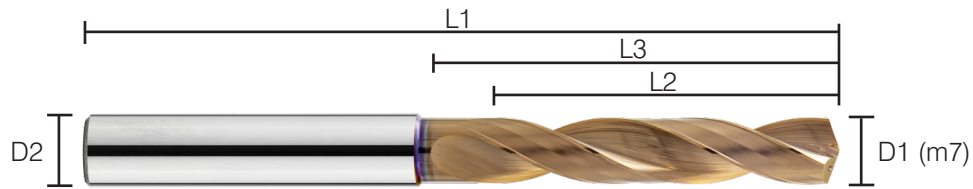
• Coolant Through Carbide



	D1 Dia. (m7)	D1 (in) Dia. (m7)	L2 Flute Len.	L3 Rollout Len.		D2 Dia. (h6)	L1 OAL	Part #		
mm	12	0.4724	43.5	3xD	55	×	14	107	PD-3BE14	
	12	0.4724	43.5	3xD	55	●	12	107	PD-1180A	
	12	0.4724	59.5	5xD	71	×	14	125	PD-52794	
	12	0.4724	59.5	5xD	71	●	12	118	PD-77F5F	
	12	0.4724	102.5	8xD	114	●	12	162	PD-484F8	
	12	0.4724	144.5	12xD	156	●	12	204	PD-1039B	
	12.3	0.4843	47.8	3xD	60	×	14	107	PD-46473	
	12.3	0.4843	47.8	3xD	60	●	14	107	PD-C5F38	
	12.3	0.4843	64.8	5xD	77	×	14	125	PD-3C98A	
	12.3	0.4843	64.8	5xD	77	●	14	124	PD-E7DE4	
	12.3	0.4843	118.8	8xD	131	●	14	178	PD-F3B92	
	12.3	0.4843	169.8	12xD	182	●	14	230	PD-F7784	
	12.4	0.4882	47.6	3xD	60	×	14	107	PD-EDC22	
	12.4	0.4882	47.6	3xD	60	●	14	107	PD-AE709	
	12.4	0.4882	64.6	5xD	77	×	14	125	PD-134E6	
	12.4	0.4882	64.6	5xD	77	●	14	124	PD-183CC	
	12.4	0.4882	118.6	8xD	131	●	14	178	PD-21F6E	
	12.4	0.4882	153.6	12xD	166	●	14	210	PD-30158	
	12.5	0.4921	47.4	3xD	60	×	14	107	PD-65A90	
	12.5	0.4921	47.4	3xD	60	●	14	107	PD-2D557	
	12.5	0.4921	64.4	5xD	77	×	14	125	PD-CBC3C	
	12.5	0.4921	64.4	5xD	77	●	14	124	PD-7EE8B	
	12.5	0.4921	118.4	8xD	131	●	14	178	PD-DECB2	
	12.7	1/2	0.5	47.3	3xD	60	×	14	107	PD-321E9
	12.7	1/2	0.5	47.3	3xD	60	●	14	107	PD-3569A
	12.7	1/2	0.5	64.3	5xD	77	×	14	125	PD-125FA
12.7	1/2	0.5	64.3	5xD	77	●	14	124	PD-983D3	
12.7	1/2	0.5	118.3	8xD	131	●	14	178	PD-DD420	
12.7	1/2	0.5	169.3	12xD	182	●	14	230	PD-DCA28	

× Solid Carbide (Non-coolant)

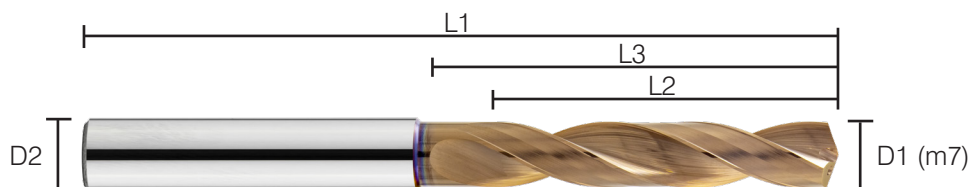
• Coolant Through Carbide



	D1 Dia. (m7)	D1 (in) Dia. (m7)	L2 Flute Len.		L3 Rollout Len.		D2 Dia. (h6)	L1 OAL	Part #	
mm	13	0.5118	47.1	3xD	60	×	14	107	PD-24C7F	
	13	0.5118	47.1	3xD	60	●	14	107	PD-E0B6F	
	13	0.5118	64.1	5xD	77	×	14	125	PD-93003	
	13	0.5118	64.1	5xD	77	●	14	124	PD-98C5A	
	13	0.5118	118.1	8xD	131	●	14	178	PD-FA867	
	13.1	0.5157	47.1	3xD	60	×	14	107	PD-5408A	
	13.1	0.5157	47.1	3xD	60	●	14	107	PD-155AE	
	13.1	0.5157	64.1	5xD	77	×	14	125	PD-3DBCA	
	13.1	0.5157	64.1	5xD	77	●	14	124	PD-D62F5	
	13.1	0.5157	118.1	8xD	131	●	14	178	PD-A43BC	
	13.4938	17/32	0.5313	47.1	3xD	60	×	14	107	PD-27BF5
	13.4938	17/32	0.5313	47.1	3xD	60	●	14	107	PD-5B4C0
	13.4938	17/32	0.5313	64.1	5xD	77	×	14	125	PD-E0AC9
	13.4938	17/32	0.5313	64.1	5xD	77	●	14	124	PD-8ED8D
	13.4938	17/32	0.5313	118.1	8xD	131	●	14	178	PD-796EA
	13.4938	17/32	0.5313	169.1	12xD	182	●	14	230	PD-E0EF6
	13.8		0.5433	46.7	3xD	60	×	14	107	PD-53F44
	13.8		0.5433	46.7	3xD	60	●	14	115	PD-D1E67
	13.8		0.5433	63.7	5xD	77	×	14	125	PD-F51F1
	13.8		0.5433	63.7	5xD	77	●	14	124	PD-D71DF
	13.8		0.5433	117.7	8xD	131	●	14	178	PD-4ECF0
	14		0.5512	46.5	3xD	60	×	16	115	PD-102C5
	14		0.5512	46.5	3xD	60	●	14	115	PD-5E2E4
	14		0.5512	63.5	5xD	77	×	16	125	PD-6D3BE
	14		0.5512	63.5	5xD	77	●	14	124	PD-195DC
	14		0.5512	117.5	8xD	131	●	14	178	PD-B1BA4
	14		0.5512	168.5	12xD	182	●	14	230	PD-DC03E

× Solid Carbide (Non-coolant)

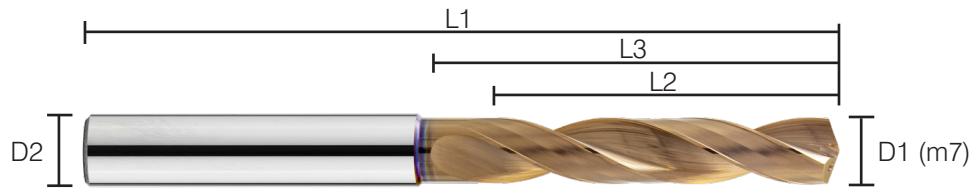
• Coolant Through Carbide



	D1 Dia. (m7)		D1 (in) Dia. (m7)	L2 Flute Len.		L3 Rollout Len.		D2 Dia. (h6)	L1 OAL	Part #
mm	14.2875	9/16	0.5625	51.0	3xD	65	×	16	115	PD-8E564
	14.2875	9/16	0.5625	51.0	3xD	65	•	16	115	PD-C57A2
	14.2875	9/16	0.5625	69.0	5xD	83	×	16	133	PD-E3E8C
	14.2875	9/16	0.5625	69.0	5xD	83	•	16	133	PD-6B54B
	14.2875	9/16	0.5625	138.0	8xD	152	•	16	203	PD-9A10D
	14.2875	9/16	0.5625	194.0	12xD	208	•	16	260	PD-2A51F
	14.5		0.5709	50.6	3xD	65	×	16	115	PD-C193F
	14.5		0.5709	50.6	3xD	65	•	16	115	PD-54308
	14.5		0.5709	68.6	5xD	83	×	16	133	PD-942D8
	14.5		0.5709	68.6	5xD	83	•	16	133	PD-6A920
	14.5		0.5709	137.6	8xD	152	•	16	203	PD-D5AF8
	14.7		0.5787	50.2	3xD	65	×	16	115	PD-8B2C1
	14.7		0.5787	50.2	3xD	65	•	16	115	PD-CBC58
	14.7		0.5787	68.2	5xD	83	×	16	133	PD-296FE
	14.7		0.5787	68.2	5xD	83	•	16	133	PD-9027F
	14.7		0.5787	137.2	8xD	152	•	16	203	PD-591CA
	15.0813	19/32	0.5938	50.2	3xD	65	×	16	115	PD-905BE
	15.0813	19/32	0.5938	50.2	3xD	65	•	16	115	PD-92627
	15.0813	19/32	0.5938	68.2	5xD	83	×	16	133	PD-D7874
	15.0813	19/32	0.5938	68.2	5xD	83	•	16	133	PD-C8AAC
	15.0813	19/32	0.5938	137.2	8xD	152	•	16	203	PD-671C6
	15.0813	19/32	0.5938	193.2	12xD	208	•	16	260	PD-715BE
	15.875	5/8	0.625	49.9	3xD	65	×	16	115	PD-42191
	15.875	5/8	0.625	49.9	3xD	65	•	16	115	PD-C4F99
	15.875	5/8	0.625	67.9	5xD	83	×	16	133	PD-F3D1F
	15.875	5/8	0.625	67.9	5xD	83	•	16	133	PD-D3DB5
	15.875	5/8	0.625	136.9	8xD	152	•	16	203	PD-29579
	15.875	5/8	0.625	192.9	12xD	208	•	16	260	PD-7D86A

× Solid Carbide (Non-coolant)

• Coolant Through Carbide



	D1 Dia. (m7)	D1 (in) Dia. (m7)	L2 Flute Len.		L3 Rollout Len.		D2 Dia. (h6)	L1 OAL	Part #
mm	16	0.6299	49.9	3xD	65	×	16	115	PD-67522
	16	0.6299	49.9	3xD	65	•	16	115	PD-C26BE
	16	0.6299	67.9	5xD	83	×	16	133	PD-A71E5
	16	0.6299	67.9	5xD	83	•	16	133	PD-31597
	16	0.6299	136.9	8xD	152	•	16	203	PD-7DE60
	17	0.6693	84.0	5xD	100	×	18	150	PD-AB1AB
	17	0.6693	84.0	5xD	100	•	18	156	PD-F6D50
	17	0.6693	155.0	8xD	171	•	18	232	PD-32092
	17	0.6693	218.0	12xD	234	•	18	296	PD-32EE1
	19.5	3/4	0.75	5xD	112	•	20	164	PD-8375B
	19.5	3/4	0.75	8xD	190	•	20	260	PD-70D35

× Solid Carbide (Non-coolant)

• Coolant Through Carbide

A-MILL ROUGHER

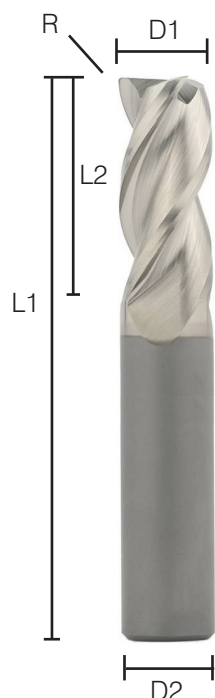
The **A-Mill Rougher** is designed for aggressive roughing of non-ferrous workpiece materials. Roughing specific geometry combined with TiB2 PVD coating provides the strength and lubricity necessary for high material removal rates.

