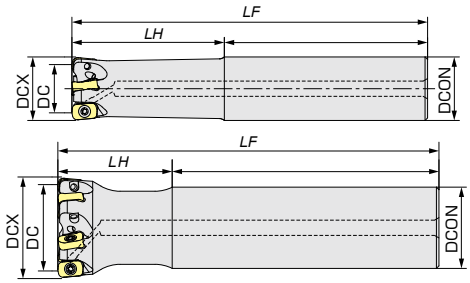
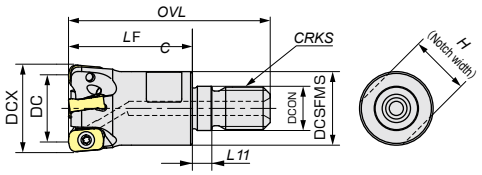
ENMX
HIGH FEED MILLING
SERIES

Shank type ENMX monolite holder



Style		Order Number	no. of Flutes	Dimensions (mm)					Type	Insert
				DCX	DC	LF	LH	DCON		
Shank Style	Regular	ENMX2016	2	16	10	100	30	16	Fig.1	ENMX0603
		ENMX2020	3	20	14	130	50	20		
		ENMX2025	4	25	19	140	60	25		
		ENMX2032	5	32	26	150	70	32		
		ENMX2040	6	40	34	150	45	32	Fig.2	
	Long	ENMX2016L	2	16	10	150	50	16	Fig.1	
		ENMX2018	2	18	12	150	25	16	Fig.2	
		ENMX2020L	3	20	14	160	80	20	Fig.1	
		ENMX2022	3	22	16	160	30	20	Fig.2	
		ENMX2025L	4	25	19	180	100	25	Fig.1	
		ENMX2028	4	28	22	180	35	25	Fig.2	
		ENMX2032L	5	32	26	200	120	32	Fig.1	
		ENMX2035	5	35	29	200	40	32	Fig.2	
		ENMX2040L	6	40	34	220	45	32	Fig.2	

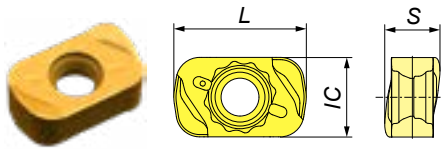
Modular type ENMX screw holder



Order Number	no. of Flutes	Dimensions (mm)									Insert
		DCX	DC	LF	OVL	L11	DCON	DCSFMS	CRKS	H	
ENMX2016M	2	16	10	25	42	5.5	8.5	12.8	M8	10	ENMX0603
ENMX2018M	2	18	12	25	42	5.5	8.5	12.8	M8	10	
ENMX2020M	3	20	14	30	49	5.5	10.5	17.8	M10	15	
ENMX2022M	3	22	16	30	49	5.5	10.5	17.8	M10	15	
ENMX2025M	4	25	19	35	57	5.5	12.5	20.8	M12	17	
ENMX2028M	4	28	22	35	57	5.5	12.5	20.8	M12	17	
ENMX2032M	5	32	26	40	63	6	17	28.8	M16	22	
ENMX2035M	5	35	29	40	63	6	17	28.8	M16	22	
ENMX2040M	6	40	34	40	63	6	17	28.8	M16	22	
ENMX2042M	6	42	36	40	63	6	17	28.8	M16	22	

Insert ENMX06

ENMX0603



P	Carbon Steel		■	
M	Stainless Steel			■
K	Cast Iron		■	
H	Hardened Steel		■	

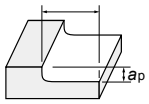
■ : General cutting, First recommendation
□ : General cutting, Second recommendation

Order Number	Tolerance Class	AJ-Coated		Size (mm)		
		P420	M460	L	IC	S
ENMX0603	M	●	●	10	6	4.2

Material Name ISO Classification	Coating Name Coating Type	Application	Features
P420 **P10-M10-K10**	Coating PVD	For pre-hardened steel (35-50HRC) and alloy steel.	Uses fine grain substrate and coating. Suitable for cutting of common steels through pre-hardened steels.
M460 **M40**	Coating PVD	General purpose for stainless steel.	Uses high toughness substrate and coating. Suitable for cutting of stainless steels.

