

WENZ A

HIGH FEED MILLING

END MILL CUTTERS, FACE MILL
CUTTERS, MILLING INSERTS

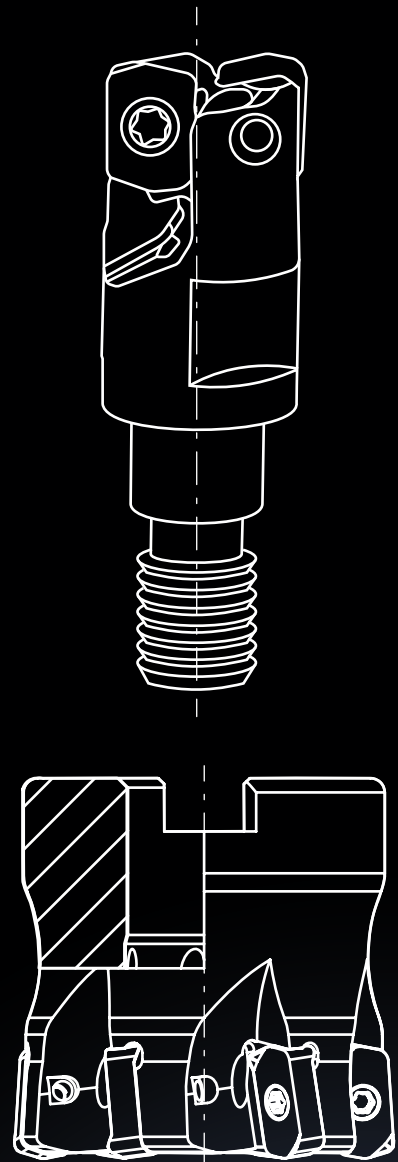
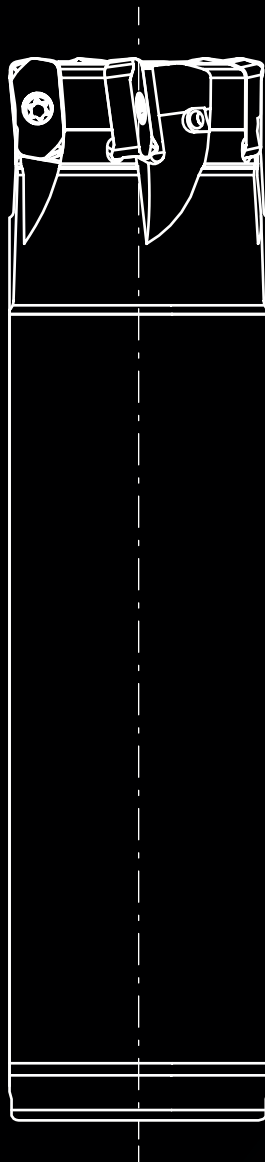


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About Company

Wenza FZ-LLC is a manufacturer of metal cutting tools. We help to implement the most efficient metalworking solutions. Our production site is located on the territory of Ras Al Khaimah Economic Zone ("RAKEZ") in the UAE, which provides logistical and communication advantages.

The in-house know-hows and continuous work of the R&D centre allow us to improve the product each and every day. You can rest assured: the quality of our tools is confirmed by 100% control at every stage of production.

Efficient metalworking that is available to every manufacturer with Wenza. This is how we have defined our mission and these are not empty words - we want to provide factories around the world with top-quality metal cutting tools and

support them in finding the best production solutions.

WENZA covers the needs of the plants for metal cutting tools and tooling, providing an extensive range of milling, turning, drilling, tapping and clamping tools.

Our engineers effectively implement our tools at production sites of our customers. For getting the best results we optimize CNC programs and provide needed calculations.

The R&D centre uses 20 years of experience and innovative ideas to work on improving the products every day. The efficiency of our tools is confirmed by hundreds of successful tests at plants all over the world.