Key Features:

- Premium submicron carbide grade for durability and longevity
- Suitable for extremely high chip loads for aggressive material removal rates
- A polished double flute enhances chip evacuation
- Flat bottom, corner radius, and long reach options available
- High performance TiB2 PVD coating provides maximum lubricity and tool life



A-Mill Rougher



Square Corner

	D1 Dia.	D2 Dia. (h6)	L1 OAL	L2 LOC	No. of Flutes	Part #
in	1/4	1/4	2.5	0.580	3	511-0250-301
	3/8	3/8	2.5	0.830	3	511-0375-301
	1/2	1/2	3.0	1.120	3	511-0500-301
	5/8	5/8	3.5	1.360	3	511-0625-301
	3/4	3/4	4.0	1.650	3	511-0750-301

Corner Radius

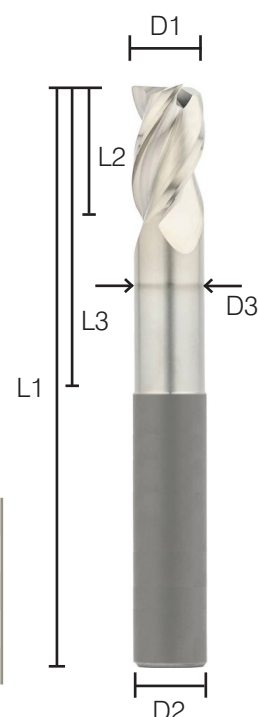
	D1 Dia.	D2 Dia. (h6)	L1 OAL	L1 OAL	R Radius	No. of Flutes	Part #
in	1/4	1/4	2.5	0.580	0.010	3	511-0250-3R10
	3/8	3/8	2.5	0.830	0.020	3	511-0375-3R20
	1/2	1/2	3.0	1.100	0.020	3	511-0500-3R20
	5/8	5/8	3.5	1.300	0.030	3	511-0625-3R30
	3/4	3/4	4.0	1.650	0.030	3	511-0750-3R30

Square Corner Long Reach

	D1 Dia.	D2 Dia. (h6)	L1 OAL	L2 LOC	D3 Neck Dia.	L3 LOR	No. of Flutes	Part #
in	1/4	1/4	3.0	0.35	0.240	1.350	2	517-0250-201
	3/8	3/8	4.0	0.55	0.360	2.100	2	517-0375-201
	1/2	1/2	5.0	0.85	0.480	2.850	2	518-0500-201
	5/8	5/8	6.0	0.90	0.600	3.150	2	518-0625-201
	3/4	3/4	6.0	1.15	0.720	3.150	2	518-0750-201

Corner Radius Long Reach

	D1 Dia.	D2 Dia. (h6)	L1 OAL	L2 LOC	D3 Neck Dia.	L3 LOR	R Radius	No. of Flutes	Part #
in	1/4	1/4	3.0	0.35	0.240	1.350	0.010	2	517-0250-2R10
	3/8	3/8	4.0	0.55	0.360	2.100	0.020	2	517-0375-2R20
	1/2	1/2	5.0	0.85	0.480	2.850	0.020	2	518-0500-2R20
	5/8	5/8	6.0	0.90	0.600	3.150	0.030	2	518-0625-2R30
	3/4	3/4	6.0	1.15	0.720	3.150	0.030	2	518-0750-2R30



A-MILL SEMI-FINISHER

The **A-Mill Semi-Finisher** combines roughing and finishing geometry into one tool, allowing for aggressive roughing while providing excellent surface finishes. The semi-finisher is ideal for machining centers with limited carousel capacity or where other limitations require using the same tool for roughing and finishing.

Key Features:

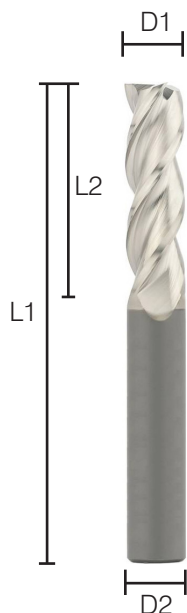
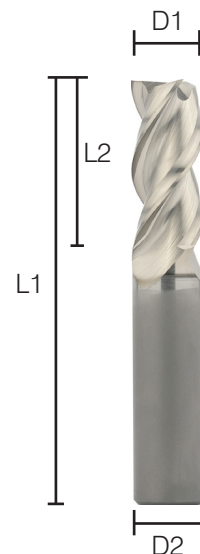
- Rough and finish with the same tool
- Premium submicron carbide grade for durability and longevity
- Polished cylindrical margin for chatter and vibration reduction
- Flat bottom, corner radius, ball nose, and long reach options available
- High performance TiB2 PVD coating provides maximum lubricity and tool life
- Polished flute face enhances chip evacuation



A-Mill Semi-Finisher

Square Corner

	D1 Dia.	D2 Dia. (h6)	L1 OAL	L2 LOC	No. of Flutes	Part #
in	1/8	1/8	2.0	0.300	3	521-0125-301
	3/16	3/16	2.0	0.420	3	521-0187-301
	1/4	1/4	2.5	0.580	3	521-0250-301
	3/8	3/8	2.5	0.830	3	521-0375-301
	1/2	1/2	3.0	1.120	3	521-0500-301
	5/8	5/8	3.5	1.360	3	521-0625-301
	3/4	3/4	4.0	1.650	3	521-0750-301
	1	1	4.0	1.650	3	521-1000-301



Square Corner Long

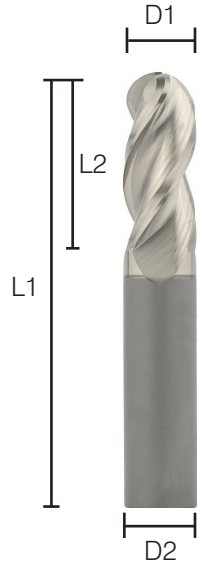
	D1 Dia.	D2 Dia. (h6)	L1 OAL	L2 LOC	No. of Flutes	Part #
in	1/8	1/8	2.0	0.550	3	522-0125-301
	3/16	3/16	2.5	0.860	3	522-0187-301
	1/4	1/4	3.0	0.900	3	522-0250-301
	3/8	3/8	3.0	1.600	3	522-0375-301
	1/2	1/2	4.0	2.100	3	522-0500-301
	5/8	5/8	4.0	2.100	3	522-0625-301
	3/4	3/4	5.0	2.100	3	522-0750-301
	1	1	5.0	2.100	3	522-1000-301



Square Corner X-Long

	D1 Dia.	D2 Dia. (h6)	L1 OAL	L2 LOC	No. of Flutes	Part #
in	1/8	1/8	2.0	0.750	3	523-0125-301
	3/16	3/16	3.0	1.100	3	523-0187-301
	1/4	1/4	3.0	1.600	3	523-0250-301
	3/8	3/8	4.0	2.100	3	523-0375-301
	1/2	1/2	6.0	3.100	3	523-0500-301
	5/8	5/8	6.0	3.100	3	523-0625-301
	3/4	3/4	6.0	3.100	3	523-0750-301
	1	1	6.0	3.100	3	523-1000-301

A-Mill Semi-Finisher

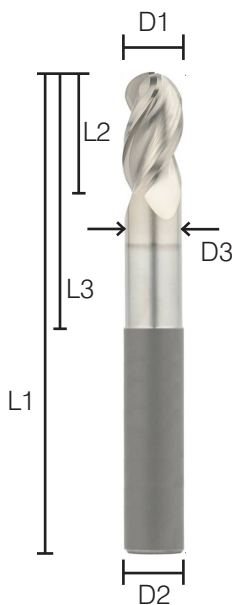


Ball Nose

	D1 Dia.	D2 Dia. (h6)	L1 OAL	L2 LOC	No. of Flutes	Part #
in	1/8	1/8	2.0	0.300	3	521-0125-302
	3/16	3/16	2.0	0.420	3	521-0187-302
	1/4	1/4	2.5	0.580	3	521-0250-302
	3/8	3/8	2.5	0.830	3	521-0375-302
	1/2	1/2	3.0	1.100	3	521-0500-302
	5/8	5/8	3.5	1.300	3	521-0625-302
	3/4	3/4	4.0	1.600	3	521-0750-302
	1	1	4.0	1.650	3	521-1000-302

Ball Nose Long Reach

	D1 Dia.	D2 Dia. (h6)	L1 OAL	L2 LOC	D3 Neck Dia.	L3 LOR	No. of Flutes	Part #
in	1/4	1/4	3.0	0.350	0.240	0.830	3	526-0250-302
	3/8	3/8	3.0	0.550	0.360	1.600	3	526-0375-302
	1/2	1/2	4.0	0.850	0.480	2.100	3	527-0500-302
	5/8	5/8	5.0	0.900	0.600	2.150	3	527-0625-302
	3/4	3/4	5.0	1.150	0.720	2.150	3	527-0750-302
	1	1	6.0	1.650	0.960	3.150	3	528-1000-302



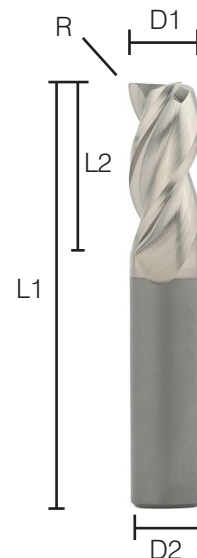
Ball Nose X-Long Reach

	D1 Dia.	D2 Dia. (h6)	L1 OAL	L2 LOC	D3 Neck Dia.	L3 LOR	No. of Flutes	Part #
in	1/4	1/4	3.0	0.350	0.240	1.350	2	527-0250-202
	3/8	3/8	4.0	0.550	0.360	2.100	2	527-0375-202
	1/2	1/2	5.0	0.850	0.480	2.850	2	528-0500-202
	3/4	3/4	6.0	1.150	0.720	3.150	2	528-0750-202

A-Mill Semi-Finisher

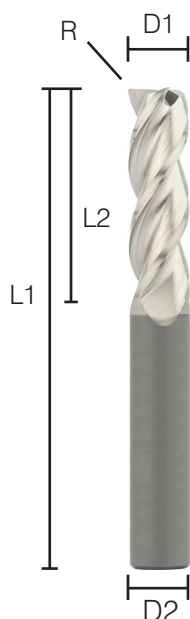
Corner Radius

	D1 Dia.	D2 Dia. (h6)	L1 OAL	L2 LOC	R Radius	No. of Flutes	Part #
in	1/8	1/8	2.0	0.300	0.010	3	521-0125-3R10
	3/16	3/16	2.0	0.420	0.010	3	521-0187-3R10
	1/4	1/4	2.5	0.580	0.010	3	521-0250-3R10
	3/8	3/8	2.5	0.830	0.020	3	521-0375-3R20
	1/2	1/2	3.0	1.120	0.020	3	521-0500-3R20
	5/8	5/8	3.5	1.360	0.030	3	521-0625-3R30
	3/4	3/4	4.0	1.650	0.030	3	521-0750-3R30
	1	1	4.0	1.650	0.030	3	521-1000-3R30



Corner Radius Long

	D1 Dia.	D2 Dia. (h6)	L1 OAL	L2 LOC	R Radius	No. of Flutes	Part #
in	1/8	1/8	2.0	0.550	0.010	3	522-0125-3R10
	1/4	1/4	3.0	0.900	0.010	3	522-0250-3R10
	3/8	3/8	3.0	1.600	0.015	3	522-0375-3R20
	1/2	1/2	4.0	2.100	0.020	3	522-0500-3R20
	5/8	5/8	4.0	2.100	0.020	3	522-0625-3R30
	3/4	3/4	5.0	2.100	0.020	3	522-0750-3R30
	1	1	5.0	2.100	0.020	3	522-1000-3R30



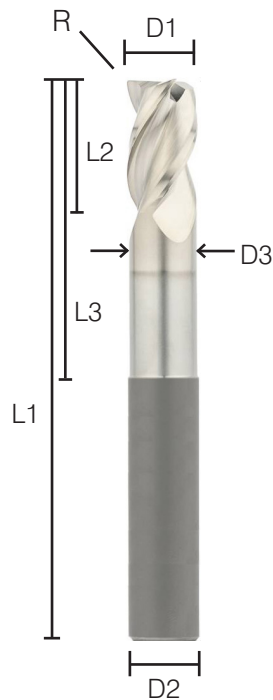
Corner Radius X-Long

	D1 Dia.	D2 Dia. (h6)	L1 OAL	L2 LOC	R Radius	No. of Flutes	Part #
in	1/8	1/8	2.0	0.750	0.010	3	523-0125-3R10
	3/16	3/16	3.0	1.100	0.010	3	523-0187-3R10
	1/4	1/4	4.0	1.600	0.010	3	523-0250-3R10
	3/8	3/8	4.0	2.100	0.015	3	523-0375-3R20
	1/2	1/2	6.0	3.100	0.020	3	523-0500-3R20
	5/8	5/8	6.0	3.100	0.020	3	523-0625-3R30
	3/4	3/4	6.0	3.100	0.020	3	523-0750-3R30



Corner Radius Long Reach

	D1 Dia.	D2 Dia. (h6)	L1 OAL	L2 LOC	D3 Neck Dia.	L3 LOR	R Radius	No. of Flutes	Part #
in	1/4	1/4	3.0	0.350	0.240	.830	0.010	3	526-0250-3R10
	1/2	1/2	4.0	0.850	0.480	2.10	0.020	3	527-0500-3R20
	5/8	5/8	5.0	0.900	0.600	2.15	0.030	3	527-0625-3R30
	3/4	3/4	5.0	1.150	0.720	2.15	0.030	3	527-0750-3R30



A-MILL FINISHER (CHATTERLESS)

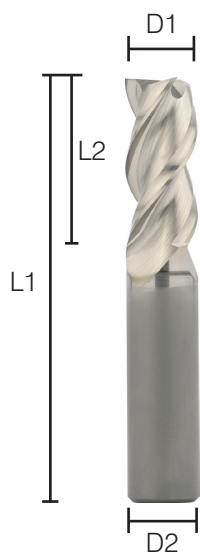
The **A-Mill Finisher (Chatterless)** is designed exclusively for finishing applications in aluminum and other non-ferrous workpiece materials. Finishing specific geometry allows for mirror-like surface finishes. A larger core also provides increased rigidity to fight deflection when finishing walls and deep pockets.

