



Leading Through Innovation



CARBIDE INSERT & HOLDER

i-Xmill END MILLS

i-Xmills, HM-Wendeplatten Fräser

- Various Applications Type of Inserts Available for General Purpose Steels, Pre-Hardened Steels, High Hardened Steels, Stainless Steels and Graphite
- Für die verschiedensten Anwendungen sind Wendeplatten verfügbar, für allgemeine Stähle, vorgehärtete Stähle, hochgehärtete Stähle, rostfreie Stähle und Graphit

SELECTION GUIDE



CARBIDE INSERT & HOLDER *i-Xmill* END MILLS

Available for General Purpose Steels, Pre-Hardened Steels, High Hardened Steels, Stainless Steel and Graphite



Please visit globalyg1.com/mat for material search

◎ : Excellent ○ : Good

Recommended cutting conditions : p. C56

SERIES	XMB110A	XMB120C	XMB260T	XMB130A
FLUTE	2	2	2	2
HELIX ANGLE	-	-	-	-
CUTTING EDGE SHAPE	BALL NOSE	BALL NOSE	BALL NOSE	BALL NOSE
SIZE MIN	R4.0	R4.0	R4.0	R4.0
SIZE MAX	R16.5	R16.5	R16.5	R16.5
PAGE	C42	C42	C42	C43

	AITiN	XC-Coating	Z-Coating	AITiN
GENERAL PURPOSE	◎	○	○	○
PRE-HARDENED STEELS	○	◎	○	○
HIGH HARDENED STEELS	○	○	◎	○
STAINLESS STEELS	◎	○	○	◎



ISO	VDI 3323	Material Description	Composition / Structure / Heat Treatment	HB	HRc				
P	1	Non-alloy steel	About 0.15% C Annealed	125		◎			
	2		About 0.45% C Annealed	190	13	◎			
	3		About 0.45% C Quenched & Tempered	250	25	◎			
	4		About 0.75% C Annealed	270	28	◎			
	5		About 0.75% C Quenched & Tempered	300	32	◎			
	6	Low alloy steel	Annealed	180	10	◎			
	7		Quenched & Tempered	275	29	◎			
	8		Quenched & Tempered	300	32	◎			
	9		Quenched & Tempered	350	38	◎	◎		
	10	High alloyed steel, and tool steel	Annealed	200	15	○			
	11		Quenched & Tempered	325	35	○			
M	12	Stainless steel	Ferritic / Martensitic Annealed	200	15				◎
	13		Martensitic Quenched & Tempered	240	23				◎
	14		Austenitic	180	10				◎
K	15	Grey cast iron	Pearlitic / ferritic	180	10			◎	
	16		Pearlitic (Martensitic)	260	26			◎	
	17	Nodular cast iron	Ferritic	160	3			◎	
	18		Pearlitic	250	25			◎	
	19		Ferritic	130				◎	
20	Malleable cast iron	Pearlitic	230	21			◎		
N	21	Aluminum-wrought alloy	Not Curable	60					○
	22		Curable Hardened	100					○
	23	Aluminum-cast, alloyed	≤ 12% Si, Not Curable	75					○
	24		≤ 12% Si, Curable Hardened	90					○
	25		> 12% Si, Not Curable	130					○
	26	Copper and Copper Alloys (Bronze / Brass)	Cutting Alloys, PB>1%	110					
	27		CuZn, CuSnZn (Brass)	90					
	28		CuSn, lead-free copper and electrolytic copper	100					
	29	Non Metallic Materials	Duroplastic, Fiber Reinforced Plastic						
	30		Rubber, Wood, etc.						
S	31	Heat Resistant Super Alloys	Fe Based Annealed	200	15				
	32		Cured	280	30				
	33		Annealed	250	25				
	34		Cured	350	38				
	35	Cast	320	34					
	36	Titanium Alloys	Pure Titanium	400 Rm					
37	Alpha + Beta Alloys Hardened		1050 Rm						
H	38	Hardened steel	Hardened	550	55			○	
	39		Hardened	630	60			◎	
	40	Chilled Cast Iron	Cast	400	42			○	
	41	Hardened Cast Iron	Hardened	550	55			◎	

XMM110V	XMB110D	XMR110A	XMR120C	XMR260T	XMF110V	XMR110D	ZBC	ZBS	ZBT	ZRC	ZRS	ZRT
2	2	2	2	2	2	2	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-
BALL NOSE	BALL NOSE	CORNER RADIUS	CORNER RADIUS	CORNER RADIUS	CORNER RADIUS	CORNER RADIUS	BALL NOSE	BALL NOSE	BALL NOSE	CORNER RADIUS	CORNER RADIUS	CORNER RADIUS
R4.0	R4.0	D8.0	D8.0	D8.0	D8.0	D8.0	-	-	-	-	-	-
R16.5	R16.5	D33.0	D33.0	D33.0	D33.0	D20.0	-	-	-	-	-	-
C43	C43	C44	C44	C44	C48	C48	C50	C51	C52	C53	C54	C54
FULL RADIUS	-	-	-	-	HIGH FEED	-	STRAIGHT NECK	STRAIGHT NECK	TAPER NECK	STRAIGHT NECK	STRAIGHT NECK	TAPER NECK
Y-Coating	Diamond	AITiN	XC-Coating	Z-Coating	Y-Coating	Diamond	Carbide	Steel	Steel	Carbide	Steel	Steel
GENERAL PURPOSE	GRAPHITE	GENERAL PURPOSE STAINLESS STEELS	PRE-HARDENED STEELS	HIGH HARDENED STEELS	GENERAL PURPOSE	GRAPHITE						
◎		◎			◎							1
◎		◎			◎							2
◎		◎			◎							3
◎		◎			◎							4
◎		◎			◎							5
◎		◎			◎							6 P
◎		◎			◎							7
		◎										8
◎			◎		◎							9
			◎									10
			◎									11
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			◎									13 M
			◎									14
			◎									15
			◎									16
			◎									17 K
			◎									18
			◎									19
			◎									20
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	○					○						22
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			○	◎								38
				◎								39
				○								40
				◎								41



XMB110A SERIES
XMB120C SERIES
XMB260T SERIES

i-Xmill BALL INSERTS

- i-Xmill WECHSELPLATTE mit RUNDER STIRN
- i-Xmill - Plaquette hémisphérique
- i-Xmill Placca emisferica

- ▶ Exchangeable Ball End Mill for economic use
- ▶ Three Types of Inserts are available
 - For General Purpose (~HRc50)
 - For Hardened Material (HRc40~HRc65)
 - For Graphite
- ▶ Special Geometry and Coating for Excellent Performance

- ▶ Kopierfräser mit Wechselplatte für wirtschaftlichen Einsatz.
- ▶ Drei Typen von Schneideinsätzen lieferbar
 - Für allgemeinen Einsatz (HRc50)
 - Für gehärtete Materialien (HRc40~HRc65)
 - Für Graphit
- ▶ Spezielle Geometrie und Beschichtung für höchste Leistu



cutting conditions : p.C56

Unit : mm

EDP No.			Radius of Ball Nose	Mill Diameter	Height	Thickness
AITIN	XC-Coating	Z-Coating				
General Purpose	Pre-Hardened Steels	High Hardened Steels	R	D	H	T
XMB110A080	XMB120C080	XMB260T080	R4.0	8.0	8.0	2.4
XMB110A100	XMB120C100	XMB260T100	R5.0	10.0	9.5	2.7
XMB110A110	XMB120C110	-	R5.5	11.0	10.0	2.7
XMB110A120	XMB120C120	XMB260T120	R6.0	12.0	11.0	3.2
XMB110A130	XMB120C130	XMB260T130	R6.5	13.0	11.5	3.2
XMB110A160	XMB120C160	XMB260T160	R8.0	16.0	13.0	4.2
XMB110A170	XMB120C170	-	R8.5	17.0	13.5	4.2
XMB110A200	XMB120C200	XMB260T200	R10.0	20.0	16.0	5.2
XMB110A210	-	XMB260T210	R10.5	21.0	16.5	5.2
XMB110A250	XMB120C250	XMB260T250	R12.5	25.0	19.5	6.2
XMB110A260	XMB120C260	XMB260T260	R13.0	26.0	20.0	6.2
XMB110A300	XMB120C300	XMB260T300	R15.0	30.0	23.5	7.2
XMB110A320	XMB120C320	XMB260T320	R16.0	32.0	24.5	7.2
XMB110A330	-	XMB260T330	R16.5	33.0	25.0	7.2

▶ The ball radius tolerance is ±0.01mm and the set-up accuracy is ±0.02mm.