How We Work



Analyse the existing technology and determine what can be done to increase productivity at the plant



Calculate the real-world impact of the proposed technical solutions on cost-effectiveness



Create or modify machining control programmes, also for the tool offered



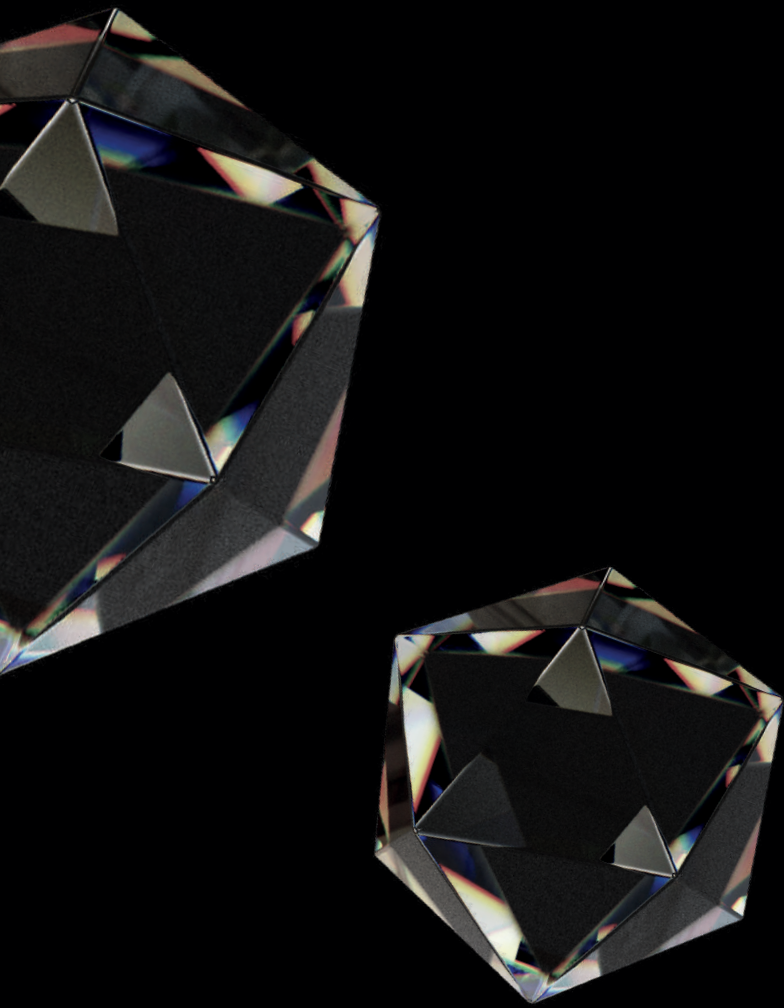
Carry out tests and, if necessary, adapt the cutting conditions to achieve the best possible results



Perform the tasks in CNC programs using the machinery at your production site



Done! Now you spend less resources on machining a part and earn more



Our Portfolio



Super-Hard Material Tools

CBN, PCD and ceramics inserts suitable for machining hard materials and offering great efficiency, precision & multiplication of the production output.



Carbide Inserts

The most common cutting material in modern factories due to their low cost, high versatility and high performance parameters.



Tool Holders & Accessories

High quality toolholders with a secure and rigid clamping ensure stable cutting conditions while achieving the required surface quality parameters.



Solid Round Tools

End mills and carbide drills provide good productivity, tool life and a high quality machined surface. Solid cutting tools are more stable than similar modular tools.



Threading Tools

Include rotating and turning tools for threading a wide range of metric and inch threads & enable our tools to machine materials of varying complexity.



Parting and Grooving Tools

Grooving a workpiece with applicable tools produces an even cut surface with little deviation from perpendicularity to the axis of the workpiece.



Taps & Forming Taps

Specialized cutting tools used in machining operations to create internal threads. Forming taps enable rolling threads without chipping.



Exchangeable Head Drills

Allows for quick and easy changing of drill bits or heads. This type of tools makes the production process more versatile, without losing any machining speed.



Anti-Vibration Boring Bars

Designed for deep hole boring and profiling with high productivity along with excellent surface finish. Enables machining with an overhang of 6 to 10 chuck diameters.