Key Features:

- Produces excellent finishes and minimizes deflection
- Premium submicron carbide grade for durability and longevity
- Polished cylindrical margin for chatter and vibration reduction
- Flat bottom, corner radius, ball nose, and long reach options available
- High performance TiB2 PVD coating provides maximum lubricity and tool life
- Polished flute face enhances chip evacuation
- Increased core percentage for added tool rigidity



A-Mill Chatterless Finisher



Square Corner

	D1 Dia.	D2 Dia. (h6)	L1 OAL	L2 LOC	No. of Flutes	Part #
in						
	1/8	1/8	2.0	0.420	3	551-0125-301
	3/16	3/16	2.0	0.560	3	551-0187-301
	1/4	1/4	2.5	0.580	3	551-0250-301
	3/8	3/8	2.5	0.830	3	551-0375-301
	1/2	1/2	3.0	1.100	3	551-0500-301
	5/8	5/8	3.5	1.360	3	551-0625-301
	3/4	3/4	4.0	1.650	3	551-0750-301
	1	1	4.0	1.650	3	551-1000-301

Square Corner Long

	D1 Dia.	D2 Dia. (h6)	L1 OAL	L2 LOC	No. of Flutes	Part #
in						
	1/8	1/8	2.0	0.550	3	552-0125-301
	3/16	3/16	2.5	0.860	3	552-0187-301
	1/4	1/4	3.0	1.100	3	552-0250-301
	3/8	3/8	4.0	1.600	3	552-0375-301
	1/2	1/2	4.0	2.100	3	552-0500-301
	5/8	5/8	5.0	2.100	3	552-0625-301
	3/4	3/4	5.0	2.100	3	552-0750-301
	1	1	5.0	2.100	3	552-1000-301



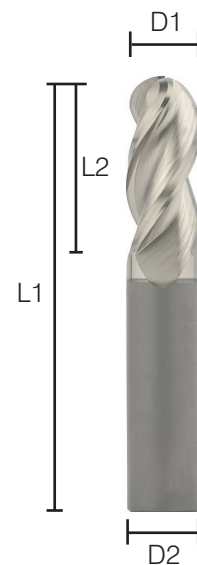
Square Corner X-Long

	D1 Dia.	D2 Dia. (h6)	L1 OAL	L2 LOC	No. of Flutes	Part #
in						
	1/8	1/8	2.0	0.750	3	553-0125-301
	3/16	3/16	3.0	1.100	3	553-0187-301
	1/4	1/4	4.0	1.600	3	553-0250-301
	3/8	3/8	4.0	2.100	3	553-0375-301
	1/2	1/2	6.0	3.100	3	553-0500-301
	5/8	5/8	6.0	3.100	3	553-0625-301
	3/4	3/4	6.0	3.100	3	553-0750-301
	1	1	6.0	3.100	3	553-1000-301

A-Mill Chatterless Finisher

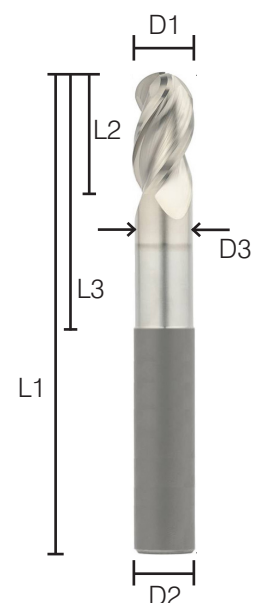
Ball Nose

	D1 Dia.	D2 Dia. (h6)	L1 OAL	L2 LOC	No. of Flutes	Part #
in	1/8	1/8	2.0	0.420	3	551-0125-302
	3/16	3/16	2.0	0.560	3	551-0187-302
	1/4	1/4	2.5	0.580	3	551-0250-302
	3/8	3/8	2.5	0.830	3	551-0375-302
	1/2	1/2	3.0	1.100	3	551-0500-302
	5/8	5/8	3.5	1.360	3	551-0625-302
	3/4	3/4	4.0	1.650	3	551-0750-302
	1	1	4.0	1.650	3	551-1000-302



Ball Nose Long Reach

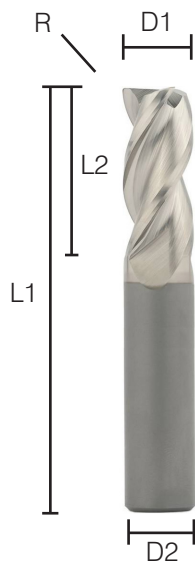
	D1 Dia.	D2 Dia. (h6)	L1 OAL	L2 LOC	D3 Neck Dia.	D3 LOR	No. of Flutes	Part #
in	1/8	1/8	2.0	0.420	0.118	0.85	3	557-0125-302
	3/16	3/16	2.5	0.560	0.180	0.82	3	557-0187-302
	1/4	1/4	3.0	0.580	0.240	1.35	3	557-0250-302
	3/8	3/8	4.0	0.830	0.360	2.10	3	557-0375-302
	1/2	1/2	4.0	1.120	0.480	2.10	3	557-0500-302



A-Mill Chatterless Finisher

Corner Radius

	D1 Dia.	D2 Dia. (h6)	L1 OAL	L2 LOC	R Radius	No. of Flutes	Part #
in	1/8	1/8	2.0	0.420	0.015	3	551-0125-3R15
	1/8	1/8	2.0	0.420	0.030	3	551-0125-3R30
	3/16	3/16	2.0	0.560	0.010	3	551-0187-3R15
	1/4	1/4	2.5	0.580	0.015	3	551-0250-3R15
	1/4	1/4	2.5	0.580	0.030	3	551-0250-3R30
	1/4	1/4	2.5	0.580	0.060	3	551-0250-3R60
	5/16	5/16	3.0	0.750	0.060	3	551-0312-3R15
	3/8	3/8	2.5	0.830	0.015	3	551-0375-3R15
	3/8	3/8	2.5	0.830	0.030	3	551-0375-3R30
	3/8	3/8	2.5	0.830	0.060	3	551-0375-3R60
	1/2	1/2	3.0	1.100	0.015	3	551-0500-3R15
	1/2	1/2	3.0	1.100	0.020	3	551-0500-3R20
	1/2	1/2	3.0	1.100	0.030	3	551-0500-3R30
	1/2	1/2	3.0	1.100	0.060	3	551-0500-3R60
	1/2	1/2	3.0	1.100	0.120	3	551-0500-3R120
	3/4	3/4	4.0	1.650	0.015	3	551-0750-3R15
	3/4	3/4	4.0	1.650	0.030	3	551-0750-3R30
	3/4	3/4	4.0	1.650	0.060	3	551-0750-3R60
	3/4	3/4	4.0	1.650	0.120	3	551-0750-3R120
	1	1	4.0	1.650	0.030	3	551-1000-3R30
	1	1	4.0	1.650	0.060	3	551-1000-3R60



A-Mill Chatterless Finisher

Corner Radius Long

	D1 Dia.	D2 Dia. (h6)	L1 OAL	L2 LOC	R Radius	No. of Flutes	Part #
in	1/8	1/8	2.0	0.550	0.015	3	552-0125-3R15
	1/8	1/8	2.0	0.550	0.030	3	552-0125-3R30
	3/16	3/16	2.5	0.860	0.010	3	552-0187-3R15
	3/16	3/16	2.5	0.860	0.030	3	552-0187-3R30
	1/4	1/4	3.0	1.100	0.015	3	552-0250-3R15
	1/4	1/4	3.0	1.100	0.030	3	552-0250-3R30
	1/4	1/4	3.0	1.100	0.060	3	552-0250-3R60
	3/8	3/8	4.0	1.600	0.015	3	552-0375-3R15
	3/8	3/8	4.0	1.600	0.030	3	552-0375-3R30
	3/8	3/8	4.0	1.600	0.060	3	552-0375-3R60
	1/2	1/2	4.0	2.100	0.015	3	552-0500-3R15
	1/2	1/2	4.0	2.100	0.030	3	552-0500-3R30
	1/2	1/2	4.0	2.100	0.060	3	552-0500-3R60
	1/2	1/2	4.0	2.100	0.120	3	552-0500-3R120
	5/8	5/8	5.0	2.100	0.015	3	552-0625-3R15
	5/8	5/8	5.0	2.100	0.030	3	552-0625-3R30
	5/8	5/8	5.0	2.100	0.060	3	552-0625-3R60
	5/8	5/8	5.0	2.100	0.120	3	552-0625-3R120
	5/8	5/8	5.0	2.100	0.190	3	552-0625-3R190
	3/4	3/4	5.0	2.100	0.015	3	552-0750-3R15
	3/4	3/4	5.0	2.100	0.030	3	552-0750-3R30
	3/4	3/4	5.0	2.100	0.060	3	552-0750-3R60
	3/4	3/4	5.0	2.100	0.120	3	552-0750-3R120
	3/4	3/4	5.0	2.100	0.190	3	552-0750-3R190
	1	1	5.0	2.100	0.030	3	552-1000-3R30
	1	1	5.0	2.100	0.060	3	552-1000-3R60



A-Mill Chatterless Finisher

Corner Radius X-Long

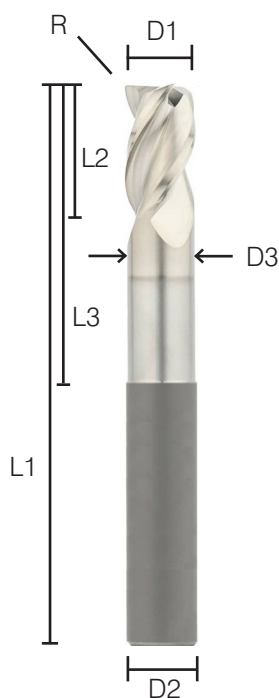
	D1 Dia.	D2 Dia. (h6)	L1 OAL	L2 LOC	R Radius	No. of Flutes	Part #
in	1/8	1/8	2.0	0.750	0.015	3	553-0125-3R15
	1/8	1/8	2.0	0.750	0.030	3	553-0125-3R30
	3/16	3/16	3.0	1.100	0.010	3	553-0187-3R15
	3/16	3/16	3.0	1.100	0.030	3	553-0187-3R30
	1/4	1/4	4.0	1.600	0.015	3	553-0250-3R15
	1/4	1/4	4.0	1.600	0.030	3	553-0250-3R30
	1/4	1/4	4.0	1.600	0.060	3	553-0250-3R60
	3/8	3/8	4.0	2.100	0.015	3	553-0375-3R15
	3/8	3/8	4.0	2.100	0.030	3	553-0375-3R30
	3/8	3/8	4.0	2.100	0.060	3	553-0375-3R60
	1/2	1/2	6.0	3.100	0.015	3	553-0500-3R15
	1/2	1/2	6.0	3.100	0.030	3	553-0500-3R30
	1/2	1/2	6.0	3.100	0.060	3	553-0500-3R60
	1/2	1/2	6.0	3.100	0.120	3	553-0500-3R120
	5/8	5/8	6.0	3.100	0.015	3	553-0625-3R15
	5/8	5/8	6.0	3.100	0.030	3	553-0625-3R30
	5/8	5/8	6.0	3.100	0.060	3	553-0625-3R60
	5/8	5/8	6.0	3.100	0.120	3	553-0625-3R120
	3/4	3/4	6.0	3.100	0.015	3	553-0750-3R15
	3/4	3/4	6.0	3.100	0.030	3	553-0750-3R30
	3/4	3/4	6.0	3.100	0.060	3	553-0750-3R60
	3/4	3/4	6.0	3.100	0.120	3	553-0750-3R120
	1	1	6.0	3.100	0.030	3	553-1000-3R30
	1	1	6.0	3.100	0.060	3	553-1000-3R60