◎ : Excellent ○ : Good

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron	
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	38	10	29	32	38	45	15	23	10		10	26	3	25	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
XMB110A	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎					◎	◎	◎	◎	◎	◎
XMB120C											◎									
XMB260T																				

ISO	N						S					H									
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)		Non Metallic Materials			Heat Resistant Super Alloys		Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron					
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
XMB110A																		◎	◎	◎	◎
XMB120C																					
XMB260T																		◎	◎	◎	◎



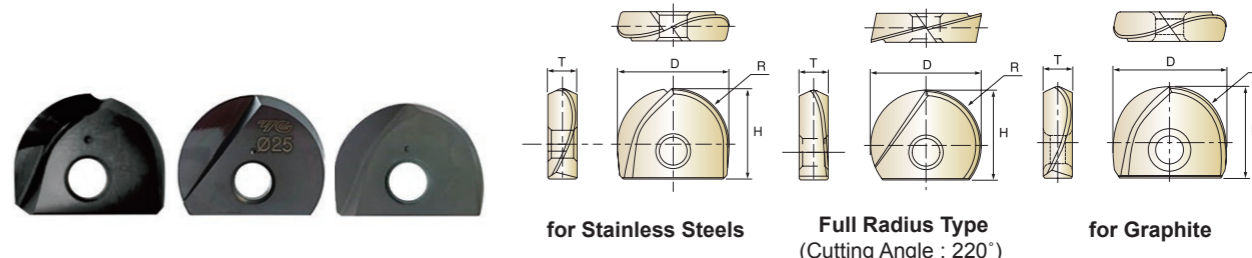
XMB130A SERIES
XMM110V SERIES
XMB110D SERIES

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cutting conditions : p.C56-57

Unit : mm

EDP No.			Radius of Ball Nose	Mill Diameter	Height	Thickness
AITIN	Y-Coating	Diamond				
Stainless Steels	General Purpose Full Radius Type	Graphite	R	D	H	T
XMB130A080	XMM110V080	XMB110D080	R4.0	8.0	8.0	2.4
XMB130A100	XMM110V100	XMB110D100	R5.0	10.0	9.5	2.7
XMB130A110	XMM110V110	XMB110D110	R5.5	11.0	10.0	2.7
XMB130A120	XMM110V120	XMB110D120	R6.0	12.0	11.0	3.2
XMB130A130	XMM110V130	XMB110D130	R6.5	13.0	11.5	3.2
XMB130A160	XMM110V160	XMB110D160	R8.0	16.0	13.0	4.2
XMB130A170	XMM110V170	XMB110D170	R8.5	17.0	13.5	4.2
XMB130A200	XMM110V200	XMB110D200	R10.0	20.0	16.0	5.2
XMB130A210	XMM110V210	XMB110D210	R10.5	21.0	16.5	5.2
XMB130A250	XMM110V250	XMB110D250	R12.5	25.0	19.5	6.2
XMB130A260	XMM110V260	XMB110D260	R13.0	26.0	20.0	6.2
XMB130A300	XMM110V300	XMB110D300	R15.0	30.0	23.5	7.2
XMB130A320	XMM110V320	XMB110D320	R16.0	32.0	24.5	7.2
XMB130A330	XMM110V330	XMB110D330	R16.5	33.0	25.0	7.2

▶ The ball radius tolerance is ±0.01mm and the set-up accuracy is ±0.02mm.

◎ : Excellent ○ : Good

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron	
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	38	10	29	32	38	45	15	23	10		10	26	3	25	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
XMB130A											◎	◎	◎							
XMM110V	◎	◎	◎	◎		◎	◎			◎										
XMB110D																				

ISO	N						S					H									
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)		Non Metallic Materials			Heat Resistant Super Alloys		Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron					
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
XMB130A																					
XMM110V																					
XMB110D	◎	◎	◎	◎						◎											



XMR110A SERIES
XMR120C SERIES
XMR260T SERIES

i-Xmill CORNER RADIUS INSERT

- i-Xmill WECHSELPLATTE mit GERADER STIRN UND ECKRADIUS**
- i-Xmill - Plaquette pour usage général et inox**
- INSERTI IN MD, TORICI**

- The optimized geometry of the tool achieves better reliability and less vibration and cutting load.
- Interchangeable with i-Xmill ball holder, but precise cutting is possible with i-Xmill corner radius holder due to higher stability and strength of tool.
- The varied and wide cutting range makes it possible to machine from roughing through to finishing.
- Special coating makes high hardness with high thermal stability against oxidation.

- Die optimale Werkzeuggeometrie für große Betriebssicherheit und geringe Vibration und Schneidendruck.
- Einsetzbar wie i-Xmill Rundplattenhalter, aber eine größere Schnittgenauigkeit ist mit dem Vierkantplattenhalter möglich, wegen der größeren Steifigkeit und Stärke des Werkzeugs.
- Die große Einsatzbreite des Werkzeugs macht den Einsatz sowohl zum Schruppen als auch zum Schlichten möglich.
- Eine spezielle Beschichtung verleiht der Schneide große Härte und Hitzebeständigkeit.



cutting conditions : p.C58

Unit : mm

EDP No.			Corner Radius	Mill Diameter	Height	Thickness
AITIN	XC-Coating	Z-Coating				
General Purpose & Stainless Steels	Pre-Hardened Steels	High Hardened Steels	R	D	H	T
-	XMR120C080 03	XMR260T080 03	R0.3	8.0	8.0	2.4
-	XMR120C080 05	XMR260T080 05	R0.5	8.0	8.0	2.4
XMR110A080 10	XMR120C080 10	XMR260T080 10	R1.0	8.0	8.0	2.4
-	XMR120C080 20	XMR260T080 20	R2.0	8.0	8.0	2.4
XMR110A100 03	XMR120C100 03	XMR260T100 03	R0.3	10.0	9.5	2.7
XMR110A100 05	XMR120C100 05	XMR260T100 05	R0.5	10.0	9.5	2.7
XMR110A100 10	XMR120C100 10	XMR260T100 10	R1.0	10.0	9.5	2.7
XMR110A100 15	XMR120C100 15	XMR260T100 15	R1.5	10.0	9.5	2.7
XMR110A100 20	XMR120C100 20	XMR260T100 20	R2.0	10.0	9.5	2.7
XMR110A100 30	-	XMR260T100 30	R3.0	10.0	9.5	2.7
-	-	XMR260T110 03	R0.3	11.0	9.5	2.7
XMR110A110 05	XMR120C110 05	XMR260T110 05	R0.5	11.0	9.5	2.7
-	XMR120C110 10	XMR260T110 10	R1.0	11.0	9.5	2.7
XMR110A110 20	XMR120C110 20	XMR260T110 20	R2.0	11.0	9.5	2.7
XMR110A110 30	-	-	R3.0	11.0	9.5	2.7
XMR110A120 03	XMR120C120 03	XMR260T120 03	R0.3	12.0	11.0	3.2
XMR110A120 05	XMR120C120 05	XMR260T120 05	R0.5	12.0	11.0	3.2
XMR110A120 10	XMR120C120 10	XMR260T120 10	R1.0	12.0	11.0	3.2

The corner radius tolerance is ±0.015mm and the set-up accuracy is ±0.02mm.

▶ NEXT PAGE

◎ : Excellent ○ : Good

ISO Material Description	P										M				K											
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	15	16	17	18	19	20
HRc	13	25	28	32	32	10	29	32	38	10	15	35	15	23	10	10	26	3	25	21	10	26	3	25	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	180	260	160	250	130	230
XMR110A	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	
XMR120C											◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎		
XMR260T																										

ISO Material Description	N					S					H														
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron					
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	15	30	25	38	34	36	37	55	60	42	55	55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550	550	630	400	550
XMR110A																									
XMR120C																									
XMR260T																									



XMR110A SERIES
XMR120C SERIES
XMR260T SERIES

i-Xmill CORNER RADIUS INSERT

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cutting conditions : p.C58

Unit : mm

EDP No.			Corner Radius	Mill Diameter	Height	Thickness
AITIN	XC-Coating	Z-Coating				
General Purpose & Stainless Steels	Pre-Hardened Steels	High Hardened Steels	R	D	H	T
XMR110A120 15	XMR120C120 15	XMR260T120 15	R1.5	12.0	11.0	3.2
XMR110A120 20	XMR120C120 20	-	R2.0	12.0	11.0	3.2
-	XMR120C120 30	XMR260T120 30	R3.0	12.0	11.0	3.2
-	XMR120C130 03	XMR260T130 03	R0.3	13.0	11.2	3.2
XMR110A130 05	XMR120C130 05	XMR260T130 05	R0.5	13.0	11.2	3.2
XMR110A130 10	XMR120C130 10	XMR260T130 10	R1.0	13.0	11.2	3.2
-	-	XMR260T130 15	R1.5	13.0	11.2	3.2
XMR110A130 20	XMR120C130 20	XMR260T130 20	R2.0	13.0	11.2	3.2
XMR110A160 03	XMR120C160 03	XMR260T160 03	R0.3	16.0	13.0	4.2
XMR110A160 05	XMR120C160 05	XMR260T160 05	R0.5	16.0	13.0	4.2
XMR110A160 10	XMR120C160 10	XMR260T160 10	R1.0	16.0	13.0	4.2
XMR110A160 15	XMR120C160 15	XMR260T160 15	R1.5	16.0	13.0	4.2
XMR110A160 20	XMR120C160 20	XMR260T160 20	R2.0	16.0	13.0	4.2
XMR110A160 30	XMR120C160 30	XMR260T160 30	R3.0	16.0	13.0	4.2
-	-	XMR260T170 03	R0.3	17.0	13.0	4.2
XMR110A170 05	XMR120C170 05	-	R0.5	17.0	13.0	4.2
XMR110A170 10	XMR120C170 10	XMR260T170 10	R1.0	17.0	13.0	4.2
XMR110A170 20	XMR120C170 20	XMR260T170 20	R2.0	17.0	13.0	4.2

The corner radius tolerance is ±0.015mm and the set-up accuracy is ±0.02mm.