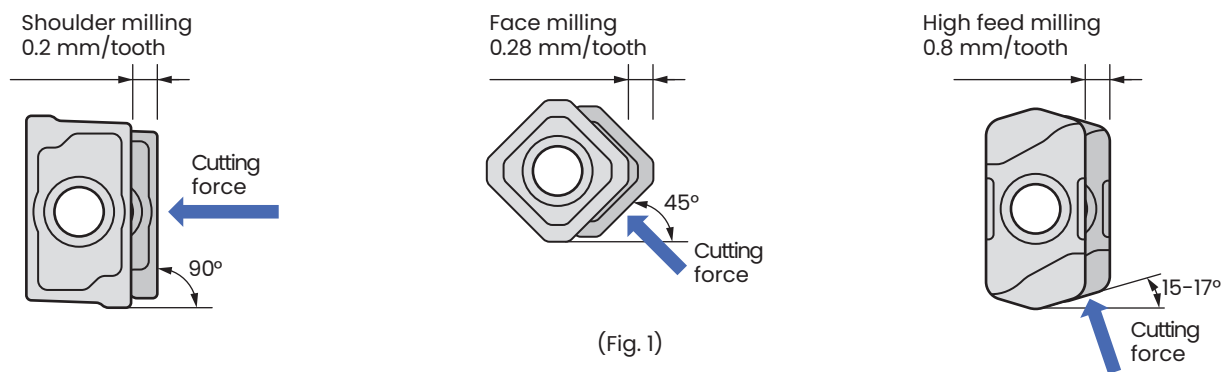


Clamping System

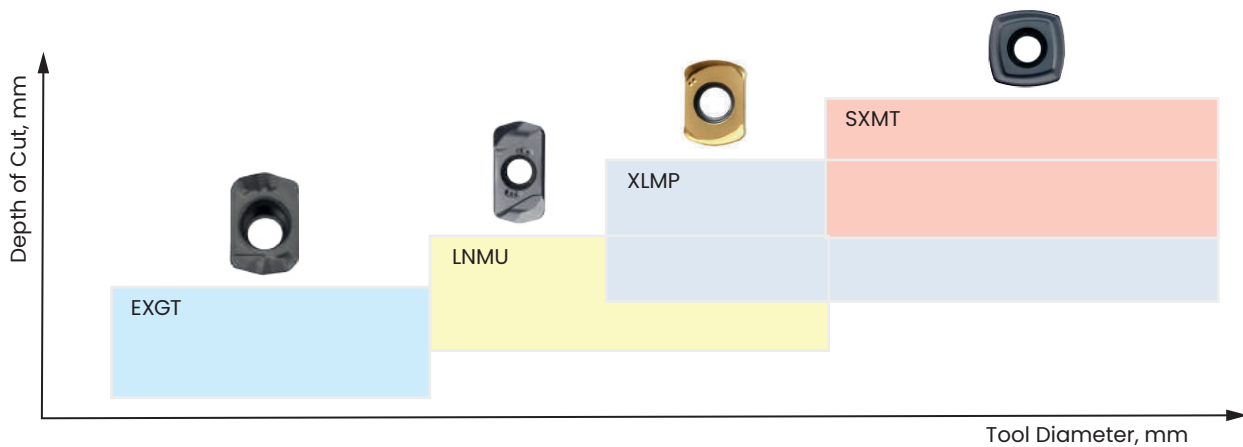
Includes chucks, collets and accessories for fastening cutting tools and workpieces. This kind of tools is used for all types of machining.

Operating Principle of High Feed Milling

Force Distribution



Availability in Shapes and Sizes



The modern industry is developing ever newer and more advanced machining methods in the name of productivity. With the increasing complexity of the parts to be machined, their materials and the machining centres themselves, conventional milling is no longer enough for efficient milling.

Higher accuracy requirements do not allow the part to be machined on high-precision machines with roughing tools: this is true for both solid and body milling cutters. To optimise machining, reduce machining transitions, reduce the amount of equipment used and, above all, to reduce machining time, high-feed milling cutters have been developed.

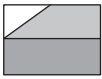
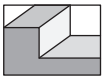
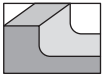
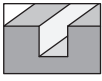
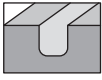

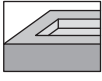
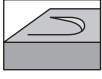
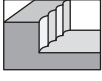
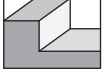
High-feed milling allows to reach machining speeds that are inaccessible for conventional tools: for example, a feed rate of 2 mm/tooth is not possible in a standard machining process. The main principle of this type of machining is to remove a large volume of material by means of the feed, but not the depth of cut. This may seem like conventional machining at small depths of cut. But in practice it is quite different.

Consider the force distribution in high-feed milling (Fig. 1). The figure shows that the main force in conventional milling affects the console-mounted milling cutter directly perpendicular to the tool axis, which has a negative effect on the machining result when the feed rate is significantly increased.