A-Mill Chatterless Finisher

Corner Radius Long Reach

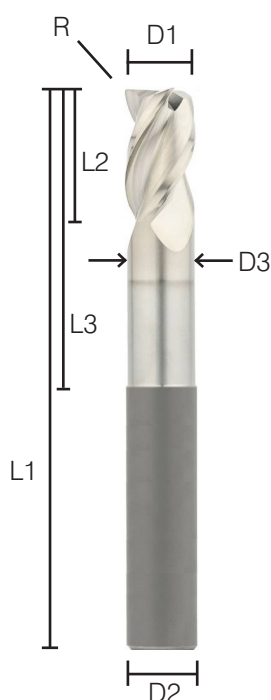
	D1 Dia.	D2 Dia. (h6)	L1 OAL	L2 LOC	D3 Neck Dia.	L3 LOR	R Radius	No. of Flutes	Part #
in	1/8	1/8	2.0	0.420	0.118	0.85	0.010	3	557-0125-3R10
	1/8	1/8	2.0	0.420	0.118	0.85	0.020	3	557-0125-3R20
	1/8	1/8	2.0	0.420	0.118	0.85	0.030	3	557-0125-3R30
	3/16	3/16	2.5	0.560	0.180	0.82	0.010	3	557-0187-3R10
	3/16	3/16	2.5	0.560	0.180	0.82	0.020	3	557-0187-3R20
	3/16	3/16	2.5	0.560	0.180	0.82	0.030	3	557-0187-3R30
	1/4	1/4	3.0	0.580	0.240	0.83	0.020	3	556-0250-3R20
	1/4	1/4	3.0	0.580	0.240	0.83	0.030	3	556-0250-3R30
	1/4	1/4	3.0	0.580	0.240	0.83	0.060	3	556-0250-3R60
	1/4	1/4	3.0	0.580	0.240	1.35	0.020	3	557-0250-3R20
	1/4	1/4	3.0	0.580	0.240	1.35	0.030	3	557-0250-3R30
	1/4	1/4	3.0	0.580	0.240	1.35	0.060	3	557-0250-3R60
	5/16	5/16	3.0	0.700	0.300	1.10	0.020	3	556-0312-3R20
	5/16	5/16	3.0	0.700	0.300	1.10	0.030	3	556-0312-3R30
	5/16	5/16	3.0	0.700	0.300	1.10	0.060	3	556-0312-3R60
	5/16	5/16	4.0	0.700	0.300	1.60	0.020	3	557-0312-3R20
	5/16	5/16	4.0	0.700	0.300	1.60	0.030	3	557-0312-3R30
	5/16	5/16	4.0	0.700	0.300	1.60	0.060	3	557-0312-3R60
	3/8	3/8	3.0	0.830	0.360	1.60	0.020	3	556-0375-3R20
	3/8	3/8	3.0	0.830	0.360	1.60	0.030	3	556-0375-3R30
	3/8	3/8	3.0	0.830	0.360	1.60	0.060	3	556-0375-3R60
	3/8	3/8	4.0	0.830	0.360	2.10	0.020	3	557-0375-3R20
	3/8	3/8	4.0	0.830	0.360	2.10	0.030	3	557-0375-3R30
	3/8	3/8	4.0	0.830	0.360	2.10	0.060	3	557-0375-3R60



A-Mill Chatterless Finisher

Corner Radius Long Reach

	D1 Dia.	D2 Dia. (h6)	L1 OAL	L2 LOC	D3 Neck Dia.	L3 LOR	R Radius	No. of Flutes	Part #
in	1/2	1/2	4.0	1.120	0.480	2.10	0.030	3	557-0500-3R30
	1/2	1/2	4.0	1.120	0.480	2.10	0.060	3	557-0500-3R60
	1/2	1/2	4.0	1.120	0.480	2.10	0.120	3	557-0500-3R120
	1/2	1/2	5.0	1.120	0.480	2.85	0.030	3	558-0500-3R30
	1/2	1/2	5.0	1.120	0.480	2.85	0.060	3	558-0500-3R60
	1/2	1/2	5.0	1.120	0.480	2.85	0.120	3	558-0500-3R120
	5/8	5/8	5.0	1.360	0.600	2.15	0.030	3	557-0625-3R30
	5/8	5/8	5.0	1.360	0.600	2.15	0.060	3	557-0625-3R60
	5/8	5/8	5.0	1.360	0.600	2.15	0.120	3	557-0625-3R120
	5/8	5/8	6.0	1.360	0.600	3.15	0.030	3	558-0625-3R30
	5/8	5/8	6.0	1.360	0.600	3.15	0.060	3	558-0625-3R60
	5/8	5/8	6.0	1.360	0.600	3.15	0.120	3	558-0625-3R120
	3/4	3/4	5.0	1.650	0.720	2.15	0.030	3	557-0750-3R30
	3/4	3/4	5.0	1.650	0.720	2.15	0.060	3	557-0750-3R60
	3/4	3/4	5.0	1.650	0.720	2.15	0.120	3	557-0750-3R120
	3/4	3/4	6.0	1.650	0.720	3.15	0.030	3	558-0750-3R30
	3/4	3/4	6.0	1.650	0.720	3.15	0.060	3	558-0750-3R60
	3/4	3/4	6.0	1.650	0.720	3.15	0.120	3	558-0750-3R120
	1	1	6.0	2.200	0.960	3.15	0.030	3	557-1000-3R30
	1	1	6.0	2.200	0.960	3.15	0.060	3	557-1000-3R60
	1	1	6.0	2.200	0.960	3.15	0.120	3	557-1000-3R120

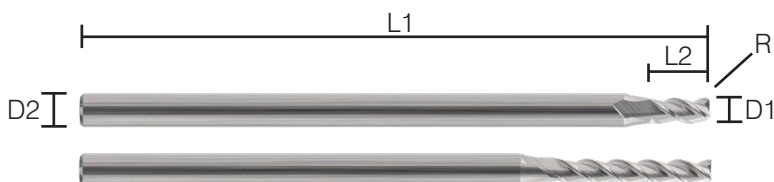


The AluMini is a 3-flute miniature end mill line designed specifically for machining non-ferrous workpiece materials. With its precision engineering, this line offers exceptional performance in a compact size.

- Made from wear resistant submicron carbide
- Available with 1xD, 2xD, 3xD, 4xD, and 6xD Length of Cut
- Sizes ranging from .031" to .093"
- Flat bottom and corner radius options

AluMini 1/32 - 3/32

in	D1 Dia.	D2 Dia. (h6)	R Radius	No. Flutes	L1 OAL	L2 LOC 1xD 591-*	L2 LOC 2xD 592-*	L2 LOC 3xD 593-*	L2 LOC 4xD 594-*	L1 OAL	L2 LOC 6xD 596-*	Uncoated Part #
	1/32	1/8	-	3	2.0	-	0.062	0.093	0.125	3.0	0.187	*-0031-301
	3/64	1/8	-	3	2.0	-	0.093	0.14	0.187	3.0	0.281	*-0046-301
	1/16	1/8	-	3	2.0	0.062	0.125	0.187	0.25	3.0	0.375	*-0062-301
	5/64	1/8	-	3	2.0	0.078	0.156	0.234	0.312	3.0	0.468	*-0078-301
	3/32	1/8	-	3	2.0	0.093	0.187	0.281	0.375	3.0	0.562	*-0093-301
	1/32	1/8	0.004	3	2.0	-	0.062	0.093	0.125	3.0	0.187	*-0031-3R004
	3/64	1/8	0.004	3	2.0	-	0.093	0.14	0.187	3.0	0.281	*-0046-3R004
	1/16	1/8	0.004	3	2.0	0.062	0.125	0.187	0.25	3.0	0.375	*-0062-3R004
	5/64	1/8	0.004	3	2.0	0.078	0.156	0.234	0.312	3.0	0.468	*-0078-3R004
	3/32	1/8	0.004	3	2.0	0.093	0.187	0.281	0.375	3.0	0.562	*-0093-3R004
	3/64	1/8	0.010	3	2.0	-	0.093	-	0.187	3.0	0.281	*-0046-3R010
	1/16	1/8	0.010	3	2.0	0.062	0.125	-	0.25	3.0	0.375	*-0062-3R010
	5/64	1/8	0.010	3	2.0	0.078	0.156	-	0.312	3.0	0.468	*-0078-3R010
	3/32	1/8	0.010	3	2.0	0.093	0.187	-	0.375	3.0	0.562	*-0093-3R010
	1/16	1/8	0.015	3	2.0	0.062	0.125	-	0.25	3.0	0.375	*-0062-3R015
	5/64	1/8	0.015	3	2.0	0.078	0.156	-	0.312	3.0	0.468	*-0078-3R015
	3/32	1/8	0.015	3	2.0	0.093	0.187	-	0.375	3.0	0.562	*-0093-3R015
	3/32	1/8	0.03	3	2.0	-	0.187	-	0.375	3.0	0.562	*-0093-3R030



INDEXABLE PRO FEED

The **Pro Feed** line is a highly efficient indexable high feed tool line designed for optimal productivity and high feed rates. Engineered with precision, these cutters offer excellent performance, allowing you to optimize cutting processes and enhance overall productivity. With their strong geometry, insert edge preparation, and cutting edge coatings, Pro Feed tools excel in tackling demanding roughing applications

Key Features:

- With feed rates up to 0.119 in / tooth and closely pitched tools, very high chip removal rates are achieved
- Maximal tool life thanks to HyperCoat coating
- Maximised economy thanks to 4 cutting edges
- Reduced machining noise and vibration, light cutting geometries
- Flexibility thanks to coolant holes with minimum quantity lubrication design

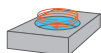
Applications



Face milling



Angled milling



Helical plunging



Plunge milling



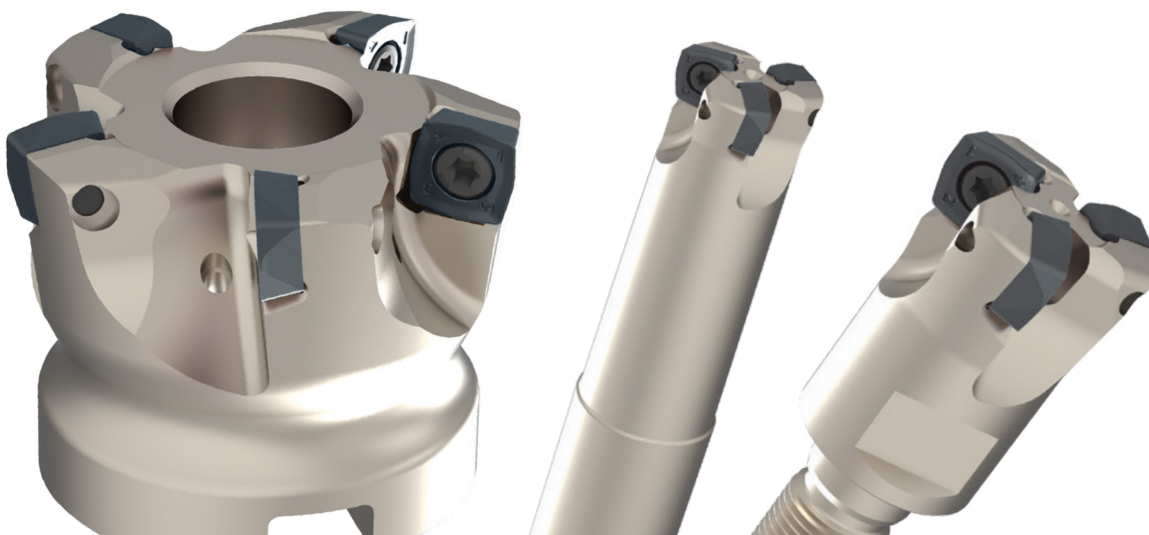
Profile milling



Pocket milling

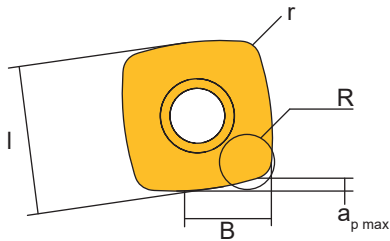


Slot milling



Indexable Pro Feed - Inserts

Dimensions

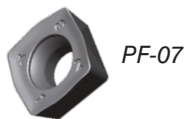


Recommended f_z
 $> 0.0197 \text{ in / tooth}$
 $> 0.5 \text{ mm / tooth}$

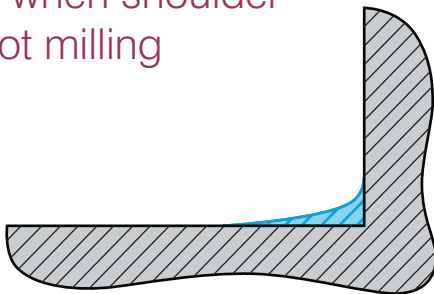
R = Programmed Radius

Insert	L	R	B	r	$a_{p \text{ max}}$
in XPLT PF-07	0.281	0.047	0.169	0.020	0.031
XDLT PF-10	0.402	0.079	0.232	0.031	0.039
XDLX PFP-10	0.402	0.079	0.232	0.031	0.039
XOLT PF-13	0.531	0.118	0.335	0.039	0.079

Insert	L	R	B	r	$a_{p \text{ max}}$
mm XPLT PF-07	7.15	1.2	4.3	0.5	0.8
XDLT PF-10	10.20	2.0	5.9	0.8	1.0
XDLX PFP-10	10.20	2.0	5.9	0.8	1.0
XOLT PF-13	13.50	3.0	8.5	1.0	2.0



Profile when shoulder and slot milling



4 effective cutting edges



Application specific chipbreakers

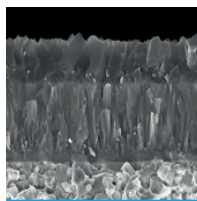


GCR
 Strong cutting edge for general stainless steel applications and hard conditions milling

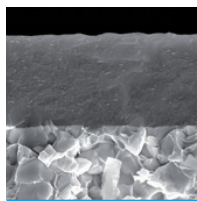
SCR
 Sharp cutting edge for general stainless steel applications and for finishing in steels



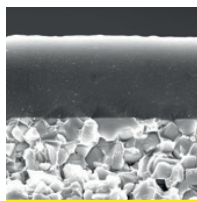
Indexable Pro Feed - Grades



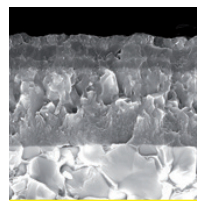
DBCP230



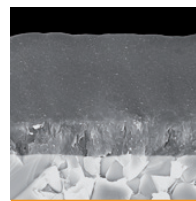
DBPP235



DBPM240



DBC5235



DBC5240

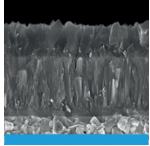
Grade designation		ISO	ANSI	Type of cutting material	01	05	10	15	20	25	30	35	40	45	50	P	M	K	N	S	H	
																Steel	Stainless	Cast Iron	Non-ferrous metals	Heat-resistant	Hard materials	
DBCP230		HC-P30	C6	C													●					
		HC-K25	C2	C															●			
		HC-M25	-	C														●				
DBPP235		HC-P35	C5	P													●					
		HC-M30	-	P														●				
DBPM240		HC-M40	-	P														●				
		HC-P40	C5	P													●					
DBC5235		HC-S35	-	C																	●	
		HC-M35	-	C														●				
DBC5240		HC-S35	-	C																	●	

● Main application

○ Extended application

Indexable Pro Feed - Grades

DBCP230 HC-P30 | HC-K25 | HC-M25



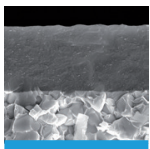
Specification:

Composition: Co 10.5 %; mixed carbides 2.0 %; WC balance | Grain size: 1-2 μm | Hardness: HV₃₀ 1400 |
Coating specification: CVD TiCN-Al₂O₃

Recommended application:

First choice for dry machining of steels at high cutting speeds.