▶ NEXT PAGE

◎ : Excellent ○ : Good

ISO Material Description	P										M				K											
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	15	16	17	18	19	20
HRc	13	25	28	32	32	10	29	32	38	10	15	35	15	23	10	10	26	3	25	21	10	26	3	25	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	180	260	160	250	130	230
XMR110A	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎		
XMR120C											◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎		
XMR260T																										

ISO Material Description	N					S					H														
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron					
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	15	30	25	38	34	36	37	55	60	42	55	55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550	550	630	400	550
XMR110A																									
XMR120C																									
XMR260T																									



XMR110A SERIES
XMR120C SERIES
XMR260T SERIES

i-Xmill CORNER RADIUS INSERT

- i-Xmill WECHSELPLATTE mit GERADER STIRN UND ECKRADIUS
- i-Xmill - Plaquette pour usage général et inox
- ◎ INSERTI IN MD, TORICI

- ▶ The optimized geometry of the tool achieves better reliability and less vibration and cutting load.
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- ▶ Special coating makes high hardness with high thermal stability against oxidation.

- ▶ Die optimale Werkzeuggeometrie für große Betriebssicherheit und geringe Vibration und Schneidendruck.
- ▶ Einsetzbar wie i-Xmill Rundplattenhalter, aber eine größere Schnittgenauigkeit ist mit dem Vierkantplattenhalter möglich, wegen der größeren Steifigkeit und Stärke des Werkzeugs.
- ▶ Die große Einsatzbreite des Werkzeugs macht den Einsatz sowohl zum Schruppen als auch zum Schlichten möglich.
- ▶ Eine spezielle Beschichtung verleiht der Schneide große Härte und Hitzebeständigkeit.



cutting conditions : p.C58

Unit : mm

EDP No.			Corner Radius	Mill Diameter	Height	Thickness
AITIN	XC-Coating	Z-Coating				
General Purpose & Stainless Steels	Pre-Hardened Steels	High Hardened Steels	R	D	H	T
-	XMR120C200 03	XMR260T200 03	R0.3	20.0	16.0	5.2
XMR110A200 05	XMR120C200 05	XMR260T200 05	R0.5	20.0	16.0	5.2
XMR110A200 10	XMR120C200 10	XMR260T200 10	R1.0	20.0	16.0	5.2
XMR110A200 15	XMR120C200 15	-	R1.5	20.0	16.0	5.2
XMR110A200 20	XMR120C200 20	XMR260T200 20	R2.0	20.0	16.0	5.2
XMR110A200 30	XMR120C200 30	-	R3.0	20.0	16.0	5.2
XMR110A210 03	XMR120C210 03	XMR260T210 03	R0.3	21.0	16.0	5.2
XMR110A210 05	XMR120C210 05	-	R0.5	21.0	16.0	5.2
XMR110A210 10	XMR120C210 10	XMR260T210 10	R1.0	21.0	16.0	5.2
XMR110A210 20	XMR120C210 20	XMR260T210 20	R2.0	21.0	16.0	5.2
-	XMR120C250 03	XMR260T250 03	R0.3	25.0	19.5	6.2
XMR110A250 05	XMR120C250 05	XMR260T250 05	R0.5	25.0	19.5	6.2
XMR110A250 10	XMR120C250 10	XMR260T250 10	R1.0	25.0	19.5	6.2
-	XMR120C250 15	XMR260T250 15	R1.5	25.0	19.5	6.2
XMR110A250 20	XMR120C250 20	XMR260T250 20	R2.0	25.0	19.5	6.2
-	XMR120C250 30	XMR260T250 30	R3.0	25.0	19.5	6.2
-	XMR120C260 03	-	R0.3	26.0	19.5	6.2
XMR110A260 05	-	XMR260T260 05	R0.5	26.0	19.5	6.2

▶ The corner radius tolerance is ±0.015mm and the set-up accuracy is ±0.02mm.

▶ NEXT PAGE

◎ : Excellent ○ : Good

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel	Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron		
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	38	10	29	32	38	45	15	23	10		10	26	3	25	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
XMR110A	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎
XMR120C										◎	◎									
XMR260T																				

ISO	N						S					H									
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)		Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron					
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
XMR110A																		◎	◎	◎	◎
XMR120C																					
XMR260T																					



XMR110A SERIES
XMR120C SERIES
XMR260T SERIES

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cutting conditions : p.C58

Unit : mm

EDP No.			Corner Radius	Mill Diameter	Height	Thickness
AITIN	XC-Coating	Z-Coating				
General Purpose & Stainless Steels	Pre-Hardened Steels	High Hardened Steels	R	D	H	T
XMR110A260 10	XMR120C260 10	XMR260T260 10	R1.0	26.0	19.5	6.2
-	XMR120C260 15	-	R1.5	26.0	19.5	6.2
XMR110A260 20	XMR120C260 20	XMR260T260 20	R2.0	26.0	19.5	6.2
-	-	XMR260T300 03	R0.3	30.0	23.5	7.2
XMR110A300 05	XMR120C300 05	-	R0.5	30.0	23.5	7.2
XMR110A300 10	XMR120C300 10	XMR260T300 10	R1.0	30.0	23.5	7.2
XMR110A300 15	-	-	R1.5	30.0	23.5	7.2
XMR110A300 20	XMR120C300 20	XMR260T300 20	R2.0	30.0	23.5	7.2
-	-	XMR260T300 30	R3.0	30.0	23.5	7.2
-	XMR120C320 03	XMR260T320 03	R0.3	32.0	23.5	7.2
XMR110A320 05	XMR120C320 05	XMR260T320 05	R0.5	32.0	23.5	7.2
-	XMR120C320 10	XMR260T320 10	R1.0	32.0	23.5	7.2
-	XMR120C320 15	XMR260T320 15	R1.5	32.0	23.5	7.2
XMR110A320 20	XMR120C320 20	-	R2.0	32.0	23.5	7.2
-	XMR120C320 30	XMR260T320 30	R3.0	32.0	23.5	7.2
XMR110A330 10	-	-	R1.0	33.0	23.5	7.2
XMR110A330 30	XMR120C330 30	XMR260T330 30	R3.0	33.0	23.5	7.2

▶ The corner radius tolerance is ±0.015mm and the set-up accuracy is ±0.02mm.

◎ : Excellent ○ : Good

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel	Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron		
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	38	10	29	32	38	45	15	23	10		10	26	3	25	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
XMR110A	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎
XMR120C										◎	◎									
XMR260T																				

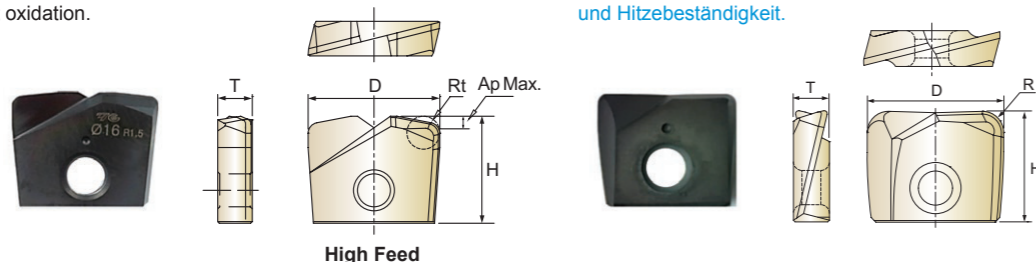
ISO	N						S					H									
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)		Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron					
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
XMR110A																		◎	◎	◎	◎
XMR120C																					
XMR260T																					

i-Xmill CORNER RADIUS INSERT

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- i-Xmill Plaquette Torique AVEC RAYON de coupe frontale
- INSERTI IN MD, TORICI & TORICI HIGH FEED

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High Feed

cutting conditions : p.C59

Unit : mm

EDP No.		Corner Radius	Mill Diameter	Height	Thickness	for High Feed
Y-Coating	Diamond					
General Purpose High Feed	Graphite	R(Rt)	D	H	T	Ap Max.
-	XMR110D080 05	R0.5	8.0	8.0	2.4	-
XMF110V080 08	-	R0.8	8.0	8.0	2.4	0.4
-	XMR110D080 10	R1.0	8.0	8.0	2.4	-
XMF110V100 10	XMR110D100 10	R1.0	10.0	9.5	2.7	0.5
XMF110V110 10	-	R1.0	11.0	9.5	2.7	0.5
-	XMR110D120 05	R0.5	12.0	11.0	2.7	-
XMF110V120 10	-	R1.0	12.0	11.0	2.7	0.6
-	XMR110D120 20	R2.0	12.0	11.0	2.7	-
-	XMR110D130 03	R0.3	13.0	11.2	2.7	-
XMF110V130 10	-	R1.0	13.0	11.2	2.7	0.6
-	XMR110D160 05	R0.5	16.0	13.0	4.2	-
-	XMR110D160 10	R1.0	16.0	13.0	4.2	-
XMF110V160 15	-	R1.5	16.0	13.0	4.2	0.8

▶ The corner radius tolerance is ±0.015mm(Rt tolerance is ±0.05mm) and the set-up accuracy is ±0.02mm.