How to Select the Right Tool

Guide for Selecting Type & Geometry of Milling Cutter



Geometry	LNMU	XLMP	SXMT	EXGT
Tool Diameter, mm	16-63	16-100	63-100	8-16
Ap, mm	1	1-2	2	0.5
No. of Working Edges	4	4	4	2
 Face milling	⊙	⊙	⊙	⊙
 Shoulder milling	⊙			⊙
 Face with radius milling	⊙			
 Slot milling	⊙		⊙	
 Profile slot milling	⊙			
 Profile milling		⊙		
 Pocket milling	⊙			⊙
 Ramping	⊙	⊙		
 Plunge milling			⊙	
 Work on great offsets			⊙	⊙

High-feed milling can simplify many challenging types of machining, such as thin-walled parts or machining with great tool offset. For more information on these types of machining, please refer to the table above. It has the recommendations for selecting the cutting tool geometry for the required machining programme.

Insert Geometries Description

The first and best use of these milling cutters is for machining parts that are solid workpieces, where a large volume of material has to be removed. This milling method uses small axial depths of cut (A_p) from 0.5 mm to 2.0 mm, which allows even low power machines to be used for deburring large workpieces without excessive loads on the spindle, drive mechanisms and axis guides. The depth of cut in this case depends on the insert geometry, the cutting edge angle is the crucial factor of the insert geometry. It varies from 8 to 20 degrees depending on the insert type and its application.

LNMU



The basic geometry of the high feed indexable carbide inserts, proven over time. Suitable for a wide range of cutter bodies and working conditions and has two geometries for different materials: basic and SC for ductile materials.

XLMP



The Formula-1 among high-speed milling cutters. Feed rates up to 4 mm/tooth, designed to remove material from the workpiece as quickly as possible without high surface finish requirements.

SXMT



Four-edge insert with positive clearance angle, excellent for heavy-duty machining, peeling and unstable cutting conditions. The available cutting depth is 2 mm, which allows for significantly faster machining.

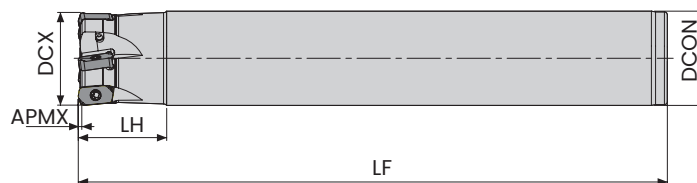
EXGT



The smallest insert in the range, mill bodies from 8mm are available. An excellent replacement for roughing solid milling cutters. Great for low power spindles due to the large rake angle and the positive clearance angle, which helps to reduce machining effort.

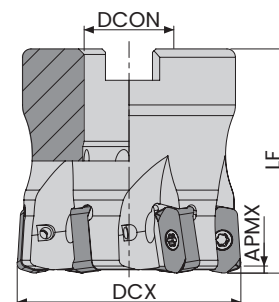
High Feed Milling Cutters

LNMU0303 High Feed End Mill Cutter



Designation	Dimensions (mm)						Applicable Insert	Accessories	
	DCX	ZEFP	DCON	LF	LH	APMX		Screw	TORX Key
LNMU0303-EHF-D16Z2C15-L150	16	2	15	150	30	1	LN.. 0303..	3008-M2.5x6	80-T08
LNMU0303-EHF-D16Z2W16-L150-C	16	2	16	150	50	1			
LNMU0303-EHF-D20Z3W20-L150-C	20	3	20	150	50	1			
LNMU0303-EHF-D21Z3C20-L150	21	3	20	150	30	1			
LNMU0303-EHF-D25Z4W25-L150-C	25	4	25	150	50	1			
LNMU0303-EHF-D26Z4C25-L150	26	4	25	150	30	1			
LNMU0303-EHF-D33Z5C32-L200	33	5	32	200	30	1			

LNMU0303 High Feed Face Mill Cutter



Designation	Dimensions (mm)					Applicable Insert	Accessories		
	DC	ZEFP	DCON	LF	APMX		Screw	TORX Key	Securing Screw
LNMU0303-FHF-D40Z6S16-C	40	6	16	40	1	LN.. 0303..	3008-M2.5X6	80-T08	2506-M8x30
LNMU0303-FHF-D50Z7S22-C	50	7	22	50	1				2508-M10x30
LNMU0303-FHF-D63Z9S22-C	63	9	22	50	1				