DBPP235 HC-P35 | HC-M30



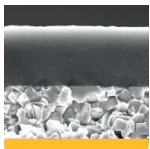
Specification:

Composition: Co 10.5 %; mixed carbide 2.0 %; WC balance | Grain size: 1-2 μm | Hardness: HV₃₀ 1400 |
Coating specification: PVD TiAlTaN

Recommended application:

Particularly suitable for the wet machining of steels.

DBPM240 HC-M40 | HC-P40



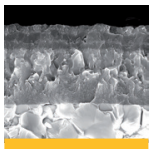
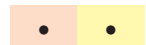
Specification:

Composition: Co 12.5 %; mixed carbides 2.0 %; WC balance | Grain size: 1 μm | Hardness: HV₃₀ 1380 |
Coating specification: PVD TiAlTaN

Recommended application:

The first choice for the machining of austenitic steels.

DBC5235 HC-S35 | HC-M35



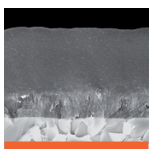
Specification:

Composition: 10.0 % binder; WC balance | Grain size: 2 μm | Hardness: HV₃₀ 1330 |
Coating specification: CVD TiCN-Al₂O₃ multi-layer

Recommended application:

Particularly suitable for the machining of heat-resistant steels and iron-based alloys.

DBC5240 HC-S35



Specification:

Composition: Co 10.0 %; WC balance | Grain size: 2 μm | Hardness: HV 1330 |
Coating specification: CVD TiN + TiB₂; 4 μm

Recommended application:

Recommended for the machining of titanium materials.

Indexable Pro Feed - PF-07 - XPLT

PF-07 - XPLT - Inserts



Designation	Chipbreaker	Part #
XPLT 070305SR-GCR DBCP230	...GCR	PF-678
XPLT 070305SR-GCR DBPP235	...GCR	PF-FAF
XPLT 070305ER-SCR DBPM240	...SCR	PF-F75
XPLT 070305ER-SCR DBC5235	...SCR	PF-474
XPLT 070305ER-SCR DBC5240	...SCR	PF-2B6

PF-07 - XPLT - Bodies

Imperial Body



Designation	Ø Milling Cutter [in]	z	Part #
C-SSM-PF-07-0625.R.02-A0625-200-800-I	0.625	2	BC-9D4
C-SSM-PF-07-075.R.03-A075-200-800-I	0.750	3	BC-3DF
C-SSM-PF-07-100.R.04-A100-200-800-I	1.000	4	BC-E18
G-SSM-PF-07-0625.R.02-100-I	0.625	2	BG-B30
G-SSM-PF-07-075.R.03-125-I	0.750	3	BG-E6C
G-SSM-PF-07-100.R.04-150-I	1.000	4	BG-AE4

Metric Body



Designation	Ø Milling Cutter [mm]	z	Part #
C-SSM-PF-07-16.R.02-A-50-200	16	2	BC-C25
C-SSM-PF-07-20.R.03-A-50-200	20	3	BC-116
C-SSM-PF-07-25.R.04-A-50-200	25	4	BC-B78
G-SSM-PF-07-16.R.02	16	2	BG-CDC
G-SSM-PF-07-20.R.03	20	3	BG-A6B
G-SSM-PF-07-25.R.04	25	4	BG-8DF

PF-07 - XPLT - Spare Parts



Designation	Screw Torque [lb-in] (Nm) [11] (1.2)	Part #
M2.5x5.0 – T08		SP-F8A

Indexable Pro Feed - PF-10 - XDLT

PF-10 - XDLT - Inserts



Designation	Chipbreaker	Part #
XDLT 10T308SR-GCR DBCP230	...GCR	PF-141
XDLT 10T308SR-GCR DBPP235	...GCR	PF-FCC
XDLT 10T308ER-SCR DBPM240	...SCR	PF-7C0
XDLT 10T308ER-SCR DBC5235	...SCR	PF-44A
XDLT 10T308ER-SCR DBC5240	...SCR	PF-7B9

PF-10 - XDLT - Bodies

Imperial Body

in



Designation	Ø Milling Cutter [in]	z	Part #
C-SSM-PF-10-100.R.03-A100-200-900-I	1.000	3	BC-331
A-SSM-PF-10-150.R.04-A050-150-I	1.500	4	BA-8F4
A-SSM-PF-10-200.R.05-A075-150-I	2.000	5	BA-B9F
A-SSM-PF-10-250.R.06-A075-150-I	2.500	6	BA-F1E

Metric Body

mm



Designation	Ø Milling Cutter [mm]	z	Part #
C-SSM-PF-10-25.R.03-A-50-225	25	3	BC-7CA
A-SSM-PF-10-40.R.04	40	4	BA-3BD
A-SSM-PF-10-50.R.05	50	5	BA-30D
A-SSM-PF-10-63.R.06	63	6	BA-AF6

PF-10 - XDLT - Spare Parts



Designation	Screw Torque [lb-in] (Nm)	Part #
M3.5 x 7.2 – T15 (only for C-)	[28] (3.2)	SP-5F9
M3.5 x 8.6 – T15 (only for A-)	[28] (3.2)	SP-F73
Power screw M8.0 x 30.0 (* for A-SSM-PF-10-40.R.04)	[132] (15)	SP-1A4

Indexable Pro Feed - PFP-10 - XDLX

Advantages of PFP-10 - XDLX

- Reduced machining noise and vibration,
- light cutting geometry
- Maximized economy thanks to 4 cutting edges
- Same milling body as previous range
- Increased productivity
- Tool life increased

PFP-10 - XDLX - Inserts



Designation	Chipbreaker	Part #
XDLX 10T308SR-GCR DBCP230	...GCR	PF-23A
XDLX 10T308SR-GCR DBPP235	...GCR	PF-A70
XDLX 10T308SR-SCR DBPM240	...SCR	PF-C48
XDLX 10T308SR-SCR DBC5235	...SCR	PF-2FA

PFP-10 - XDLX - Bodies

in

Imperial Body



Designation	Ø Milling Cutter [in]	z	Part #
C-SSM-PF-10-100.R.03-A100-200-900-I	1.000	3	BC-331
A-SSM-PF-10-150.R.04-A050-150-I	1.500	4	BA-8F4
A-SSM-PF-10-200.R.05-A075-150-I	2.000	5	BA-B9F
A-SSM-PF-10-250.R.06-A075-150-I	2.500	6	BA-F1E

mm

Metric Body



Designation	Ø Milling Cutter [mm]	z	Part #
C-SSM-PF-10-25.R.03-A-50-225	25	3	BC-7CA
A-SSM-PF-10-40.R.04	40	4	BA-3BD
A-SSM-PF-10-50.R.05	50	5	BA-30D
A-SSM-PF-10-63.R.06	63	6	BA-AF6

PFP-10 - XDLX - Spare Parts



Designation	Screw Torque [lb-In] (Nm)	Part #
M3.5 x 7.2 – T15 (only for C-)	[28] (3.2)	SP-5F9
M3.5 x 8.6 – T15 (only for A-)	[28] (3.2)	SP-F73
Power screw M8.0 x 30.0 (* for A-SSM-PF-10-40.R.04)	[132] (15)	SP-1A4

Indexable Pro Feed - PF-13 - XOLT

PF-13 - XOLT - Inserts



Designation	Chipbreaker	Part #
XOLT 130410SR-GCR DBCP230	...GCR	PF-256
XOLT 130410SR-GCR DBPP235	...GCR	PF-928
XOLT 130410ER-SCR DBPM240	...SCR	PF-114
XOLT 130410ER-SCR DBC5235	...SCR	PF-18F
XOLT 130410ER-SCR DBC5240	...SCR	PF-8F1

PF-13 - XOLT - Bodies

in

Imperial Body



Designation	Ø Milling Cutter [in]	z	Part #
C-SSM-PF-13-150.R.03-A150-250-1000-I	1.500	3	BC-8AE
A-SSM-PF-13-200.R.04-A075-150-I	2.000	4	BA-6CF
A-SSM-PF-13-250.R.05-A075-150-I	2.500	5	BA-7C5
A-SSM-PF-13-300.R.07-A100-200-I	3.000	7	BA-2D2
A-SSM-PF-13-400.R.08-A125-200-I	4.000	8	BA-6BB

mm

Metric Body



Designation	Ø Milling Cutter [mm]	z	Part #
C-SSM-PF-13-35.R.03-A32-63-250	35	3	BC-DAF
A-SSM-PF-13-50.R.04	50	4	BA-309
A-SSM-PF-13-63.R.05	63	5	BA-F90
A-SSM-PF-13-80.R.07	80	7	BA-AB3

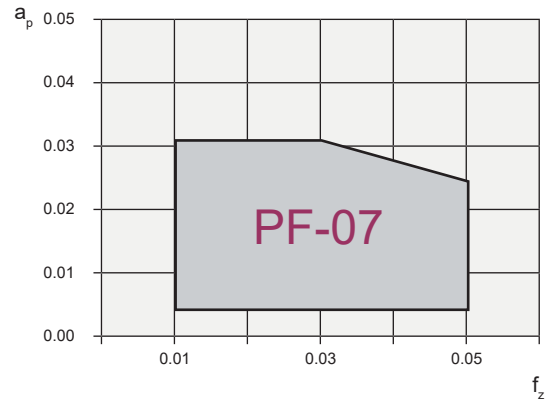
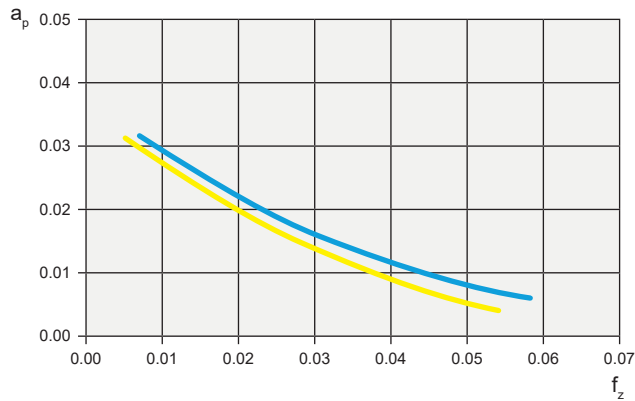
PF-13 - XOLT - Spare Parts



Designation	Screw Torque [lb-in] (Nm)	Part #
M4.5 x 10.5 – T20	[44] (5)	SP-7D8

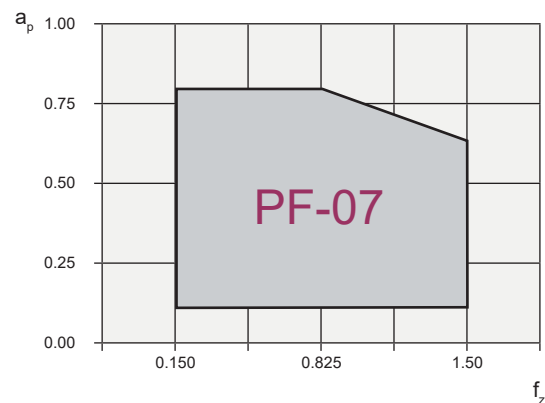
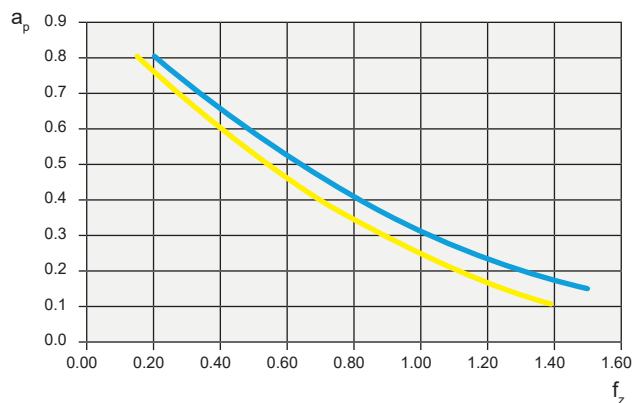
PF-07 - XPLT Cutting Data