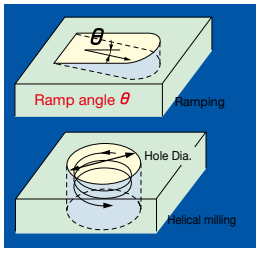
CUTTING CONDITIONS

METRIC



Work Material	Recommended Insert Grade	Tool Diameter	Ø16 (2 flutes)		Ø20 (3 flutes)		Ø25 (4 flutes)		Ø32 (5 flutes)		Ø40 (6 flutes)	
		Overhang ratio	~ 3Dc	4Dc ~ 7Dc	~ 3Dc	4Dc ~ 7Dc	~ 3Dc	4Dc ~ 7Dc	~ 3Dc	4Dc ~ 7Dc	~ 3Dc	4Dc ~ 7Dc
Carbon Steel Alloy Steel <30HRC	P420	n (min-1)	3380	2990	2710	2390	2170	1910	1690	1490	1350	1190
		Vc (m/min)	170	150	170	150	170	150	170	150	170	150
		Vf (mm/min)	8110	7170	9750	8600	10410	9160	10140	8940	9720	8560
		fz (mm/t)	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
		ap (mm)	0.8	0.6	0.8	0.6	0.8	0.6	0.8	0.6	0.8	0.6
		ae (mm)	10	10	14	14	19	19	22	22	28	28
		Q (cm3/min)	65	43	109	72	158	104	178	118	218	144
Alloy Steel Tool Steel 30 ~ 40HRC	P420	n (min-1)	2990	2590	2390	2070	1910	1660	1490	1290	1190	1040
		Vc (m/min)	150	130	150	130	150	130	150	130	150	130
		Vf (mm/min)	5980	5180	7170	6210	7640	6640	7450	6450	7140	6240
		fz (mm/t)	1	1	1	1	1	1	1	1	1	1
		ap (mm)	0.8	0.6	0.8	0.6	0.8	0.6	0.8	0.6	0.8	0.6
		ae (mm)	10	10	14	14	19	19	22	22	28	28
		Q (cm3/min)	48	31	80	52	116	76	131	85	160	105
Pre-Hardened Steel Alloy Steel 40 ~ 50HRC	P420	n (min-1)	1990	1790	1590	1430	1270	1150	1000	900	800	720
		Vc (m/min)	100	90	100	90	100	90	100	90	100	90
		Vf (mm/min)	3980	2860	4770	3430	5080	3680	5000	3600	4800	3450
		fz (mm/t)	1	0.8	1	0.8	1	0.8	1	0.8	1	0.8
		ap (mm)	0.6	0.5	0.6	0.5	0.6	0.5	0.6	0.5	0.6	0.5
		ae (mm)	10	10	14	14	19	19	22	22	28	28
		Q (cm3/min)	24	14	40	24	58	35	66	40	81	48
Stainless Steel	M460	n (min-1)	1990	1790	1590	1430	1270	1150	1000	900	800	720
		Vc (m/min)	100	90	100	90	100	90	100	90	100	90
		Vf (mm/min)	3980	2860	4770	3430	5080	3680	5000	3600	4800	3450
		fz (mm/t)	1	0.8	1	0.8	1	0.8	1	0.8	1	0.8
		ap (mm)	0.6	0.5	0.6	0.5	0.6	0.5	0.6	0.5	0.6	0.5
		ae (mm)	10	10	14	14	19	19	22	22	28	28
		Q (cm3/min)	24	14	40	24	58	35	66	40	81	48
Cast Iron	P420	n (min-1)	3980	3580	3180	2870	2550	2290	1990	1790	1590	1430
		Vc (m/min)	200	180	200	180	200	180	200	180	200	180
		Vf (mm/min)	11940	8590	14310	10330	15300	10990	14920	10740	14310	10290
		fz (mm/t)	1.5	1.2	1.5	1.2	1.5	1.2	1.5	1.2	1.5	1.2
		ap (mm)	0.8	0.6	0.8	0.6	0.8	0.6	0.8	0.6	0.8	0.6
		ae (mm)	10	10	14	14	19	19	22	22	28	28
		Q (cm3/min)	96	52	160	87	233	125	263	142	321	173
Maximum ap (mm)			ap ≤ 1.0									

Regarding ramping and helical milling diameter

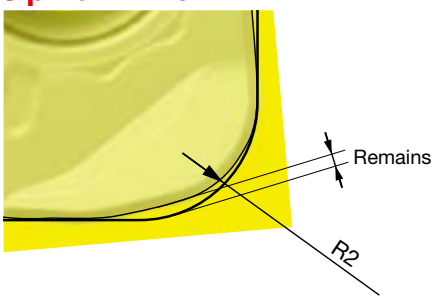


Tool Diameter	0.625" or 16mm	18mm	0.75" or 20mm	22mm	1" or 25mm	28mm	1.25" or 32mm	35mm	1.5" or 40mm
Max ramp angle Ø	0.8°	0.8°	0.8°	0.8°	0.8°	0.6°	0.5°	0.5°	0.3°
Hole Dia. (inch)	0.945"~ 1.181"	1.102"~ 1.339"	1.260"~ 1.496"	1.417"~ 1.654"	1.654"~ 1.890"	1.890"~ 2.126"	2.205"~ 2.441"	2.441"~ 2.677"	2.835"~ 3.071"
Hole Dia. (mm)	24~30mm	28~34mm	32~38mm	36~42mm	42~48mm	48~54mm	56~62mm	62~68mm	72~78mm

Cutting depth per rotation should be set to ap = 0.04" (1mm) or less

The machining programming

- In CAM, define the tool shape as an R2.0 radius shape.
- Use with axial-direction cutting depths ap of 1.0mm or less.

R Definition in CAM		Remains (mm)	Over Cut (mm)
	R1.5mm	0.3mm	0
Recommended	R2.0mm	0.2mm	0
	R3.0mm	0	0.4mm

apmax = 1.0mm