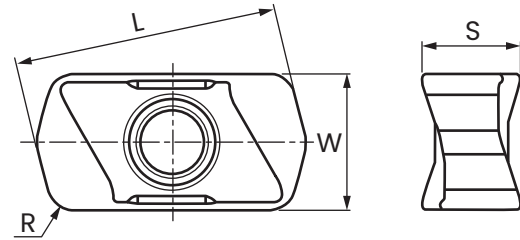
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Order Example: LNMU0303-EHF-D16Z2C15-L150

Carbide Milling Inserts

LN..0303 Series

Geometry	L	W	S
LN..0303	11.6	6	4.3



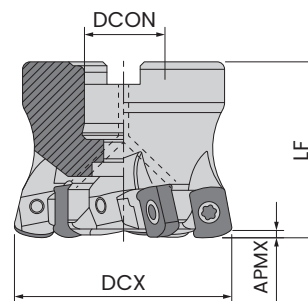
Picture	Designation	R(mm)	Fz(mm/tooth)	PVD Coating	
				BZB	BZA
	LNMU0303	1.2	0.1-1.3	•	•
	LNMU0303 SC	1.2	0.1-1.3	•	•

Order Example: LNMU0303 BZB

Cutting Speed Vc (m/min)			
Workpiece Material		BZB	BZA
P	Low-alloy steel	100-300	100-300
	Low-carbon steel	100-300	100-300
	High-alloy steel	100-200	100-200
M	Ferritic stainless steel	100-200	80-150
	Austenitic stainless steel	100-150	80-120
K	Gray cast iron	100-300	100-300
	Spheroidal graphite cast iron	100-200	80-200

High Feed Milling Cutters

XLMP0901 • XLMP1201 • XLMP1502 Face Mill Cutter



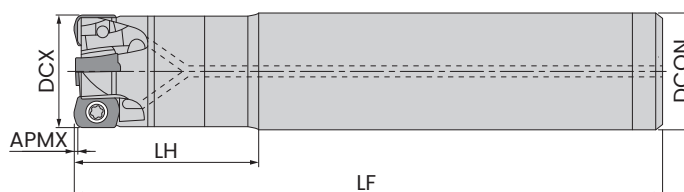
Designation	Dimensions (mm)					Applicable Insert	Accessories	
	DC	ZEFP	DCON	LF	APMX		Screw	TORX Key
XLMP0901-FHF-D32Z5S16-L40	32	5	16	40	1	XLMP0901	3080	80-T10
XLMP0901-FHF-D40Z6S22-L40	40	6	22	40	1			
XLMP0901-FHF-D50Z8S22-L50	50	8	22	50	1			
XLMP0901-FHF-D63Z9S22-L50	63	9	22	50	1			
XLMP1201-FHF-D40Z5S16-L40	40	5	16	40	1.5	XLMP1201	3081	80-T15
XLMP1201-FHF-D50Z7S22-L50	50	7	22	50	1.5			
XLMP1201-FHF-D63Z8S22-L50	63	8	22	50	1.5			
XLMP1201-FHF-D80Z10S27-L50	80	10	27	50	1.5			
XLMP1201-FHF-D100Z12S40-L60	100	12	40	60	1.5			
XLMP1502-FHF-D63Z6S22-L50	63	6	22	50	2	XLMP1502	5012	80-T20
XLMP1502-FHF-D80Z7S27-L60	80	7	27	60	2			
XLMP1502-FHF-D100Z7S32-L60	100	7	32	60	2			

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Order Example: XLMP0901-FHF-D32Z5S16-L40

