

Multifunctional milling cutter with center cutting edge

DOM^{ULTI}REC

Tungaloy Report No. 548S1-US

Multifunctional milling cutter with center cutting capability now offering **additional nose radii and modular cutting heads**



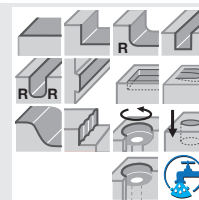
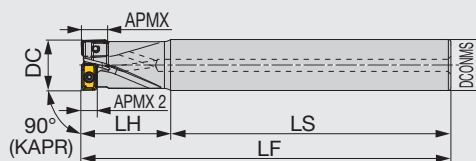


For more information

EVLX08/10/12

Multi-functional square shoulder milling cutter,
with screwed-on inserts and center cutting edge

GAMP: Center insert $-2.6^{\circ} \sim -4.4^{\circ}$, Peripheral insert $+6.1^{\circ} \sim +7.1^{\circ}$
GAMF: Center insert $+0.2^{\circ} \sim +1.3^{\circ}$, Peripheral insert $-15.7^{\circ} \sim -15^{\circ}$



Inch	APMX	APMX 2	DC	CICT	DCONMS	LS	LH	LF	WT(lb)	Air hole	Insert
EVLX08U0.62W0.62R02	0.276	0.157	0.625	2	0.625	1.910	1.250	3.160	0.10	With	LXMU08...
EVLX08U0.62C0.62R02L	0.276	0.157	0.625	2	0.625	5.000	2.000	7.000	0.24	With	LXMU08...
EVLX10U0.787W0.75R02	0.354	0.157	0.787	2	0.750	2.030	1.380	3.410	0.16	With	LXMU10...
EVLX10U0.787C0.75R02L	0.354	0.157	0.787	2	0.750	5.000	2.380	7.380	0.37	With	LXMU10...
EVLX12U1.00W1.00R02	0.433	0.236	1.000	2	1.000	2.280	1.750	4.030	0.34	With	LXMU12...
EVLX12U1.00C1.00R02L	0.433	0.236	1.000	2	1.000	6.000	3.000	9.000	0.81	With	LXMU12...
Metric	APMX	APMX 2	DC	CICT	DCONMS	LS	LH	LF	WT(kg)	Air hole	Insert
EVLX08M016C16.0R02	7	4	16	2	16	100	30	130	0.18	With	LXMU08...
EVLX08M016C16.0R02L	7	4	16	2	16	130	50	180	0.25	With	LXMU08...
EVLX08M017C16.0R02L	7	4	17	2	16	155	25	180	0.26	With	LXMU08...
EVLX10M020C20.0R02	9	4	20	2	20	110	35	145	0.31	With	LXMU10...
EVLX10M020C20.0R02L	9	4	20	2	20	130	60	190	0.41	With	LXMU10...
EVLX10M021C20.0R02L	9	4	21	2	20	160	30	190	0.42	With	LXMU10...
EVLX12M025C25.0R02	11	6	25	2	25	105	45	150	0.51	With	LXMU12...
EVLX12M025C25.0R02L	11	6	25	2	25	150	75	225	0.77	With	LXMU12...
EVLX12M026C25.0R02L	11	6	26	2	25	190	35	225	0.8	With	LXMU12...

SPARE PARTS



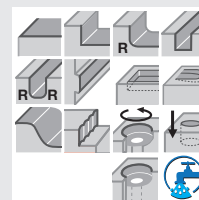
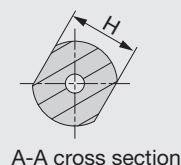
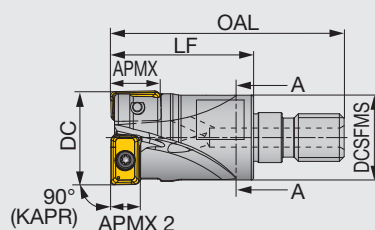
Designation	Clamping screw	Wrench
E/HVLX08...	CSPB-2.2	IP-7D
E/HVLX10...	SR-M2.5x0.45-L6IP7	IP-7D
E/HVLX12...	TS30100I/HG-P	IP-9D

Recommended clamping torque: CSPB-2.2, SR-M2.5x0.45-L6IP7 = 0.74 lbs-ft, 1 N-m, TS30100I/HG-P = 1.48 lbf-ft, 2 N-m

HVLX08/10/12-M

Multi-functional square shoulder modular milling cutter
(TungFlex), with screwed-on inserts and center cutting edge

GAMP: Center insert $-2.6^{\circ} \sim -4.4^{\circ}$, Peripheral insert $+6.1^{\circ} \sim +7.1^{\circ}$
GAMF: Center insert $+0.2^{\circ} \sim +1.3^{\circ}$, Peripheral insert $-15.7^{\circ} \sim -15^{\circ}$



Metric	APMX	APMX 2	DC	CICT	OAL	LF	H	DCSFMS	CRKS	WT(kg)	Air hole	Insert
HVLX08M016M08R02	7	4	16	2	42	25	10	14.5	M8	0.03	With	LXMU08...
New HVLX08M017M08R02	7	4	17	2	42	25	10	14.5	M8	0.04	With	LXMU08...
HVLX10M020M10R02	9	4	20	2	49	30	15	17.8	M10	0.05	With	LXMU10...
New HVLX10M021M10R02	9	4	21	2	49	30	15	17.8	M10	0.06	With	LXMU10...
HVLX12M025M12R02	11	6	25	2	57	35	17	23	M12	0.1	With	LXMU12...
New HVLX12M026M12R02	11	6	26	2	57	35	17	23	M12	0.1	With	LXMU12...