▶ NEXT PAGE

◎ : Excellent ○ : Good

ISO Material Description	P									M				K						
	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel	Stainless steel			Grey cast iron	Nodular cast iron	Malleable cast iron				
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRC	13	25	28	32	35	10	29	32	38	15	35	15	23	10	10	26	3	25	13	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
XMF110V	◎	◎	◎	◎	◎	◎	◎			◎										
XMR110D																				

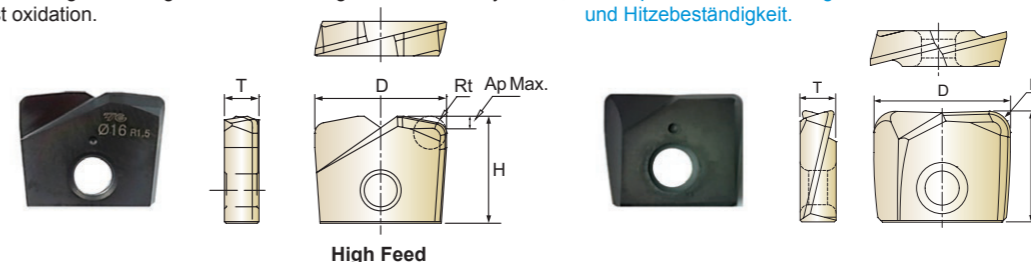
ISO Material Description	N						S						H								
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)		Non Metallic Materials			Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron				
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRC	15	30	25	38	34	200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550	550	630	400	550	
HB	60	100	75	90	130	110	90	100													
XMF110V																					
XMR110D	○	○	○	○					◎												

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High Feed

cutting conditions : p.C59

Unit : mm

EDP No.		Corner Radius	Mill Diameter	Height	Thickness	for High Feed
Y-Coating	Diamond					
General Purpose High Feed	Graphite	R(Rt)	D	H	T	Ap Max.
-	XMR110D170 10	R1.0	17.0	13.0	4.2	-
XMF110V170 15	-	R1.5	17.0	13.0	4.2	0.8
-	XMR110D200 20	R2.0	20.0	16.0	5.2	1.0
XMF110V210 20	-	R2.0	21.0	16.0	5.2	1.0
XMF110V250 25	-	R2.5	25.0	19.5	6.2	1.25
XMF110V260 25	-	R2.5	26.0	19.5	6.2	1.25
XMF110V300 30	-	R3.0	30.0	23.5	7.2	1.6

▶ The corner radius tolerance is ±0.015mm(Rt tolerance is ±0.05mm) and the set-up accuracy is ±0.02mm.

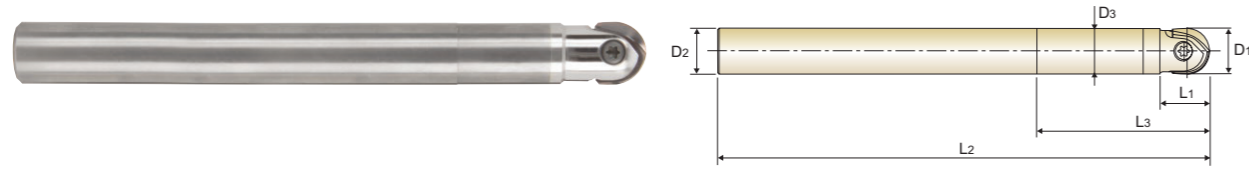
◎ : Excellent ○ : Good

ISO Material Description	P									M				K						
	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel	Stainless steel			Grey cast iron	Nodular cast iron	Malleable cast iron				
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRC	13	25	28	32	35	10	29	32	38	15	35	15	23	10	10	26	3	25	13	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
XMF110V	◎	◎	◎	◎	◎	◎	◎			◎										
XMR110D																				

ISO Material Description	N						S						H								
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)		Non Metallic Materials			Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron				
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRC	15	30	25	38	34	200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550	550	630	400	550	
HB	60	100	75	90	130	110	90	100													
XMF110V																					
XMR110D	○	○	○	○					◎												

i-Xmill CARBIDE BALL HOLDER - STRAIGHT NECK

● i-Xmill HARTMETAL HALTER für WECHSEL PLATTE mit RUNDER STIRN - mit GERADER SCHAFT
 (●) Porte-plaquette i-Xmill en Carbone, entrée droite, pour plaquette à bout hémisphérique
 (●) CORPO FRESA IN MD PER INSERTI SEMISFERICI i-Xmill - CILINDRICO



Unit : mm

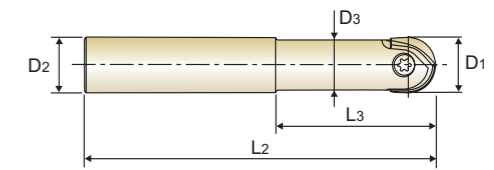
EDP No.	Mill Diameter	Shank Diameter	Neck Diameter	Length of Cut	Length Below Shank	Overall Length	Length Type	Wrench No.	Screw No.
	D1	D2	D3	L1	L3	L2			
★ ZBC0801080	8	8	7.6	12	25	130	Regular	TWFT07	TX2508T07
★ ZBC0802080	8	8	7.6	12	40	130	Regular		
★ ZBC0803080	8	8	7.6	12	65	130	Regular		
ZBC0804080	8	8	7.6	12	60	150	Regular	TWFT08	TX3010T08
ZBC0805080	8	8	7.6	12	60	200	Long		
ZBC0806080	8	8	7.6	12	25	80	Short		
★ ZBC1001100	10, 11	10	9.5	15	30	140	Regular	TWFT08	TX3010T08
★ ZBC1002100	10, 11	10	9.5	15	50	140	Regular		
★ ZBC1003100	10, 11	10	9.5	15	75	140	Regular		
ZBC1004100	10, 11	10	9.5	15	60	180	Regular	TWFT08	TX3010T08
ZBC1005100	10, 11	10	9.5	15	60	200	Long		
ZBC1006100	10, 11	10	9.5	15	30	80	Short		
ZBC120001P	12, 13	12	11.4	17	40	200	Long	TWFT10	TX3512T10
★ ZBC1201120	12, 13	12	11.4	17	35	150	Regular		
★ ZBC1202120	12, 13	12	11.4	17	60	150	Regular		
★ ZBC1203120	12, 13	12	11.4	17	85	150	Regular	TWFT10	TX3512T10
ZBC1204120	12, 13	12	11.4	17	60	250	Long		
ZBC1205120	12, 13	12	11.4	17	35	100	Short		
ZBC160001P	16, 17	16	15.0	20	50	150	Regular	TWFT15	TX4016T15
★ ZBC1601160	16, 17	16	15.0	20	50	200	Long		
★ ZBC1602160	16, 17	16	15.0	20	80	200	Long		
★ ZBC1603160	16, 17	16	15.0	20	120	200	Long	TWFT15	TX4016T15
★ ZBC1604160	16, 17	16	15.0	20	80	250	Long		
ZBC1605160	16, 17	16	15.0	20	50	120	Short		
ZBC200002P	20, 21	20	19.0	25	60	150	Regular	TWBT20	TX5020T20
★ ZBC2001200	20, 21	20	19.0	25	60	200	Regular		
★ ZBC2002200	20, 21	20	19.0	25	80	200	Regular		
★ ZBC2003200	20, 21	20	19.0	25	100	250	Long	TWBT20	TX5020T20
★ ZBC2004200	20, 21	20	19.0	25	150	250	Long		
ZBC2005200	20, 21	20	19.0	25	100	300	Long		
ZBC250001P	25, 26	25	24.0	30	75	150	Regular	TWBT25	TX6025T25
★ ZBC2501250	25, 26	25	24.0	30	75	200	Regular		
★ ZBC2502250	25, 26	25	24.0	30	120	250	Regular		
★ ZBC2503250	25, 26	25	24.0	30	190	300	Long	TWBT25	TX6025T25
ZBC2504250	25, 26	25	24.0	30	120	350	Long		
ZBC2505250	25, 26	25	24.0	30	60	300	Long		
★ ZBC3001320	30, 32, 33	32	29.0	40	90	250	Regular	TWBT30	TX8030T30
ZBC3004320	30, 32, 33	32	29.0	40	120	350	Long		
ZBC3005320	30, 32, 33	32	29.0	40	150	400	Long		

● : Required to use T-HANDLE (TWH600)
 ★ : Stock Item

▶ Upon request, the broken holder is able to be regenerated.
 ▶ Your carbide holder can be regenerated as YG-1 type upon request.

i-Xmill STEEL BALL HOLDER - STRAIGHT NECK

● i-Xmill STAHL HALTER für WECHSEL PLATTE mit RUNDER STIRN - mit GERADER SCHAFT
 (●) Porte-plaquette i-Xmill en acier, entrée droite, pour plaquette à bout hémisphérique
 (●) CORPO FRESA IN ACCIAIO PER INSERTI SEMISFERICI i-Xmill - CILINDRICO



Unit : mm

EDP No.	Mill Diameter	Shank Diameter	Neck Diameter	Length Below Shank	Overall Length	Length Type	Wrench No.	Screw No.
	D1	D2	D3	L3	L2			
★ ZBS1201120	12, 13	12	10.5	35	90	Short	TWFT10	TX3512T10
★ ZBS1202120	12, 13	12	10.5	55	110	Regular		
ZBS120001P	12, 13	12	10.5	40	150	Long	TWFT15	TX4016T15
★ ZBS1601160	16, 17	16	14.5	35	95	Short		
★ ZBS1602160	16, 17	16	14.5	65	125	Regular		
ZBS160001P	16, 17	16	14.5	60	200	Long	TWBT20	TX5020T20
★ ZBS2001200	20, 21	20	18.0	40	110	Short		
★ ZBS2002200	20, 21	20	18.0	75	145	Regular		
ZBS200001P	20, 21	20	18.0	80	200	Long	TWBT25	TX6025T25
ZBS200002P	20, 21	20	18.0	60	200	Long		
★ ZBS2501250	25, 26	25	22.5	45	125	Short		
★ ZBS2502250	25, 26	25	22.5	90	170	Regular	TWBT30	TX8030T30
ZBS2503250	25, 26	25	22.5	100	250	Long		
★ ZBS3001320	30, 32, 33	32	27.0	55	140	Short		
★ ZBS3002320	30, 32, 33	32	27.0	110	195	Regular	TWBT30	TX8030T30
ZBS3004320	30, 32, 33	32	27.0	150	350	Long		
ZBS300001P	30, 32, 33	32	27.0	100	250	Long		