High Feed Milling Cutters

XLMP0901 • XLMP1201 • XLMP1502 End Mill Cutter



Designation	Dimensions (mm)						Applicable Insert	Accessories	
	DC	ZEFP	DCON	LF	LH	APMX		Screw	TORX Key
XLMP0901-EHF-D16Z2C16-L100	16	2	16	100	30	0.7	XLMP0901	3080	80-T10
XLMP0901-EHF-D16Z2C16-L150	16	2	16	150	40	0.7			
XLMP0901-EHF-D20Z3C20-L130	20	3	20	130	50	1			
XLMP0901-EHF-D20Z2C20-L200	20	2	20	200	80	1			
XLMP0901-EHF-D25Z4C25-L140	25	4	25	140	60	1			
XLMP0901-EHF-D25Z4C25-L250	25	4	25	250	40	1			
XLMP0901-EHF-D30Z5C32-L150	30	5	32	150	70	1			
XLMP0901-EHF-D30Z5C32-L200	30	5	32	200	120	1			
XLMP0901-EHF-D32Z5C32-L150	32	5	32	150	70	1			
XLMP0901-EHF-D32Z5C32-L200	32	5	32	200	120	1			
XLMP0901-EHF-D40Z6C32-L150	40	6	32	150	40	1			
XLMP0901-EHF-D40Z6C32-L220	40	6	32	220	40	1			
XLMP1201-EHF-D25Z3C25-L150	25	3	25	150	70	1.5	XLMP1201	3081	80-T15
XLMP1201-EHF-D25Z3C25-L200	25	3	25	200	110	1.5			
XLMP1201-EHF-D30Z3C32-L160	30	3	32	160	70	1.5			
XLMP1201-EHF-D30Z3C32-L220	30	3	32	220	120	1.5			
XLMP1201-EHF-D32Z4C32-L160	32	4	32	160	70	1.5			
XLMP1201-EHF-D32Z4C32-L220	32	4	32	220	120	1.5			
XLMP1201-EHF-D40Z5C32-L180	40	5	32	180	40	1.5			
XLMP1201-EHF-D40Z5C32-L250	40	5	32	250	40	1.5			
XLMP1502-EHF-D32Z2C32-L150	32	2	32	150	70	2	XLMP1502	5012	80-T20
XLMP1502-EHF-D32Z3C32-L200	32	3	32	200	70	2			
XLMP1502-EHF-D40Z3C32-L150	40	3	32	150	40	2			
XLMP1502-EHF-D40Z3C32-L200	40	3	32	200	40	2			

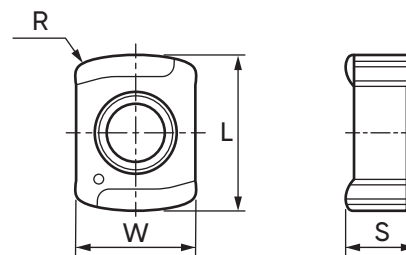
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Order Example: XLMP0901-EHF-D16Z2C16-L100

Carbide Milling Inserts

XLMP0901 • XLMP1201 • XLMP1502 Series

Geometry	L	W	S
XLMP0901	9.0	6.39	3.73
XLMP1201	11.9	9.18	4.80
XLMP1502	14.6	11.2	6.54



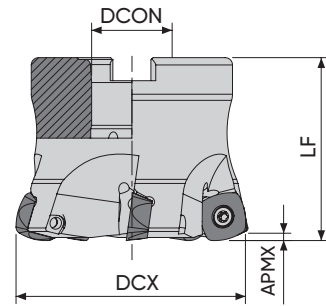
Picture	Designation	R(mm)	Fz(mm/tooth)	PVD Coating	
				BZB	BZA
	XLMP0901 R-M	1.0	0.3-2.5	•	•
	XLMP0901 R-MM	1.0	0.3-2.5	•	•
	XLMP1201 R-M	1.5	0.3-3.5	•	•
	XLMP1201 R-MM	1.5	0.3-3.5	•	•
	XLMP1502 R-ML	2.0	0.3-4.0	•	•
	XLMP1502 R-M	2.0	0.3-4.0	•	•




Order Example: XLMP0901 R-M BZA

Cutting Speed Vc (m/min)			
Workpiece Material		BZB	BZA
P	Low-alloy steel	100-300	100-300
	Low-carbon steel	100-300	100-300
	High-alloy steel	100-200	100-200
M	Ferritic stainless steel	100-200	80-150
	Austenitic stainless steel	100-150	80-120
K	Gray cast iron	100-300	100-300
	Spheroidal graphite cast iron	100-200	80-200

High Feed Milling Cutters

SXMT1306 Face Mill Cutter



Designation	Dimensions (mm)					Applicable Insert	Accessories	
	DC	ZEFP	DCON	LF	APMX		Screw	TORX Key
								
SXMT1306-FHF-D63Z4S22-L50	63	4	22	50	2	SXMT130620	5012-P	80-T20
SXMT1306-FHF-D63Z5S22-L50	63	5	22	50	2			
SXMT1306-FHF-D80Z5S27-L60	80	5	22	60	2			
SXMT1306-FHF-D80Z6S27-L60	80	6	22	60	2			
SXMT1306-FHF-D100Z6S32-L60	100	6	27	60	2			