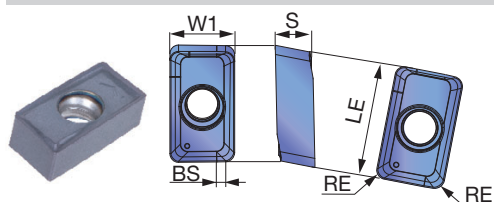
SPARE PARTS



Designation	Clamping screw	Wrench
HVLX08M016M08R02	CSPB-2.2	IP-7D
HVLX10M020M10R02	SR-M2.5x0.45-L6IP7	IP-7D
HVLX12M025M12R02	TS30100I/HG-P	IP-9D

Recommended clamping torque: CSPB-2.2, SR-M2.5x0.45-L6IP7 = 0.74 lbs-ft, 1 N-m, TS30100I/HG-P = 1.48 lbf-ft, 2 N-m

LXMU-MM



P	Steel	★	☆			
M	Stainless	★				
K	Cast iron		☆	★		
N	Non-ferrous					
S	Superalloys	☆		★		
H	Hard materials			★		

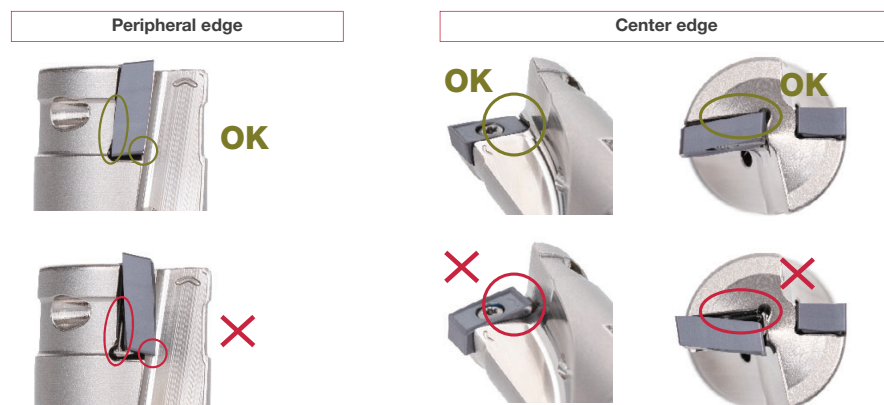
★ : First choice
☆ : Second choice

	Designation	RE	APMX	Coated									LE	W1	S	BS		
				AH3225	AH120	AH8015												
	LXMU080304PER-MM	0.016	0.276	●	●	●									0.303	0.197	0.110	0.031
New	LXMU10T304PER-MM	0.016	0.354	●		●									0.394	0.236	0.126	0.047
	LXMU10T308PER-MM	0.031	0.354	●	●	●									0.394	0.236	0.126	0.031
New	LXMU120404PER-MM	0.016	0.433	●		●									0.480	0.280	0.165	0.047
	LXMU120408PER-MM	0.031	0.433	●	●	●									0.480	0.280	0.165	0.031

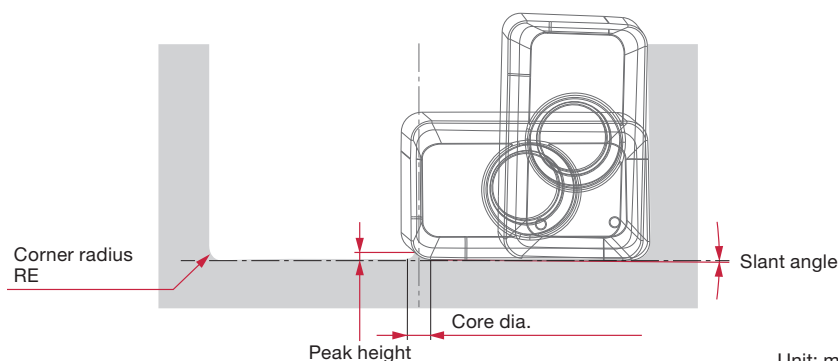
● : New product
● : Line up

Caution when installing the inserts

Ensure that the insert is not lifted in the seat and there is no gap between the insert and seat.