● : Required to use T-HANDLE (TWH600)
 ★ : Stock Item

i-Xmill STEEL BALL HOLDER - TAPER NECK

● i-Xmill STAHL HALTER für WECHSEL PLATTE mit RUNDER STIRN - mit KONISCH ABGESETZTEM SCHAFTTEIL
 (●) Porte-plaquette i-Xmill en acier, entrée conique, pour plaquette à bout hémisphérique
 (●) CORPO FRESA IN ACCIAIO PER INSERTI SEMISFERICI i-Xmill - CONICO



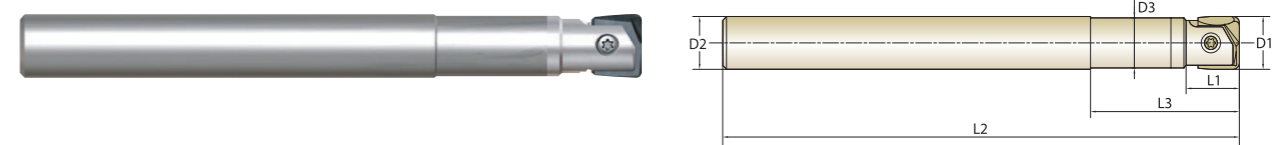
Unit : mm

EDP No.	Mill Diameter	Shank Diameter	Neck Diameter	Length of Cut	Length Below Shank	Overall Length	Interference Angle	Length Type	Wrench No.	Screw No.
	D1	D2	D3	L1	L3	L2	θ°			
★ ZBT0801120	8	12	7.2	12	35	90	4° 43'	Short	TWFT07	TX2508T07
★ ZBT0802120	8	12	7.2	25	55	110	3° 37'	Regular		
★ ZBT1001120	10, 11	12	9.0	15	35	90	2° 51'	Short	TWFT08	TX3010T08
★ ZBT1002120	10, 11	12	9.0	30	55	110	2° 17'	Regular		
★ ZBT1201160	12, 13	16	10.5	17	55	110	3° 23'	Short	TWFT10	TX3512T10
★ ZBT1601200	16, 17	20	14.5	20	65	125	2° 51'	Short		
ZBT1604200	16, 17	20	14.5	20	115	200	1° 22'	Regular	TWFT15	TX4016T15
★ ZBT2001250	20, 21	25	18.0	25	75	145	3° 26'	Short		
ZBT2004250	20, 21	25	18.0	25	115	200	1° 55'	Regular	●TWBT20	TX5020T20
ZBT2005250	20, 21	25	18.0	25	160	250	1° 17'	Long		
ZBT2504320	25, 26	32	22.5	30	160	250	1° 53'	Regular	●TWBT25	TX6025T25
ZBT2505320	25, 26	32	22.5	30	190	300	1° 32'	Long		
★ ZBT3001320	30,32,33	32	27.0	40	110	195	1° 38'	Short	●TWBT30	TX8030T30
ZBT3004320	30,32,33	32	27.0	40	160	250	0° 58'	Regular		

● : Required to use T-HANDLE (TWH600)
 ★ : Stock Item

i-Xmill CARBIDE CORNER RADIUS HOLDER - STRAIGHT NECK

● i-Xmill HARTMETAL HALTER für WECHSEL PLATTE mit ECKRADIUS - mit GERADER SCHAFT
 (●) Porte-plaquette i-Xmill en Carbure, entrée droite, pour plaquette à bout torique
 (●) CORPO FRESA IN MD PER INSERTI TORICI i-Xmill - CILINDRICO



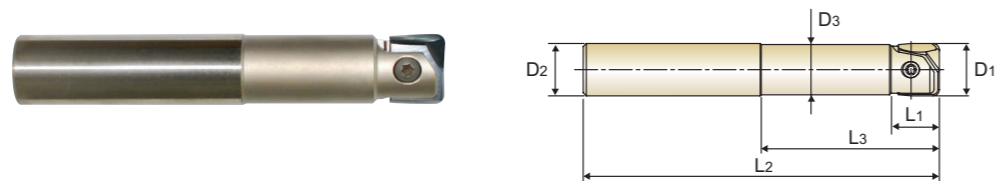
Unit : mm

EDP No.	Mill Diameter	Shank Diameter	Neck Diameter	Length of Cut	Length Below Shank	Overall Length	Length Type	Wrench No.	Screw No.
	D1	D2	D3	L1	L3	L2			
★ ZRC0801080	8	8	7.6	12	25	130	Regular	TWFT07	TX2508T07
★ ZRC0802080	8	8	7.6	12	40	130	Regular		
★ ZRC0803080	8	8	7.6	12	65	130	Regular	TWFT08	TX3010T08
★ ZRC1001100	10	10	9.5	15	30	140	Regular		
★ ZRC1002100	10	10	9.5	15	50	140	Regular	TWFT10	TX3512T10
★ ZRC1003100	10	10	9.5	15	75	140	Regular		
★ ZRC1201120	12, 13	12	11.4	17	35	150	Regular	TWFT15	TX4016T15
★ ZRC1202120	12, 13	12	11.4	17	60	150	Regular		
★ ZRC1203120	12, 13	12	11.4	17	85	150	Regular	TWFT20	TX5020T20
★ ZRC1601160	16, 17	16	15.0	20	50	200	Long		
★ ZRC1602160	16, 17	16	15.0	20	80	200	Long	TWFT15	TX4016T15
★ ZRC1603160	16, 17	16	15.0	20	120	200	Long		
★ ZRC2001200	20, 21	20	19.0	25	60	200	Regular	●TWBT20	TX5020T20
★ ZRC2002200	20, 21	20	19.0	25	80	200	Regular		
★ ZRC2004200	20, 21	20	19.0	25	150	250	Long	●TWBT25	TX6025T25
★ ZRC2501250	25, 26	25	24.0	30	75	200	Regular		
★ ZRC2503250	25, 26	25	24.0	30	190	300	Long	●TWBT30	TX8030T30
★ ZRC3001320	30,32,33	32	29.0	40	90	250	Regular		
★ ZRC3002320	30,32,33	32	29.0	40	150	300	Long	TWFT07	TX2508T07
★ ZRC3003320	30,32,33	32	29.0	40	190	300	Long		

● : Required to use T-HANDLE (TWH600)
 ★ : Stock Item

i-Xmill STEEL CORNER RADIUS HOLDER - STRAIGHT NECK

- i-Xmill STAHL HALTER für WECHSEL PLATTE mit ECKRADIUS - mit GERADER SCHAFT
- Ⓛ Porte-plaquette i-Xmill en acier, entrée droite, pour plaquette torique
- Ⓛ CORPO FRESA IN ACCIAIO PER INSERTI TORICI i-Xmill - CILINDRICO



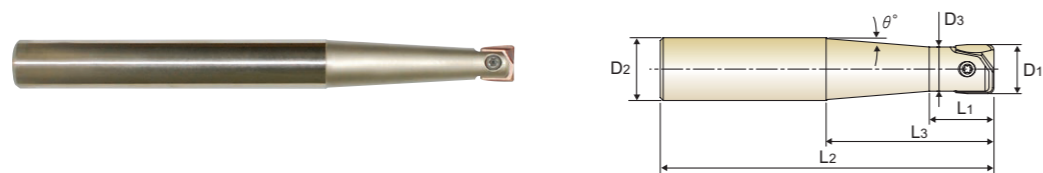
Unit : mm

EDP No.	Mill Diameter	Shank Diameter	Neck Diameter	Length of Cut	Length Below Shank	Overall Length	Length Type	Wrench No.	Screw No.
	D ₁	D ₂	D ₃	L ₁	L ₃	L ₂			
★ ZRS1201120	12, 13	12	11.0	13	30	110	Regular	TWFT10	TX3512T10
★ ZRS1601160	16, 17	16	15.0	15	50	130	Regular	TWFT15	TX4016T15
ZRS1603160	16, 17	16	15.0	15	65	200	Long		
★ ZRS2001200	20, 21	20	19.0	18	60	140	Regular	● TWBT20	TX5020T20
★ ZRS2002200	20, 21	20	19.0	18	80	180	Intermediate		
★ ZRS2003200	20, 21	20	19.0	18	80	250	Long	● TWBT25	TX6025T25
★ ZRS2501250	25, 26	25	24.0	23	70	150	Regular		
★ ZRS2503250	25, 26	25	24.0	23	90	300	Long	● TWBT30	TX8030T30
★ ZRS3001320	30, 32, 33	32	29.0	27	80	160	Regular		
★ ZRS3002320	30, 32, 33	32	29.0	27	100	220	Intermediate	● TWBT30	TX8030T30
★ ZRS3003320	30, 32, 33	32	29.0	27	100	350	Long		

- : Required to use T-HANDLE (TWH600)
- ★ : Stock Item

i-Xmill STEEL CORNER RADIUS HOLDER - TAPER NECK

- i-Xmill STAHL HALTER für WECHSEL PLATTE mit ECKRADIUS - mit KONISCH ABGESETZTEM SCHAFTTEIL
- Ⓛ Porte-plaquette i-Xmill en acier, entrée conique, pour plaquette torique
- Ⓛ CORPO FRESA IN ACCIAIO PER INSERTI TORICI i-Xmill - CONICO