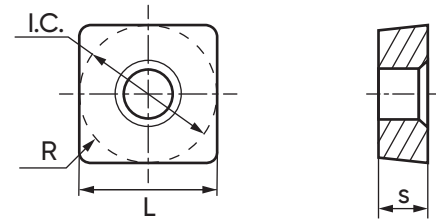
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Order Example: SXMT1306-FHF-D63Z4S22-L50

Carbide Milling Inserts

SXMT130620 Series

Geometry	L	S
SXMT130620	13.05	6.65



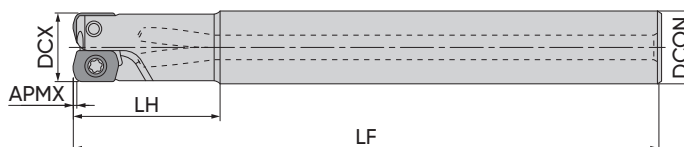
Picture	Designation	R(mm)	Fz(mm/tooth)	PVD Coating	
				BZB	BZA
	SXMT130620 SC	2,0	0,2-2,5	•	•

Order Example: SXMT130620 SC BZB

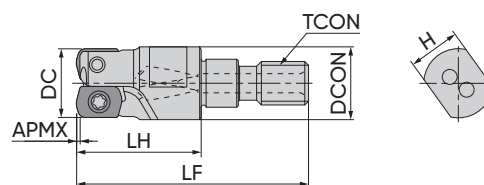
Cutting Speed Vc (m/min)			
Workpiece Material		BZB	BZA
P	Low-alloy steel	100-300	100-300
	Low-carbon steel	100-300	100-300
	High-alloy steel	100-200	100-200
M	Ferritic stainless steel	100-200	80-150
	Austenitic stainless steel	100-150	80-120
K	Gray cast iron	100-300	100-300
	Spheroidal graphite cast iron	100-200	80-200

High Feed Milling Cutters

EXGT0602 End Mill Cutter



Designation	Dimensions (mm)						Applicable Insert	Accessories	
	DC	ZEFP	DCON	LF	LH	APMX		Screw	TORX Key
EXGT0602-EHF-D8Z1S10-L75	8	1	10	75	16	0.5	EXGT0602	0455	80-T06
EXGT0602-EHF-D10Z2S10-L80	10	2	10	80	20	0.5			
EXGT0602-EHF-D12Z3S12-L80	12	3	12	80	20	0.5			
EXGT0602-EHF-D14Z3S12-L80	14	3	12	80	20	0.5			
EXGT0602-EHF-D16Z4S16-L100	16	4	16	100	25	0.5			



Designation	Dimensions (mm)						Applicable Insert	Accessories	
	DC	ZEFP	DCON	LF	LH	APMX		Screw	TORX Key
EXGT0602-EHF-D8Z1M6-L32	8	1	M6	31.5	17	0.5	EXGT0602	0455	80-T06
EXGT0602-EHF-D10Z2M6-L32	10	2	M6	31.5	17	0.5			
EXGT0602-EHF-D12Z3M6-L32	12	3	M6	31.5	17	0.5			
EXGT0602-EHF-D14Z3M6-L32	14	3	M6	31.5	17	0.5			
EXGT0602-EHF-D16Z4M8-L40	16	4	M8	40	22	0.5			

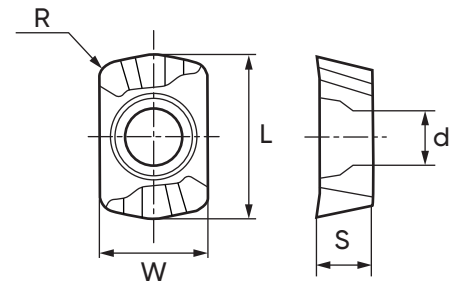
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Order Example: EXGT0602-EHF-D8Z1S10-L75

Carbide Milling Inserts

EXGT060201 Series

Geometry	L	W	S	d
EXGT060201	6.26	4.19	2.19	2.1

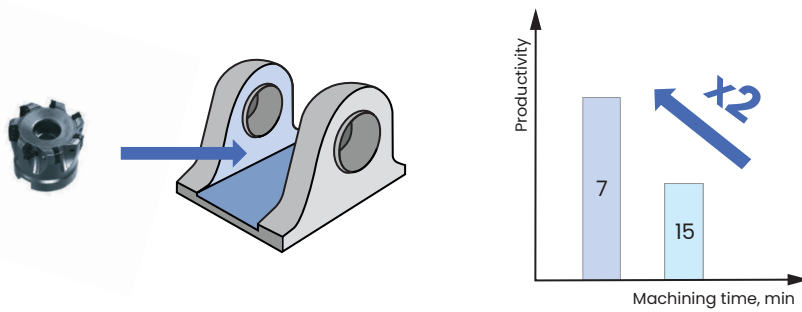


Picture	Designation	R(mm)	Fz(mm/tooth)	PVD Coating	
				BZB	BZA
	EXGT060201 SC	1.0	0.2-0.8	•	•