PF-07 - XPLT - Imperial Starting Parameters



	Material Group	Chipbreaker	Grade	v_c [sfm]	f_z [ipt]	a_p [inch]
in	P	GCR	DBCP230	720 - 200	0.008 - 0.059	0.032 - 0.006
	M		DBPP235			
			DBPM240			
	M	SCR	DBC5235	660 - 200	0.006 - 0.055	0.032 - 0.004
			DBC5240			

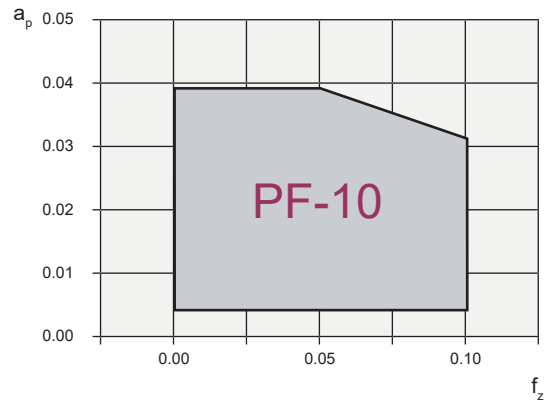
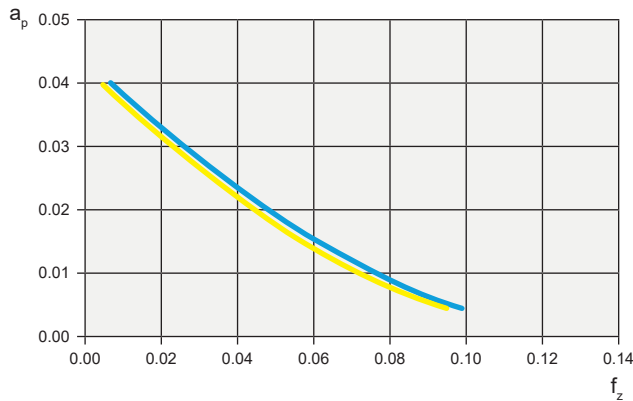
PF-07 - XPLT - Metric Starting Parameters



	Material Group	Chipbreaker	Grade	v_c [m/min]	f_z [mm]	a_p [mm]
mm	P	GCR	DBCP230	220 - 60	0.20 - 1.50	0.80 - 0.15
	M		DBPP235			
			DBPM240			
	M	SCR	DBC5235	200 - 60	0.15 - 1.40	0.80 - 0.10
			DBC5240			

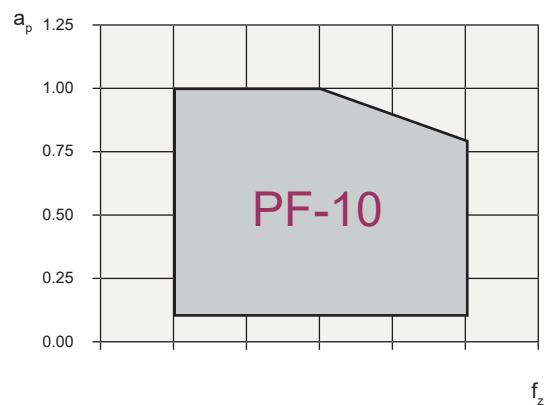
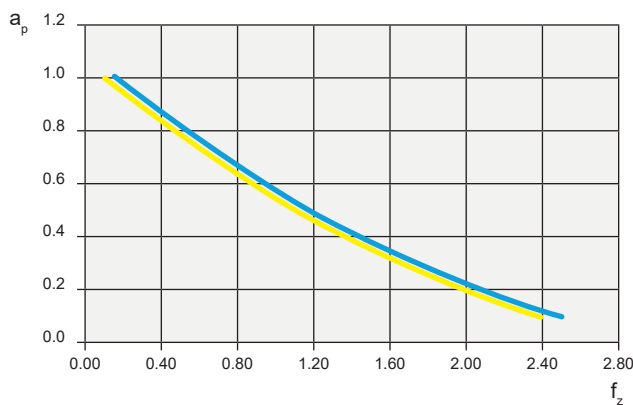
PF-10 - XDLT Cutting Data

PF-10 - XDLT - Imperial Starting Parameters



	Material Group	Chipbreaker	Grade	v_c [sfm]	f_z [ipt]	a_p [inch]
in	P	Steel	GCR DBCP230 DBPP235	720 - 200	0.006 - 0.098	0.039 - 0.004
	M	Stainless steel	SCR DBPM240 DBC5235 DBC5240	660 - 200	0.004 - 0.095	0.039 - 0.004

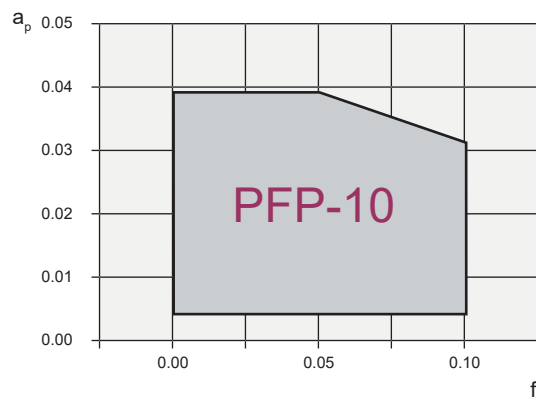
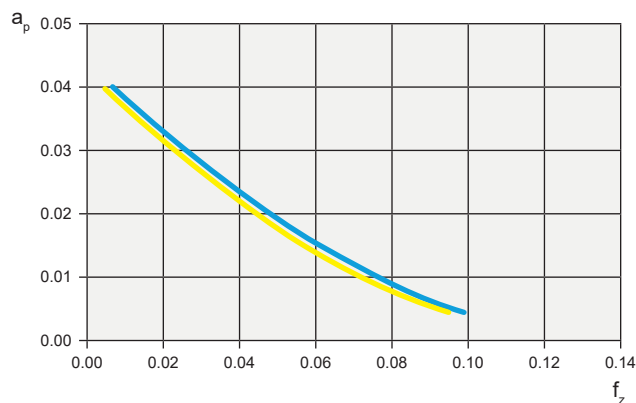
PF-10 - XDLT - Metric Starting Parameters



	Material Group	Chipbreaker	Grade	v_c [m/min]	f_z [mm]	a_p [mm]
mm	P	Steel	GCR DBCP230 DBPP235	220 - 60	0.15 - 2.50	1.0 - 0.1
	M	Stainless steel	SCR DBPM240 DBC5235 DBC5240	200 - 60	0.10 - 2.40	1.0 - 0.1

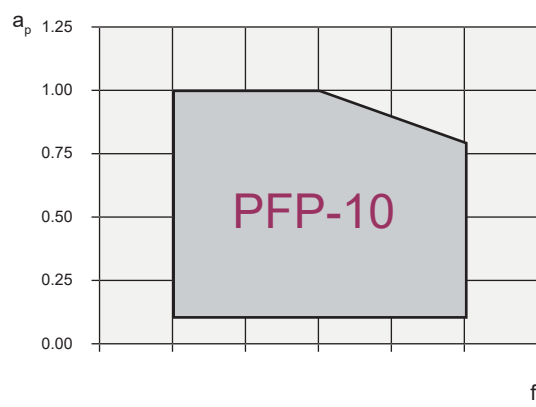
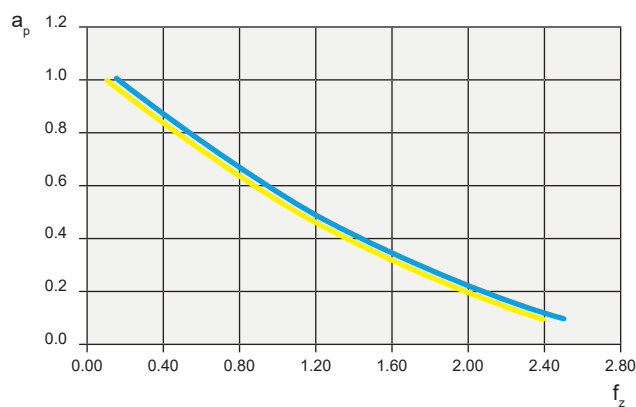
PFP-10 - XDLX Cutting Data

PFP-10 - XDLX - Imperial Starting Parameters



	Material Group	Chipbreaker	Grade	v_c [sfm]	f_z [ipt]	a_p [inch]
in	P	GCR	DBCP230	720 - 200	0.006 - 0.098	0.039 - 0.004
	M		DBPP235			
			DBPM240			
	M	SCR	DBC5235	660 - 200	0.004 - 0.095	0.039 - 0.004
			DBC5240			

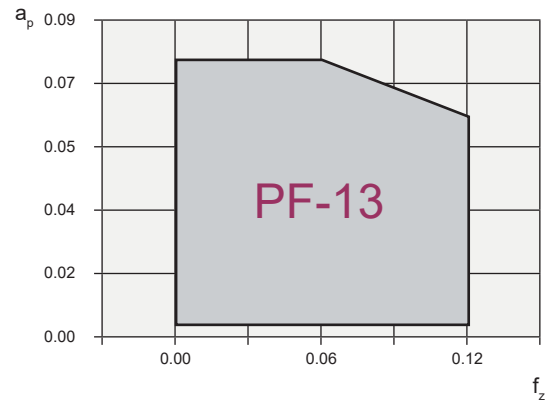
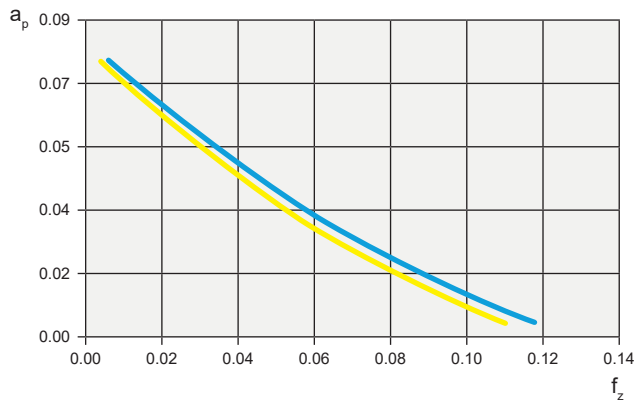
PFP-10 - XDLX - Metric Starting Parameters



	Material Group	Chipbreaker	Grade	v_c [m/min]	f_z [mm]	a_p [mm]
mm	P	GCR	DBCP230	220 - 60	0.15 - 2.50	1.0 - 0.1
	M		DBPP235			
			DBPM240			
	M	SCR	DBC5235	200 - 60	0.10 - 2.40	1.0 - 0.1
			DBC5240			

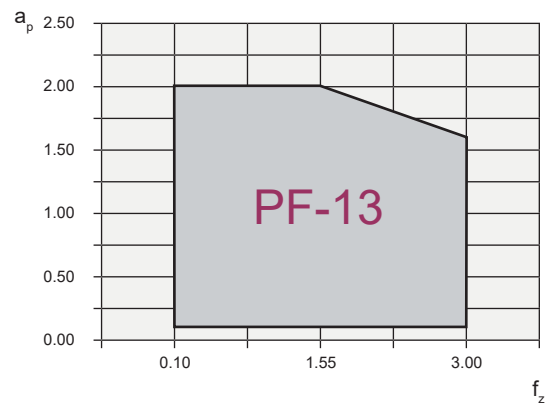
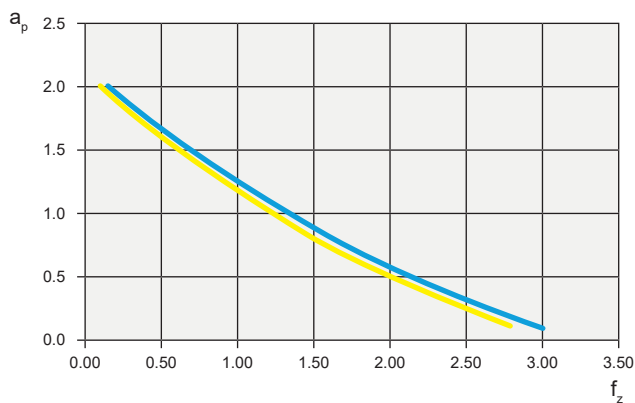
PF-13 - XOLT Cutting Data