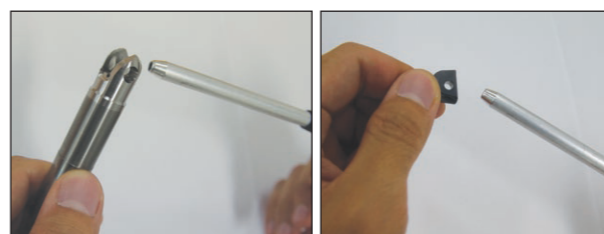


Unit : mm

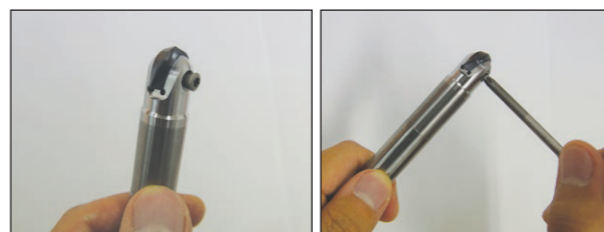
EDP No.	Mill Diameter	Shank Diameter	Neck Diameter	Length of Cut	Length Below Shank	Overall Length	Interference Angle	Length Type	Wrench No.	Screw No.
	D ₁	D ₂	D ₃	L ₁	L ₃	L ₂	θ°			
★ ZRT0801120	8	12	6.7	10	22	100	9°	Regular	TWFT07	TX2508T07
★ ZRT0802120	8	12	6.7	10	50	130	2° 43'	Long		
★ ZRT1001120	10, 11	12	8.6	13	25	100	4° 45'	Regular	TWFT08	TX3010T08
★ ZRT1002120	10, 11	12	8.6	13	50	150	1° 32'	Long		

- ★ : Stock Item

**ASSEMBLY of i-Xmill
MONTAGE DES i-Xmill**



- ▲ Make sure to clean the insert and insert seat.
Wechselplatte und Plattensitz sorgfältig reinigen.



- ▲ Slide the insert into the slot of the holder.
Tighten the screw using anti-seize compound.
Wechselplatte in den Sitz des Halters einführen.
Die Schraube fest anziehen und dabei Spezialfett verwenden

SIZE (ØD)	CLAMPING TORQUE [N·m]
Ø8.0	1.0
Ø10.0	1.5
Ø12.0, Ø13.0	2.5
Ø16.0, Ø17.0	3.5
Ø20.0, Ø21.0	5.0
Ø25.0, Ø26.0	6.0
Ø30.0, Ø32.0	6.5

- * When the screw is worn out, please change the a new screw.
* Wenn das Schraubengewinde verschlissen ist, bitte neue Schraube verwenden.
- * Please tighten up the screw with recommended torque. (Please refer to the table)
* Die Feststellschraube mit dem empfohlenen Anzugsmoment anziehen (siehe Tabelle).
- * Don't press down the insert, when the screw is tightened.
* Die Wechselplatte nicht nach unten drücken, wenn die Schraube angezogen ist.

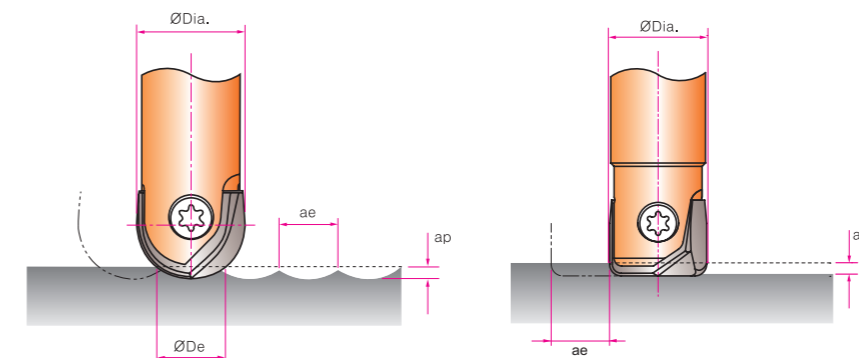


Wrench No.

	WRENCH TYPE	PRODUCT NO.	T-HANDLE No.
FLAG TYPE		TWFT07	-
		TWFT08	-
		TWFT10	-
		TWFT15	-
TORX BIT TYPE		● TWBT20	TWH600
		● TWBT25	
		● TWBT30	

- : Required to use T-HANDLE (TWH600)

**CUTTING CONDITION
SCHNEIDKONDITIONEN**



- RPM = revolution per minute (rev/min)
- Vc = surface meter per minute (M/min)
- Dia. = diameter of insert (mm)
- Vf = feed speed (mm/min)
- f = feed per revolution (mm/rev)
- De = effective tool diameter (mm)
- ap = axial depth of cut (mm)
- ae = radial depth of cut (mm)

$$Vc [M/min.] = \frac{(RPM) \cdot (\pi) \cdot (Dia.)}{1000}$$

$$RPM [rev/min.] = \frac{(Vc) \cdot (1000)}{(\pi) \cdot (Dia.)}$$

$$Vf [mm/min.] = (RPM) \cdot (f)$$

$$De [mm] = 2 \cdot \sqrt{(ap) \cdot (Dia. - ap)}$$

XMB110A SERIES BALL INSERTS for GENERAL PURPOSE

Vc = m/min.
fz = mm/tooth
RPM = rev./min.
FEED = mm/min.

ISO	VDI 3323	Material Description	Parameter	Diameter (Ø)							
				8	10, 11	12, 13	16, 17	20, 21	25, 26	30, 32, 33	
P	1-4	Non-alloy steel	Vc	160~320	160~360	160~380	160~480	160~580	160~600	160~700	
			fz	0.20~0.20	0.20~0.20	0.20~0.20	0.25~0.30	0.25~0.40	0.25~0.50	0.25~0.60	
			RPM	6370~12730	5090~11460	4240~10080	3180~9550	2550~9230	2040~7640	1700~7430	
			FEED	2550~5090	2040~4580	1700~4030	1590~5730	1270~7380	1020~7640	850~8910	
			Vc	120~280	120~300	120~350	120~380	120~420	120~480	120~550	
			fz	0.20~0.20	0.20~0.20	0.20~0.20	0.25~0.30	0.25~0.40	0.25~0.50	0.25~0.60	
	5	Non-alloy steel	Vc	120~280	120~300	120~350	120~380	120~420	120~480	120~550	
			fz	0.20~0.20	0.20~0.20	0.20~0.20	0.25~0.30	0.25~0.40	0.25~0.50	0.25~0.60	
			RPM	4770~11140	3820~9550	3180~9280	2390~7560	1910~6680	1530~6110	1270~5840	
			FEED	1910~4460	1530~3820	1270~3710	1190~4540	950~5350	760~6110	640~7000	
			Vc	160~320	160~360	160~380	160~480	160~580	160~600	160~700	
			fz	0.20~0.20	0.20~0.20	0.20~0.20	0.25~0.30	0.25~0.40	0.25~0.50	0.25~0.60	
6-7	Low alloy steel	Vc	160~320	160~360	160~380	160~480	160~580	160~600	160~700		
		fz	0.20~0.20	0.20~0.20	0.20~0.20	0.25~0.30	0.25~0.40	0.25~0.50	0.25~0.60		
		RPM	6370~12730	5090~11460	4240~10080	3180~9550	2550~9230	2040~7640	1700~7430		
		FEED	2550~5090	2040~4580	1700~4030	1590~5730	1270~7380	1020~7640	850~8910		
		Vc	120~280	120~300	120~350	120~380	120~420	120~480	120~550		
		fz	0.20~0.20	0.20~0.20	0.20~0.20	0.25~0.30	0.25~0.40	0.25~0.50	0.25~0.60		
8	Low alloy steel	Vc	120~280	120~300	120~350	120~380	120~420	120~480	120~550		
		fz	0.20~0.20	0.20~0.20	0.20~0.20	0.25~0.30	0.25~0.40	0.25~0.50	0.25~0.60		
		RPM	4770~11140	3820~9550	3180~9280	2390~7560	1910~6680	1530~6110	1270~5840		
		FEED	1910~4460	1530~3820	1270~3710	1190~4540	950~5350	760~6110	640~7000		
		Vc	160~320	160~360	160~380	160~480	160~580	160~600	160~700		
		fz	0.20~0.20	0.20~0.20	0.20~0.20	0.25~0.30	0.25~0.40	0.25~0.50	0.25~0.60		

XMB120C SERIES BALL INSERTS for PRE-HARDENED STEELS

ISO	VDI 3323	Material Description	Parameter	Diameter (Ø)							
				8	10, 11	12, 13	16, 17	20, 21	25, 26	30, 32, 33	
P	9-11	Low alloy steel, High alloyed steel, and tool steel	Vc	100~220	100~260	100~280	100~350	100~400	100~450	100~500	
			fz	0.15~0.20	0.15~0.20	0.15~0.20	0.20~0.30	0.20~0.40	0.20~0.50	0.20~0.60	
			RPM	3980~8750	3180~8280	2650~7430	1990~6960	1590~6370	1270~5730	1060~5310	
			FEED	1190~3500	950~3310	800~2970	800~4180	640~5090	510~5730	420~6370	
K	15-20	Grey cast iron, Nodular cast iron, Malleable cast iron	Vc	160~320	160~360	160~400	160~500	160~550	160~620	160~720	
			fz	0.30~0.30	0.30~0.30	0.30~0.30	0.35~0.40	0.35~0.40	0.35~0.50	0.35~0.60	
			RPM	6370~12730	5090~11460	4240~10610	3180~9950	2550~8750	2040~7890	1700~7640	
			FEED	3820~7640	3060~6880	2550~6370	2230~7960	1780~7000	1430~7890	1190~9170	
H	38	Hardened steel	Vc	80~180	80~200	80~220	80~260	80~320	80~360	80~400	
			fz	0.10~0.20	0.10~0.20	0.10~0.20	0.15~0.30	0.15~0.40	0.15~0.50	0.15~0.60	
			RPM	3180~7160	2550~6370	2120~5840	1590~5170	1270~5090	1020~4580	850~4240	
			FEED	640~2860	510~2550	420~2330	480~3100	380~4070	310~4580	250~5090	