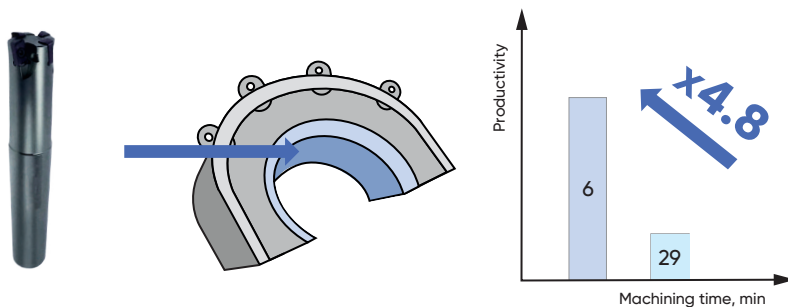
Order Example: EXGT060201 SC BZB

Cutting Speed Vc (m/min)			
Workpiece Material		BZB	BZA
P	Low-alloy steel	100-300	100-300
	Low-carbon steel	100-300	100-300
	High-alloy steel	100-200	100-200
M	Ferritic stainless steel	100-200	80-150
	Austenitic stainless steel	100-150	80-120
K	Gray cast iron	100-300	100-300
	Spheroidal graphite cast iron	100-200	80-200

Case Studies of Use and Implementation

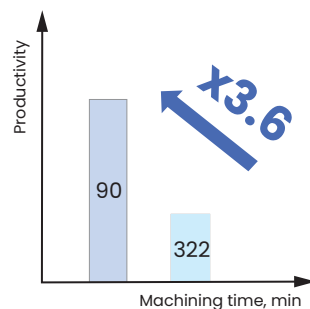
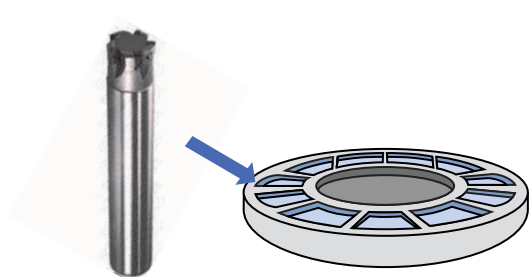


	High-Feed Milling Cutter	Existing Tool
Part	Clevis fastener	
Material	Tool steel	
Tool	Ø 40 mm face milling cutter with indexable inserts	Ø 40 mm face milling cutter with indexable inserts
Insert	LNMU0303 BZB	XDPT110408 PDSR
Operation	Forming a part from a casting billet	
Machine	Horizontal milling center	
Cutting Conditions		
Vc, m/min	175	75
F, mm/min	4200	250
Ap, mm	0.5	1.5
Machining Time, min	7	15



	High-Feed Milling Cutter	Existing Tool
Part	Case center	
Material	Hadfield steel	
Tool	Ø 20 mm end milling cutter with indexable inserts	Ø 20 mm end milling cutter with indexable inserts
Insert	XLMP1502 R-M BZA	WXCU080612
Operation	Forming a part after preliminary machining	
Machine	Horizontal milling center	
Cutting Conditions		
Vc, m/min	140	80
F, mm/min	5013	255
Ap, mm	0.7	2.65
Machining Time, min	6	29

Case Studies of Use and Implementation



	High-Feed Milling Cutter	Existing Tool
Part	Case center	
Material	Hadfield steel	
Tool	Ø 32 mm end milling cutter with indexable inserts	Ø 32 mm end milling cutter with indexable inserts
Insert	LNMU0303 BZB	ADKT1505 PDR
Operation	Forming a part after preliminary machining	
Machine	Horizontal milling center	
Cutting Conditions		
Vc, m/min	130	76
F, mm/min	3873	200
Ap, mm	0.65	3
Machining Time, min	90	322

wenza.tech
info@wenza.tech

Wenza FZ-LLC, WFZ02-21 Shed No-02,
Al Hamra Industrial Zone-FZ, RAK, UAE