PF-13 - XOLT - Imperial Starting Parameters



	Material Group	Chipbreaker	Grade	v_c [sfm]	f_z [ipt]	a_p [inch]
in P	Steel	GCR	DBCP230 DBPP235	720 - 200	0.006 - 0.118	0.079 - 0.004
			DBPM240			
M	Stainless steel	SCR	DBC5235 DBC5240	660 - 200	0.004 - 0.110	0.079 - 0.004

PF-13 - XOLT - Metric Starting Parameters



	Material Group	Chipbreaker	Grade	v_c [m/min]	f_z [mm]	a_p [mm]
mm P	Steel	GCR	DBCP230 DBPP235	220 - 60	0.15 - 2.50	1.0 - 0.1
			DBPM240			
M	Stainless steel	SCR	DBC5235 DBC5240	200 - 60	0.10 - 2.40	1.0 - 0.1

Speeds & Feeds

ProDrill

Speeds & Feeds available at deboertool.com/app/speeds/drills, or by scanning the QR code



in Essential

	Cutting Speed (SFM)		Feed per tooth (IPT). For slotting reduce by 20%									
	Min	Max	1/8 0.125	3/16 0.1875	1/4 0.250	5/16 0.3125	3/8 0.375	7/16 0.4375	1/2 0.500	5/8 0.625	3/4 0.750	1 1.000
Aluminum Alloys	600	800	0.0011	0.0017	0.0022	0.0027	0.0032	0.0038	0.0042	0.0060	0.0085	0.0092
Soft Steels (>35Rc)	500	600	0.0006	0.0008	0.0010	0.0012	0.0016	0.0024	0.0030	0.0034	0.0036	0.004
Alloy Steels < 35Rc (4140-4340)	350	400	0.0006	0.0010	0.0016	0.0020	0.0025	0.0031	0.0036	0.0037	0.0039	0.0045
Alloy Steels > 35Rc (4140-4340)	250	350	0.0004	0.0009	0.0014	0.0019	0.0020	0.0028	0.0031	0.0032	0.0036	0.0042
Tool Steels < 36Rc (A2, D2, S7)	100	200	0.0004	0.0007	0.0014	0.0020	0.0020	0.0025	0.0033	0.0031	0.0035	0.0042
Tool Steels > 36Rc (A2, D2, S7)	250	350	0.0003	0.0009	0.0017	0.0020	0.0025	0.0029	0.0031	0.0037	0.004	0.005
Die Steels (P20, H13)	200	300	0.0005	0.0010	0.0017	0.0020	0.0023	0.0032	0.0033	0.0037	0.0037	0.004
Easy to cut Stainless Steels (303)	250	350	0.0006	0.0006	0.0008	0.0008	0.0014	0.0021	0.0026	0.0031	0.0038	0.0042
Mod. Difficult to cut Stainless Steels	225	275	0.0005	0.0005	0.0005	0.0007	0.0012	0.0020	0.0024	0.0028	0.0034	0.0041
Difficult to cut Stainless Steels (316L)	200	250	0.0003	0.0004	0.0006	0.0007	0.0013	0.0019	0.0023	0.0028	0.0031	0.0038
Gray Cast Iron	450	550	0.0006	0.0008	0.0010	0.0012	0.0016	0.0025	0.0030	0.0035	0.0045	0.0055
High Temperature Alloys	50	100	0.0003	0.0004	0.0005	0.0007	0.0008	0.0014	0.0016	0.0020	0.0023	0.0028

in X-Mill

X-Mill	Cutting Speed (SFM)		Feed per tooth (IPT)								
	Min	Max	1/8 0.125	3/16 0.1875	1/4 0.250	5/16 0.3125	3/8 0.375	1/2 0.500	5/8 0.625	3/4 0.750	1 1.000
Soft Steels (>35Rc)	550	550	0.0006	0.0008	0.0010	0.0012	0.0016	0.0024	0.0024	0.0034	0.0029
Alloy Steels < 35Rc (4140-4340)	375	375	0.0006	0.0010	0.0016	0.0020	0.0025	0.0031	0.0036	0.0037	0.0039
Alloy Steels > 35Rc (4140-4340)	300	300	0.0004	0.0009	0.0014	0.0019	0.0020	0.0028	0.0031	0.0032	0.0036
Tool Steels < 36Rc (A2, D2, S7)	300	300	0.0004	0.0007	0.0014	0.0020	0.0020	0.0025	0.0033	0.0031	0.0035
Tool Steels > 36Rc (A2, D2, S7)	150	150	0.0003	0.0009	0.0017	0.0020	0.0025	0.0029	0.0031	0.0037	0.0040
Die Steels (P20, H13)	250	250	0.0005	0.0010	0.0017	0.0020	0.0023	0.0032	0.0033	0.0037	0.0037
Easy to cut stainless steels (303)	300	300	0.0006	0.0006	0.0008	0.0008	0.0014	0.0021	0.0026	0.0031	0.0038
Mod. Difficult to cut stainless Steels	255	255	0.0005	0.0005	0.0005	0.0007	0.0012	0.0020	0.0024	0.0028	0.0034
Difficult to cut Stainless Steels (316L)	220	220	0.0003	0.0004	0.0006	0.0007	0.0013	0.0019	0.0023	0.0028	0.0031
Gray Cast Iron	500	500	0.0006	0.0008	0.0010	0.0012	0.0016	0.0025	0.0029	0.0034	0.0045
High Temperature alloys	80	80	0.0003	0.0004	0.0005	0.0007	0.0008	0.0014	0.0016	0.0020	0.0023
Titanium	140	140	0.0004	0.0005	0.0007	0.0008	0.0013	0.0019	0.0024	0.0026	0.0037

NOTE:

Side milling applications - for longest reach (L3 LON) tools, reduce max step over by 30%

Slot milling applications - for longest reach (L3 LON) tools, reduce max slotting depth by 30%

Lower value of cutting speed (SFM) is used for high-stock removal applications or for higher hardness (machinability) within group

Higher value of cutting speed (SFM) is used for finishing applications or for lower hardness (machinability) within group

Above parameters are based on ideal conditions. For smaller taper machining centers, please adjust parameters accordingly

RPM	$(3.82 \times \text{SFM}) / \text{Dia.}$
IPR	IPM / RPM
SFM	$(\text{RPM} \times \text{Dia.}) / 3.82$
IPM	$\text{IPT (Chip Load)} \times \text{No. of Teeth} \times \text{RPM}$
IPT (Chip Load)	$(\text{Chip Load}) = \text{IPM} / (\text{No. of Teeth} \times \text{RPM})$

Speeds & Feeds

		* Factor in chip thinning for any cut under 40% of the tool's diameter for optimal results									
in	XM 1xD Side Milling	SFM									
			1/8 0.125	3/16 0.1875	1/4 0.250	5/16 0.3125	3/8 0.375	1/2 0.500	5/8 0.625	3/4 0.750	1 1.000
P0	Low Carbon Steels, Long Chipping	575	0.00067	0.00139	0.00147	0.00181	0.00210	0.00253	0.00290	0.00320	0.00355
P1	Low Carbon Steels, Short Chipping	575	0.00067	0.00139	0.00147	0.00181	0.00210	0.00253	0.00290	0.00320	0.00355
P2	Medium & High Carbon Steels	550	0.00067	0.00139	0.00147	0.00181	0.00210	0.00253	0.00290	0.00320	0.00355
P3	Alloy Steels & Tool Steels	475	0.00058	0.00118	0.00125	0.00154	0.00178	0.00217	0.00254	0.00285	0.00328
P4	Alloy Steels & Tool Steels	400	0.00057	0.00110	0.00116	0.00142	0.00160	0.00195	0.00227	0.00251	0.00286
P5	Ferritic, Martensitic & PH Stainless Steels	275	0.00052	0.00099	0.00105	0.00128	0.00146	0.00179	0.00209	0.00233	0.00266
P6	High Strength Ferritic, Martensitic & PH Stainless Steel	215	0.00047	0.00088	0.00093	0.00112	0.00125	0.00152	0.00174	0.00199	0.00213
K1	Cast Iron	450	0.00067	0.00139	0.00147	0.00181	0.00210	0.00253	0.00290	0.00320	0.00355

		* It is strongly recommended to run flood coolant when slotting									
in	XM 1xD Slotting	SFM									
			1/8 0.125	3/16 0.1875	1/4 0.250	5/16 0.3125	3/8 0.375	1/2 0.500	5/8 0.625	3/4 0.750	1 1.000
P0	Low Carbon Steels, Long Chipping	575	0.00057	0.00115	0.00121	0.00149	0.00170	0.00206	0.00237	0.00260	0.00287
P1	Low Carbon Steels, Short Chipping	575	0.00057	0.00115	0.00121	0.00149	0.00170	0.00206	0.00237	0.00260	0.00287
P2	Medium & High Carbon Steels	550	0.00057	0.00115	0.00121	0.00149	0.00170	0.00206	0.00237	0.00260	0.00287
P3	Alloy Steels & Tool Steels	475	0.00051	0.00099	0.00104	0.00128	0.00147	0.00178	0.00206	0.00232	0.00267
P4	Alloy Steels & Tool Steels	400	0.00049	0.00092	0.00096	0.00117	0.00133	0.00160	0.00185	0.00200	0.00233
P5	Ferritic, Martensitic & PH Stainless Steels	275	0.00045	0.00084	0.00088	0.00107	0.00122	0.00147	0.00171	0.00190	0.00217
P6	High Strength Ferritic, Martensitic & PH Stainless Steel	215	0.00040	0.00074	0.00078	0.00094	0.00105	0.00127	0.00143	0.00156	0.00174
K1	Cast Iron	450	0.00057	0.00115	0.00121	0.00149	0.00170	0.00206	0.00237	0.00260	0.00287

		* All below speed & feeds are calculated with 10% radial step-over									
in	XM Dynamic Milling	SFM									
			1/8 0.125	3/16 0.1875	1/4 0.250	5/16 0.3125	3/8 0.375	1/2 0.500	5/8 0.625	3/4 0.750	1 1.000
P0	Low Carbon Steels, Long Chipping	700 - 1200	0.0012	0.0023	0.0025	0.0030	0.0035	0.0042	0.0048	0.0053	0.0060
P1	Low Carbon Steels, Short Chipping	700 - 1200	0.0012	0.0023	0.0025	0.0030	0.0035	0.0042	0.0048	0.0053	0.0060
P2	Medium & High Carbon Steels	650 - 1100	0.0012	0.0023	0.0025	0.0030	0.0035	0.0042	0.0048	0.0053	0.0060
P3	Alloy Steels & Tool Steels	550 - 925	0.0010	0.0020	0.0022	0.0025	0.0030	0.0037	0.0042	0.0048	0.0055
P4	Alloy Steels & Tool Steels	475 - 800	0.0010	0.0018	0.0020	0.0023	0.0027	0.0033	0.0038	0.0042	0.0048
P5	Ferritic, Martensitic & PH Stainless Steels	325 - 550	0.0008	0.0017	0.0018	0.0022	0.0025	0.0030	0.0035	0.0038	0.0045
P6	High Strength Ferritic, Martensitic & PH Stainless Steel	275 - 450	0.0008	0.0015	0.0015	0.0018	0.0022	0.0025	0.0028	0.0033	0.0035
K1	Cast Iron	550 - 925	0.0012	0.0023	0.0025	0.0030	0.0035	0.0042	0.0048	0.0053	0.0060

SFM	Surface Feet Per Minute
IPM	Inch Per Minute
IPT	Inch Per Tooth
Z	Number of Flutes
RPM	Revolutions Per Minute
DOC	Depth of Cut
WOC	Width of Cut
MRR	Metal Removal Rate

Calculations:	
RPM	$3.82 * \text{SFM} / D = \text{RPM}$
IPM	$\text{IPT} * Z * \text{RPM} = \text{IPM}$
MRR	$\text{WOC} * \text{DOC} * \text{IPM} = \text{MRR}$

Speeds & Feeds

in

T-Mill

	Cutting Speed (SFM)		Feed per tooth (IPT)						
	Min	Max	1/8 0.125	3/16 0.1875	1/4 0.250	3/8 0.375	1/2 0.500	5/8 0.625	3/4 0.750
Ferric, martensitic, and 15-5 PH stainless steels <35 Rc	235	270	0.0007	0.0010	0.0014	0.0021	0.0026	0.0030	0.0035
Ferric, martensitic, and 15-5 PH stainless steels >35 Rc	195	230	0.0007	0.0010	0.0014	0.0021	0.0026	0.0030	0.0035
Austenitic stainless steel (302, 303, 304)	300	375	0.0008	0.0011	0.0018	0.0023	0.0029	0.0031	0.0034
Austenitic stainless steel (316)	195	270	0.0006	0.0009	0.0013	0.0018	0.0024	0.0025	0.0029
Nickel based heat-resistant alloys	90	140	0.0003	0.0004	0.0007	0.0011	0.0016	0.0020	0.0023
Titanium Alloys (Ti6Al4V)	170	220	0.0005	0.0008	0.0008	0.0015	0.0021	0.0028	0.0036