XMB260T SERIES BALL INSERTS for HIGH HARDENED STEELS

ISO	VDI 3323	Material Description	Parameter	Diameter (Ø)							
				8	10, 11	12, 13	16, 17	20, 21	25, 26	30, 32, 33	
H	38-41	Hardened steel	Vc	80~180	80~200	80~220	80~260	80~320	80~360	80~400	
			fz	0.10~0.15	0.10~0.15	0.10~0.15	0.15~0.25	0.15~0.25	0.15~0.25	0.15~0.30	
			RPM	3180~7160	2550~6370	2120~5840	1590~5170	1270~5090	1020~4580	850~4240	
			FEED	640~2150	510~1910	420~1750	480~2590	380~2550	310~2290	250~2550	

XMB130A SERIES BALL INSERTS for STAINLESS STEELS

ISO	VDI 3323	Material Description	Parameter	Diameter (Ø)							
				8	10, 11	12, 13	16, 17	20, 21	25, 26	30, 32, 33	
M	12-14	Stainless steel	Vc	90~130	90~130	90~130	90~130	90~130	90~130	90~130	
			fz	0.10~0.12	0.13~0.15	0.15~0.20	0.15~0.20	0.15~0.20	0.20~0.25	0.20~0.25	
			RPM	3580~5170	2860~4140	2390~3450	1790~2590	1430~2070	1150~1660	950~1380	
			FEED	720~1290	720~1240	720~1380	540~1030	430~830	460~830	380~690	

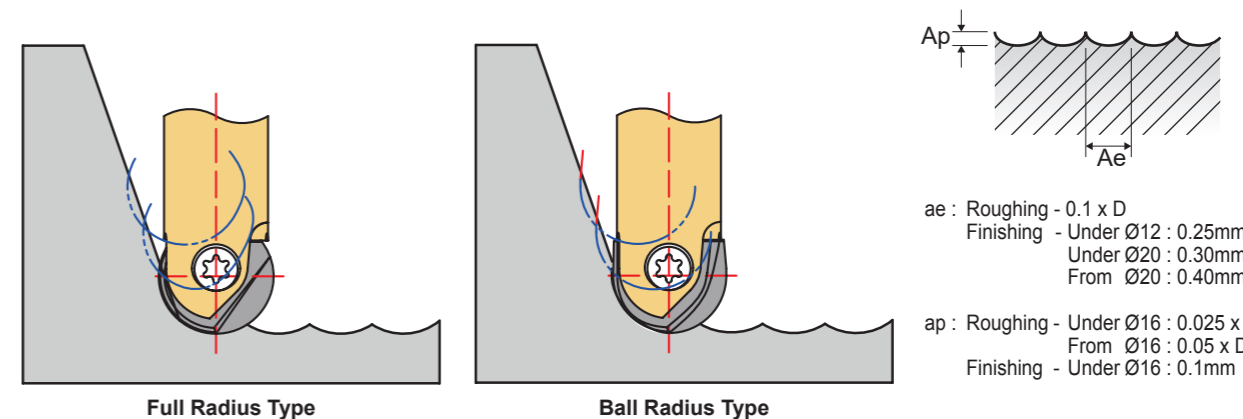
XMM110V SERIES BALL INSERTS for GENERAL PURPOSE - FULL RADIUS

Vc = m/min.
fz = mm/tooth
RPM = rev./min.
FEED = mm/min.

ISO	VDI 3323	Material Description	Parameter	Diameter (Ø)							
				8	10, 11	12, 13	16, 17	20, 21	25, 26	30, 32, 33	
P	1-4	Non-alloy steel	Vc	160~320	160~360	160~380	160~480	160~580	160~600	160~700	
			fz	0.20~0.20	0.20~0.20	0.20~0.20	0.25~0.30	0.25~0.40	0.25~0.50	0.25~0.60	
			RPM	6370~12730	5090~11460	4240~10080	3180~9550	2550~9230	2040~7640	1700~7430	
			FEED	2550~5090	2040~4580	1700~4030	1590~5730	1270~7380	1020~7640	850~8910	
	6-7	Low alloy steel	Vc	160~320	160~360	160~380	160~480	160~580	160~600	160~700	
			fz	0.20~0.20	0.20~0.20	0.20~0.20	0.25~0.30	0.25~0.40	0.25~0.50	0.25~0.60	
			RPM	6370~12730	5090~11460	4240~10080	3180~9550	2550~9230	2040~7640	1700~7430	
			FEED	2550~5090	2040~4580	1700~4030	1590~5730	1270~7380	1020~7640	850~8910	
	10	High alloyed steel, and tool steel	Vc	160~320	160~360	160~380	160~480	160~580	160~600	160~700	
			fz	0.20~0.20	0.20~0.20	0.20~0.20	0.25~0.30	0.25~0.40	0.25~0.50	0.25~0.60	
			RPM	6370~12730	5090~11460	4240~10080	3180~9550	2550~9230	2040~7640	1700~7430	
			FEED	2550~5090	2040~4580	1700~4030	1590~5730	1270~7380	1020~7640	850~8910	

XMB110D SERIES BALL INSERTS for GRAPHITE

ISO	VDI 3323	Material Description	Parameter	Diameter (Ø)							
				8	10, 11	12, 13	16, 17	20, 21	25, 26	30, 32, 33	
N	21~22	Aluminum-wrought alloy	Vc	300~400	300~400	300~400	300~400	300~480	300~560	300~650	
			fz	0.20~0.20	0.20~0.20	0.20~0.20	0.25~0.30	0.30~0.35	0.35~0.40	0.40~0.50	
			RPM	11940~15920	9550~12730	7960~10610	5970~7960	4770~7640	3820~7130	3180~6900	
			FEED	4770~6370	3820~5090	3180~4240	2980~4770	2860~5350	2670~5700	2550~6900	
23~24	Aluminum-cast, alloyed	Vc	300~400	300~400	300~400	300~400	300~480	300~560	300~650		
		fz	0.20~0.20	0.20~0.20	0.20~0.20	0.25~0.30	0.30~0.35	0.35~0.40	0.40~0.50		
		RPM	11940~15920	9550~12730	7960~10610	5970~7960	4770~7640	3820~7130	3180~6900		
		FEED	4770~6370	3820~5090	3180~4240	2980~4770	2860~5350	2670~5700	2550~6900		
29.2	Graphite	Vc	300~400	300~400	300~400	300~400	300~480	300~560	300~650		
		fz	0.20~0.20	0.20~0.20	0.20~0.20	0.25~0.30	0.30~0.35	0.35~0.40	0.40~0.50		
		RPM	11940~15920	9550~12730	7960~10610	5970~7960	4770~7640	3820~7130	3180~6900		
		FEED	4770~6370	3820~5090	3180~4240	2980~4770	2860~5350	2670~5700	2550~6900		



- ▶ When the length of overhang exceeds 4xD, we recommend using the carbide shank holder with 20% lower feed
- ▶ When using long (long & intermediate type holder) tools, we recommend reducing the feed rate to 70 ~ 85%.

XMR110A SERIES CORNER RADIUS INSERTS for GENERAL PURPOSE & STAINLESS STEELS

Vc = m/min.
fz = mm/tooth
RPM = rev/min.
FEED = mm/min.

ISO	VDI 3323	Material Description	Parameter	Diameter (Ø)							
				8	10, 11	12, 13	16, 17	20, 21	25, 26	30, 32, 33	
P	1-4	Non-alloy steel	Vc	160~300	160~300	160~300	160~300	160~300	160~300	160~300	160~300
			fz	0.20~0.15	0.20~0.15	0.20~0.15	0.25~0.20	0.25~0.20	0.25~0.20	0.25~0.20	0.25~0.20
			RPM	6370~11940	5090~9550	4240~7960	3180~5970	2550~4770	2040~3820	1700~3180	
			FEED	2550~3580	2040~2860	1700~2390	1590~2390	1270~1910	1020~1530	850~1270	
			Vc	120~280	120~280	120~280	120~280	120~280	120~280	120~280	
			fz	0.20~0.15	0.20~0.15	0.20~0.15	0.25~0.20	0.25~0.20	0.25~0.20	0.25~0.20	
	5	Non-alloy steel	RPM	4770~11140	3820~8910	3180~7430	2390~5570	1910~4460	1530~3570	1270~2970	
			FEED	1910~3340	1530~2670	1270~2230	1190~2230	950~1780	760~1430	640~1190	
			Vc	160~300	160~300	160~300	160~300	160~300	160~300	160~300	
			fz	0.20~0.15	0.20~0.15	0.20~0.15	0.25~0.20	0.25~0.20	0.25~0.20	0.25~0.20	
			RPM	6370~11940	5090~9550	4240~7960	3180~5970	2550~4770	2040~3820	1700~3180	
			FEED	2550~3580	2040~2860	1700~2390	1590~2390	1270~1910	1020~1530	850~1270	
6-7	Low alloy steel	Vc	120~280	120~280	120~280	120~280	120~280	120~280	120~280		
		fz	0.20~0.15	0.20~0.15	0.20~0.15	0.25~0.20	0.25~0.20	0.25~0.20	0.25~0.20		
		RPM	4770~11140	3820~8910	3180~7430	2390~5570	1910~4460	1530~3570	1270~2970		
		FEED	1910~3340	1530~2670	1270~2230	1190~2230	950~1780	760~1430	640~1190		
		Vc	120~280	120~280	120~280	120~280	120~280	120~280	120~280		
		fz	0.20~0.15	0.20~0.15	0.20~0.15	0.25~0.20	0.25~0.20	0.25~0.20	0.25~0.20		
8	Low alloy steel	RPM	4770~11140	3820~8910	3180~7430	2390~5570	1910~4460	1530~3570	1270~2970		
		FEED	1910~3340	1530~2670	1270~2230	1190~2230	950~1780	760~1430	640~1190		
		Vc	90~130	90~130	90~130	90~130	90~130	90~130	90~130		
		fz	0.10~0.10	0.11~0.11	0.12~0.11	0.13~0.13	0.13~0.13	0.13~0.12	0.13~0.12		
		RPM	3580~5170	2860~4140	2390~3450	1790~2590	1430~2070	1150~1660	950~1380		
		FEED	720~1030	630~910	550~790	450~650	360~520	290~410	240~340		
M	12-14	Stainless steel	Vc	90~130	90~130	90~130	90~130	90~130	90~130		
fz	0.10~0.10	0.11~0.11	0.12~0.11	0.13~0.13	0.13~0.13	0.13~0.12	0.13~0.12				
RPM	3580~5170	2860~4140	2390~3450	1790~2590	1430~2070	1150~1660	950~1380				
FEED	720~1030	630~910	550~790	450~650	360~520	290~410	240~340				

