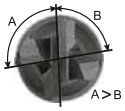
4YECM, 4YERM, 4YEKM

Number of Flutes: 4

Semi-Finishing of Difficult-to-Cut Material (Medium)

4

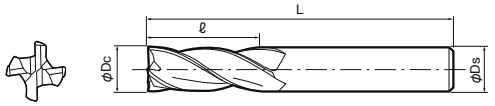


4YECM varied interval flute

Recommended Material ★ 1st Recommendation

P ~30HRC ★ | P 30~40HRC ★ | M Stainless steel ★ | S Titanium Alloy | S Heat-resistant Alloy ★ | K Cast Iron ★

TiAlN | Radius R (YERM) | Land (YEKM) | C (YECM) | h6 Shank Dia. | ±0.02 mm R (YERM) | 38°



Lineup

(Unit:mm)

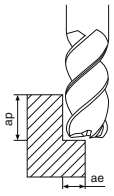
Description	Std.	Outside Dia. øDc	Outside Dia. tolerance	Length of edge ℓ	Shank Dia. øDs	Overall length L	Spec of Corners	Number of Flutes Z
4YECM040-120-06-C04	●	4	-0.020 -0.038	12	6	55	C 0.4	4
4YECM050-130-06-C04	●	5	-0.020 -0.038	13	6	57	C 0.4	4
4YECM060-130-06-C04	●	6	-0.020 -0.038	13	6	57	C 0.4	4
4YECM080-160-08-C04	●	8	-0.025 -0.047	16	8	63	C 0.4	4
4YECM090-190-10-C05	●	9	-0.025 -0.047	19	10	72	C 0.5	4
4YECM100-220-10-C05	●	10	-0.025 -0.047	22	10	72	C 0.5	4
4YECM120-260-12-C05	●	12	-0.032 -0.059	26	12	83	C 0.5	4
4YECM160-320-16-C05	●	16	-0.032 -0.059	32	16	92	C 0.5	4
4YECM200-380-20-C05	●	20	-0.040 -0.073	38	20	104	C 0.5	4
4YECM250-450-25-C05	●	25	-0.040 -0.073	45	25	121	C 0.5	4
4YERM040-120-06-R020	●	4	-0.020 -0.038	12	6	55	R 0.2	4
4YERM050-130-06-R020	●	5	-0.020 -0.038	13	6	57	R 0.2	4
4YERM060-130-06-R020	●	6	-0.020 -0.038	13	6	57	R 0.2	4
4YERM080-160-08-R020	●	8	-0.025 -0.047	16	8	63	R 0.2	4
4YERM090-190-10-R020	●	9	-0.025 -0.047	19	10	72	R 0.2	4

(Unit:mm)

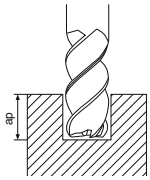
Description	Std.	Outside Dia. øDc	Outside Dia. tolerance	Length of edge ℓ	Shank Dia. øDs	Overall length L	Spec of Corners	Number of Flutes Z
4YERM100-220-10-R030	●	10	-0.025 -0.047	22	10	72	R 0.3	4
4YERM120-260-12-R030	●	12	-0.032 -0.059	26	12	83	R 0.3	4
4YERM160-320-16-R030	●	16	-0.032 -0.059	32	16	92	R 0.3	4
4YERM200-380-20-R030	●	20	-0.040 -0.073	38	20	104	R 0.3	4
4YERM250-450-25-R030	●	25	-0.040 -0.073	45	25	121	R 0.3	4
4YEKM040-120-06	●	4	-0.020 -0.038	12	6	55	-	4
4YEKM050-130-06	●	5	-0.020 -0.038	13	6	57	-	4
4YEKM060-130-06	●	6	-0.020 -0.038	13	6	57	-	4
4YEKM080-160-08	●	8	-0.025 -0.047	16	8	63	-	4
4YEKM090-190-10	●	9	-0.025 -0.047	19	10	72	-	4
4YEKM100-220-10	●	10	-0.025 -0.047	22	10	72	-	4
4YEKM120-260-12	●	12	-0.032 -0.059	26	12	83	-	4
4YEKM160-320-16	●	16	-0.032 -0.059	32	16	92	-	4
4YEKM200-380-20	●	20	-0.040 -0.073	38	20	104	-	4
4YEKM250-450-25	●	25	-0.040 -0.073	45	25	121	-	4

● Unequally partitioned flute design prevents vibration and reduces cutting force at slotting. This has led to the high speed and high feed machining. We provide three types of edge shape for different application; Radius, Corner Land and Corner Chamfered type.

Recommended Cutting Conditions



Shouldering



Grooving

Shouldering

Workpiece Materials	Depth of Cut (ap×ae) (mm)	Outside Dia. (mm)	ø4	ø5	ø6	ø8	ø10	ø12	ø16	ø20	ø25
Stainless Steel	1Dc×0.5Dc	Spindle Revolution (min^{-1})	6,400	5,100	4,200	3,200	2,500	2,100	1,600	1,300	1,000
		Feed Rate (mm/min)	640	610	670	640	600	550	450	390	300
Heat-resistant Alloy	1Dc×0.2Dc	Spindle Revolution (min^{-1})	2,400	1,900	1,600	1,200	1,000	800	600	500	400
		Feed Rate (mm/min)	100	100	110	130	120	120	120	110	80
Soft Steel	1Dc×0.5Dc	Spindle Revolution (min^{-1})	13,100	10,500	8,800	6,600	5,300	4,400	3,300	2,600	2,100
		Feed Rate (mm/min)	1,310	1,260	1,400	1,580	1,260	1,230	990	950	840
Titanium Alloy	1Dc×0.5Dc	Spindle Revolution (min^{-1})	4,400	3,500	2,900	2,200	1,800	1,500	1,100	900	700
		Feed Rate (mm/min)	210	210	230	260	220	220	200	210	200
Gray Cast Iron	1Dc×0.5Dc	Spindle Revolution (min^{-1})	10,700	8,600	7,200	5,400	4,300	3,600	2,700	2,200	1,700
		Feed Rate (mm/min)	1,070	1,070	1,150	1,290	1,030	1,000	810	770	690

* Machining with coolant is recommended for stainless steel.

4YEKM is not recommended for Slotting.
Please refer to page L45 for Slotting with 4YECM / 4YERM.

● : Std. Item ○ : Check Availability R : Std. Item (R-hand Only) L : Std. Item (L-hand Only)