HOLE BOTTOM PROFILE AFTER DRILLING



DC	D16	D17	D20		D21		D25		D26		0.625"		0.787"		1.000"	
Insert	LXMU08...		LXMU10...				LXMU12...				LXMU08...		LXMU10...		LXMU12...	
RE	0.4		0.4	0.8	0.4	0.8	0.4	0.8	0.4	0.8	0.016"		0.016"	0.031"	0.016"	0.031"
Peak height	0.43	0.86	0.1	0.24	0.86	0.86	0.45	0.45	0.86	0.86	0.0134"		0.004"	0.009"	0.034"	0.034"
Core dia.	0.9	1.9	0.21	1.02	1.22	2.02	0.7	1.37	1.59	2.36	0.0307"		0.008"	0.04"	0.041"	0.07"
Slant angle	Conical shape with $\approx 0.3^\circ$ slant angle															

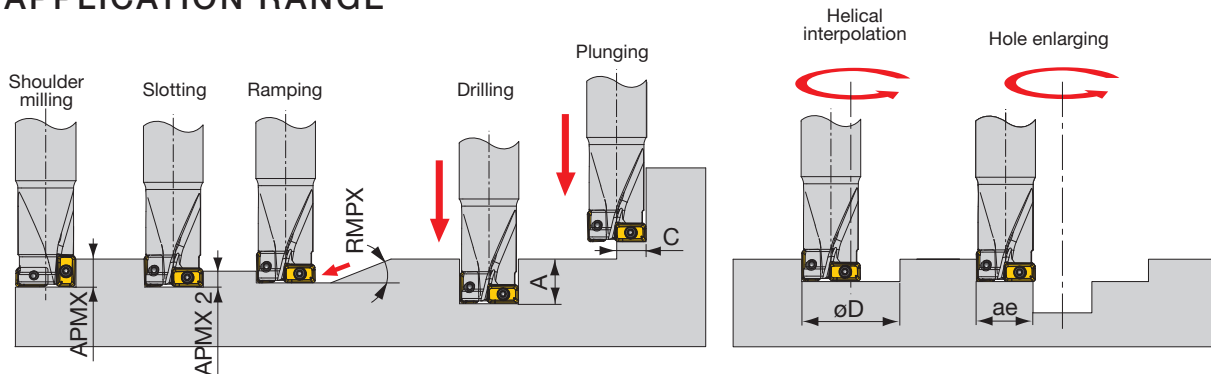
STANDARD CUTTING CONDITIONS

ISO	Workpiece materials	Hardness	Grades	Cutting speed Vc (sfm)	Drilling (ZEFP = 1)* Feed per revolution f (ipr)	Shouldering / Helical interpolation*	
						Feed per tooth fz (ipt)	
						08	10 / 12
P	Low carbon steel 1015, etc.	- 200 HB	AH3225	328 - 984	0.001 - 0.003	0.002 - 0.010	0.002 - 0.012
	Carbon steel and alloy steel 1055, etc.	- 300 HB	AH3225	328 - 820	0.001 - 0.003	0.002 - 0.010	0.002 - 0.012
	Prehardened steel NAK80, PX5, etc.	30 - 40 HRC	AH3225	328 - 656	0.001 - 0.002	0.002 - 0.008	0.002 - 0.010
M	Stainless steel 304SS, etc.	-	AH3225	262 - 591	0.001 - 0.003	0.002 - 0.008	0.002 - 0.009
K	Grey cast iron Class 25, Class 30, etc.	150 - 250 HB	AH8015	328 - 984	0.001 - 0.004	0.002 - 0.010	0.002 - 0.012
	Ductile cast iron 60-40-18, 80-55-06, etc.	150 - 250 HB	AH8015	328 - 820	0.001 - 0.003	0.002 - 0.008	0.002 - 0.010
S	Titanium alloys Ti-6Al-4V, etc.	-	AH3225	66 - 197	0.001 - 0.002	0.002 - 0.006	0.002 - 0.006
	Superalloys Inconel718, etc.	-	AH8015	66 - 131	0.001 - 0.002	0.002 - 0.006	0.002 - 0.006
H	Hardened steel	H-13, etc.	AH8015	164 - 492	0.001 - 0.002	0.002 - 0.006	0.002 - 0.006
		D2, etc.	AH8015	131 - 230	0.001 - 0.002	0.002 - 0.006	0.002 - 0.006

*In the following cases, feed as if the cutter has a single effective cutting edge (ZEFP = 1):

- Hole making
- Helical interpolating for holes with a hole diameter (ϕD) $\leq 1.25 \times$ the tool diameter (DC)
- The axial D.O.C. exceeds APMX2 (See below for APMX2)

APPLICATION RANGE



Designation	DC	Max. depth of cut		Max. drilling depth*	Max. cutting width in plunging	Max. ramping angle	Helical (flat) machining hole dia.		Helical machining hole dia.		Max. cutting width in enlarging
		APMX	APMX 2	A	C	RMPX	øDmin	øDmax	øDmin	øDmax	ae
EVLX08U0.62...	0.625	0.276	0.157	0.469	0.313	3°	16.930	30.470	0.625	31.330	0.546
EVLX10U0.787...	0.780	0.354	0.157	0.590	0.394	3°	22.000	37.950	0.787	39.150	0.708
EVLX12U1.00...	1.000	0.433	0.236	0.750	0.500	3°	27.450	48.650	1.000	49.750	0.921

*Use pecking or dwelling method when drilling holes deeper than 0.197".



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