XMR120C SERIES CORNER RADIUS INSERTS for PRE-HARDENED STEELS

ISO	VDI 3323	Material Description	Parameter	Diameter (Ø)							
				8	10, 11	12, 13	16, 17	20, 21	25, 26	30, 32, 33	
P	9-11	Low alloy steel High alloyed steel, and tool steel	Vc	100~280	100~280	100~280	100~280	100~280	100~280	100~280	
			fz	0.12~0.06	0.13~0.06	0.13~0.06	0.15~0.08	0.15~0.08	0.15~0.08	0.15~0.08	
			RPM	3980~11140	3180~8910	2650~7430	1990~5570	1590~4460	1270~3570	1060~2970	
			FEED	990~1340	800~1070	690~890	600~840	480~670	380~570	320~450	
K	15-20	Grey cast iron Nodular cast iron Malleable cast iron	Vc	160~380	160~380	160~380	160~380	160~380	160~380	160~380	
			fz	0.30~0.20	0.30~0.20	0.30~0.20	0.35~0.30	0.35~0.30	0.35~0.30	0.35~0.30	
			RPM	6370~15120	5090~12100	4240~10080	3180~7560	2550~6050	2040~4840	1700~4030	
			FEED	3820~6050	3060~4840	2550~4030	2230~4540	1780~3630	1430~2900	1190~2420	
H	38	Hardened steel	Vc	80~220	80~220	80~220	80~220	80~220	80~220	80~220	
			fz	0.10~0.05	0.10~0.05	0.10~0.05	0.15~0.06	0.15~0.06	0.15~0.06	0.15~0.06	
			RPM	3180~8750	2550~7000	2120~5840	1590~4380	1270~3500	1020~2800	850~2330	
			FEED	640~880	510~700	420~580	420~530	380~420	310~340	250~280	

XMR260T SERIES CORNER RADIUS INSERTS for HIGH HARDENED STEELS

ISO	VDI 3323	Material Description	Parameter	Diameter (Ø)							
				8	10, 11	12, 13	16, 17	20, 21	25, 26	30, 32, 33	
H	38-41	Hardened steel	Vc	80~220	80~220	80~220	80~220	80~220	80~220	80~220	
			fz	0.10~0.05	0.10~0.05	0.10~0.05	0.15~0.06	0.15~0.06	0.15~0.06	0.15~0.06	
			RPM	3180~8750	2550~7000	2120~5840	1590~4380	1270~3500	1020~2800	850~2330	
			FEED	640~880	510~700	420~580	480~530	380~420	310~340	250~280	

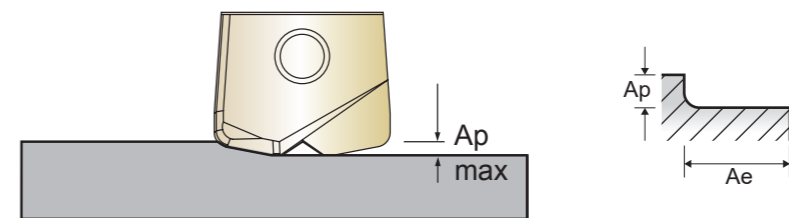
XMF110V SERIES CORNER RADIUS INSERTS for GENERAL PURPOSE - HIGH FEED

Vc = m/min.
fz = mm/tooth
RPM = rev/min.
FEED = mm/min.

ISO	VDI 3323	Material Description	Parameter	Diameter (Ø)							
				8	10, 11	12, 13	16, 17	20, 21	25, 26	30, 32, 33	
P	1-7	Non-alloy steel Low alloy steel	Vc	150~200	150~200	150~200	150~200	150~200	150~200	150~200	
			fz	0.60~0.40	0.75~0.50	0.90~0.60	1.20~0.80	1.50~1.00	1.80~1.40	2.30~1.80	
			RPM	5970~7960	4770~6370	3980~5310	2980~3980	2390~3180	1910~2550	1590~2120	
			FEED	7160~6370	7160~6370	7160~6370	7160~6370	7160~6370	6880~7140	7320~7640	
			Ap(Max)	0.4	0.5	0.6	0.8	1.0	1.3	1.6	
			Vc	150~200	150~200	150~200	150~200	150~200	150~200	150~200	
	10	High alloyed steel, and tool steel	fz	0.60~0.40	0.75~0.50	0.90~0.60	1.20~0.80	1.50~1.00	1.80~1.40	2.30~1.80	
			RPM	5970~7960	4770~6370	3980~5310	2980~3980	2390~3180	1910~2550	1590~2120	
			FEED	7160~6370	7160~6370	7160~6370	7160~6370	7160~6370	6880~7140	7320~7640	
			Ap(Max)	0.4	0.5	0.6	0.8	1.0	1.3	1.6	
			Vc	150~200	150~200	150~200	150~200	150~200	150~200	150~200	
			fz	0.60~0.40	0.75~0.50	0.90~0.60	1.20~0.80	1.50~1.00	1.80~1.40	2.30~1.80	
10	High alloyed steel, and tool steel	RPM	5970~7960	4770~6370	3980~5310	2980~3980	2390~3180	1910~2550	1590~2120		
		FEED	7160~6370	7160~6370	7160~6370	7160~6370	7160~6370	6880~7140	7320~7640		
		Ap(Max)	0.4	0.5	0.6	0.8	1.0	1.3	1.6		
		Vc	150~200	150~200	150~200	150~200	150~200	150~200	150~200		
		fz	0.60~0.40	0.75~0.50	0.90~0.60	1.20~0.80	1.50~1.00	1.80~1.40	2.30~1.80		
		RPM	5970~7960	4770~6370	3980~5310	2980~3980	2390~3180	1910~2550	1590~2120		
FEED	7160~6370	7160~6370	7160~6370	7160~6370	7160~6370	6880~7140	7320~7640				
Ap(Max)	0.4	0.5	0.6	0.8	1.0	1.3	1.6				

XMR110D SERIES CORNER RADIUS INSERTS for GRAPHITE

ISO	VDI 3323	Material Description	Parameter	Diameter (Ø)							
				8	10, 11	12, 13	16, 17	20, 21	25, 26	30, 32, 33	
N	21~22	Aluminum-wrought alloy	Vc	300~400	300~400	300~400	300~400	300~400	300~400	300~400	
			fz	0.20~0.20	0.20~0.20	0.20~0.20	0.20~0.20	0.25~0.25	0.25~0.25	0.25~0.25	
			RPM	11940~15920	9550~12730	7960~10610	5970~7960	4770~6370	3820~5090	3180~4240	
			FEED	4770~6370	3820~5090	3180~4240	2390~3180	2390~3180	1910~2550	1590~2120	
N	23~24	Aluminum-cast, alloyed	Vc	300~400	300~400	300~400	300~400	300~400	300~400	300~400	
			fz	0.20~0.20	0.20~0.20	0.20~0.20	0.20~0.20	0.25~0.25	0.25~0.25	0.25~0.25	
			RPM	11940~15920	9550~12730	7960~10610	5970~7960	4770~6370	3820~5090	3180~4240	
			FEED	4770~6370	3820~5090	3180~4240	2390~3180	2390~3180	1910~2550	1590~2120	
N	29.2	Graphite	Vc	300~400	300~400	300~400	300~400	300~400	300~400	300~400	
			fz	0.20~0.20	0.20~0.20	0.20~0.20	0.20~0.20	0.25~0.25	0.25~0.25	0.25~0.25	
			RPM	11940~15920	9550~12730	7960~10610	5970~7960	4770~6370	3820~5090	3180~4240	
			FEED	4770~6370	3820~5090	3180~4240	2390~3180	2390~3180	1910~2550	1590~2120	



ae : Roughing - 0.1 x D
Finishing - 0.2mm
ap : Roughing - Under Ø16 : 0.025 x D
From Ø16 : 0.05 x D
Finishing - Under Ø16 : 0.1mm
From Ø16 : 0.2mm

- ▶ When the length of overhang exceeds 4xD, we recommend using the carbide shank holder with 20% lower feed
- ▶ When using long (long & intermediate type holder) tools, we recommend reducing the feed rate to 70 ~ 85%.



Global Cutting Tool Leader **YG-1**



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