NOTE:

Side milling applications - for longest reach (L3 LON) tools, reduce max step over by 30%

Slot milling applications - for longest reach (L3 LON) tools, reduce max slotting depth by 30%

Lower value of cutting speed (SFM) is used for high-stock removal applications or for higher hardness (machinability) within group

Higher value of cutting speed (SFM) is used for finishing applications or for lower hardness (machinability) within group

Above parameters are based on ideal conditions. For smaller taper machining centers, please adjust parameters accordingly

in

Thread Mill

	Cutting Speed (SFM)		Feed per tooth (IPT) for nominal thread size							
	Min	Max	< 1/8 0.125	1/8 - 3/16 0.1875	3/16 - 1/4 0.250	1/4 - 5/16 0.3125	5/16 - 3/8 0.375	3/8 - 1/2 0.500	1/2 - 5/8 0.625	5/8 - 3/4 0.750
Copper / Brass / Bronze	490	660	0.0004	0.0007	0.0010	0.0015	0.0018	0.0022	0.0030	0.0037
Aluminum Alloys	460	620	0.0004	0.0008	0.0012	0.0017	0.0021	0.0025	0.0035	0.0040
Soft Steels (<35Rc)	390	520	0.0003	0.0006	0.0010	0.0013	0.0017	0.0020	0.0027	0.0035
Alloy Steels < 35Rc (4140-4340)	460	620	0.0003	0.0006	0.0010	0.0012	0.0015	0.0018	0.0025	0.0032
Alloy Steels > 35Rc (4140-4340)	390	520	0.0002	0.0004	0.0007	0.0009	0.0012	0.0015	0.0020	0.0028
Tool Steels < 36Rc (A2, D2, S7)	300	490	0.0001	0.0003	0.0005	0.0007	0.0010	0.0012	0.0015	0.0018
Tool Steels > 36Rc (A2, D2, S7)	200	330	0.0001	0.0002	0.0004	0.0005	0.0007	0.0009	0.0012	0.0015
Die Steels (P20, H13)	160	250	0.0001	0.0003	0.0005	0.0007	0.0010	0.0012	0.0015	0.0018
Difficult to cut Stainless Steels (316L)	200	260	0.0003	0.0004	0.0006	0.0008	0.0011	0.0015	0.0020	0.0025
Gray Cast Iron	390	520	0.0005	0.0007	0.0010	0.0013	0.0017	0.0025	0.0032	0.0040
High Temperature Alloys	160	300	0.0003	0.0005	0.0007	0.0009	0.0012	0.0015	0.0021	0.0028
Titanium	260	460	0.0003	0.0005	0.0007	0.0009	0.0012	0.0015	0.0021	0.0028

**Due to the nature of thread milling, the thread mill will range from 140° tooth engagement for internal threads, to 60° engagement for external threads. Because of this, once you have calculated feed rate you must adjust it by the factors below

NOTE:

For internal thread - programmed Feed Rate = Feed Rate X (hole diameter - cutter diameter) / hole diameter

For external thread - programmed Feed Rate = Feed Rate X (hole diameter + cutter diameter) / hole diameter

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Above parameters are based on ideal conditions. For smaller taper machining centers, please adjust parameters accordingly

RPM	(3.82 x SFM) / Dia.
IPR	IPM / RPM
SFM	(RPM x Dia.) / 3.82
IPM	IPT (Chip Load) x No. of Teeth x RPM
IPT (Chip Load)	(Chip Load) = IPM / (No. of Teeth x RPM)

Speeds & Feeds

in HV	Cutting Speed (SFM)		Feed per tooth (IPT). For slotting reduce by 20%									
	Min	Max	1/32	1/16	3/32	1/8	3/16	1/4	5/16	3/8	7/16	1/2
			0.03125	0.0625	0.09375	0.125	0.1875	0.250	0.3125	0.375	0.4375	0.500
Soft Steels (<35Rc)	490	660	0.0004	0.0005	0.0006	0.0008	0.0010	0.0012	0.0016	0.0024	0.0027	0.0033
Alloy Steels < 35Rc (4140-4340)	460	620	0.00035	0.0005	0.0006	0.0010	0.0016	0.0020	0.0025	0.0031	0.0032	0.0035
Alloy Steels > 35Rc (4140-4340)	390	520	0.0003	0.0004	0.0005	0.0009	0.0014	0.0019	0.0020	0.0028	0.0030	0.0033
Tool Steels < 36Rc (A2, D2, S7)	300	490	0.00025	0.0003	0.0004	0.0006	0.0009	0.0013	0.0016	0.0025	0.0027	0.0030
Tool Steels > 36Rc (A2, D2, S7)	200	330	0.0002	0.00025	0.0003	0.0009	0.0017	0.0020	0.0025	0.0029	0.0030	0.0033
Die Steels (P20, H13)	160	250	0.00025	0.0003	0.0005	0.0010	0.0017	0.0020	0.0023	0.0032	0.0035	0.0037
Easy to cut Stainless Steels (303)	260	330	0.0003	0.0004	0.0006	0.0006	0.0008	0.0008	0.0014	0.0021	0.0028	0.0033
Mod. Difficult to cut Stainless Steels	200	260	0.00025	0.00035	0.0005	0.0005	0.0005	0.0007	0.0012	0.0020	0.0025	0.0030
Difficult to cut Stainless Steels (316L)	200	260	0.00015	0.0002	0.0003	0.0004	0.0006	0.0007	0.0013	0.0019	0.0023	0.0025
Gray Cast Iron	390	520	0.0003	0.0004	0.0006	0.0008	0.0010	0.0012	0.0016	0.0025	0.0027	0.0035
High Temperature Alloys	160	300	0.00015	0.00025	0.0003	0.0004	0.0005	0.0007	0.0008	0.0014	0.0023	0.0029
Titanium	260	460	0.0002	0.0003	0.0004	0.0005	0.0007	0.0008	0.0013	0.0019	0.0020	0.0026

in HV Feed Mill	Cutting Speed (SFM)		Feed per tooth (IPT)						
	Min	Max	1/8	3/16	1/4	5/16	3/8	1/2	5/8
			0.125	0.1875	0.250	0.3125	0.375	0.500	0.625
Alloy Steels < 35Rc (4140-4340)	800	1000	0.0082	0.0113	0.0125	0.0156	0.0187	0.0197	0.0235
Alloy Steels > 35Rc (4140-4340)	800	990	0.0082	0.0113	0.0124	0.0153	0.0184	0.0193	0.0231
Tool Steels < 36Rc (A2, D2, S7)	720	790	0.0060	0.0076	0.0082	0.0097	0.0119	0.0126	0.0156
Tool Steels > 36Rc (A2, D2, S7)	590	720	0.0052	0.0062	0.0066	0.0078	0.0096	0.0102	0.0129
Die Steels (P20, H13)	490	590	0.0039	0.0039	0.0039	0.0038	0.0054	0.0059	0.0078
Easy to cut Stainless Steels (303)	700	800	0.0061	0.0077	0.0082	0.0097	0.0122	0.0130	0.0156
Gray Cast Iron	750	820	0.0064	0.0080	0.0087	0.0105	0.0130	0.0138	0.0164

in A-Mill	Cutting Speed (SFM)		Feed per tooth (IPT)					
	Min	Max	1/4	3/8	1/2	5/8	3/4	1
			0.250	0.375	0.500	0.625	0.750	1.000
Rougher Series (510)								
Aluminum Alloys	1200	1600	0.0036	0.0057	0.008	0.0098	0.0119	0.016
Aluminum Alloys 440, 356, 380, C61300	600	1000	0.0027	0.0043	0.006	0.0074	0.0089	0.012
Semi-Finisher Series (520)								
Aluminum Alloys	1200	1600	0.0054	0.00855	0.012	0.0147	0.01785	0.024
Aluminum Alloys 440, 356, 380, C61300	600	1000	0.00405	0.00645	0.009	0.0111	0.01335	0.018
Finisher Series (550)								
Aluminum Alloys	1200	1600	0.00342	0.005415	0.0076	0.00931	0.011305	0.0152
Aluminum Alloys 440, 356, 380, C61300	600	1000	0.002565	0.004085	0.0057	0.00703	0.008455	0.0114

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Slot milling applications - for longest reach (L3 LON) tools, reduce max slotting depth by 30%

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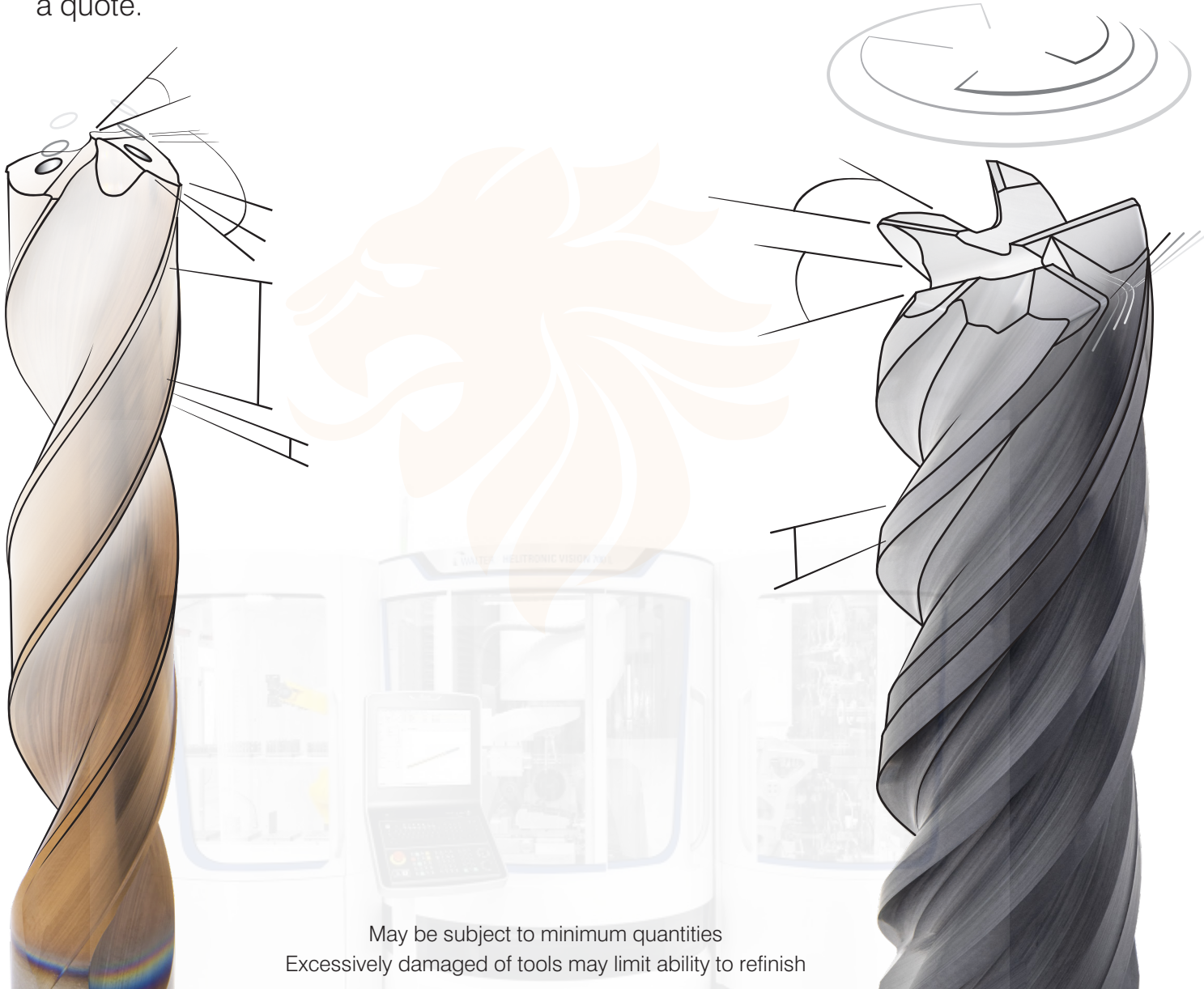
Higher value of cutting speed (SFM) is used for finishing applications or for lower hardness (machinability) within group

Above parameters are based on ideal conditions. For smaller taper machining centers, please adjust parameters accordingly

Regrind Services

Having **De Boer Tool** regrind your solid carbide cutting tools can offer significant cost-saving without compromising on performance. We specialize in remanufacturing solid carbide cutting tools to deliver exceptional results. Applying original geometry, edge preparation, and coating to each remanufactured tool ensures performance is comparable to that of a new tool. By opting for regrinding services from **De Boer Tool**, you can achieve substantial cost savings while maintaining the high-quality performance you rely on.

Tools well suited for regrind processing include end mills, drills, step drills, custom tools, and more. Contact our sales team for more information or to get a quote.



May be subject to minimum quantities
Excessively damaged tools may limit ability to refinish

NOTES

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